



# CAPP

## CAPP Certification Program RESOURCE GUIDE

Presented by the IPMI Education Development Committee  
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**IPMI International Parking & Mobility Institute**  
1330 Braddock Place, Suite 350, Alexandria, VA 22314  
571.699.3011 Phone  
[capp@parking-mobility.org](mailto:capp@parking-mobility.org) | [parking-mobility.org/capp](http://parking-mobility.org/capp)

# CAPP RESOURCE GUIDE

IPMI recognizes and thanks the members of the IPMI Education Development Committee who contributed to the development of the IPMI CAPP Resource Guide Version 3 which aligns to the CAPP exam version launched November 2019:

***Tom Wunk, CAPP, EDC Co-Chair from 2013 – 2019***

***Josh Cantor, EDC Co-Chair 2015 – 2019***

***Pamela Corbin, CAPP EDC Co-Chair***

***David Hill, CAPP EDC Co-Chair***

***Bill Donovan, Ph.D., CAPP***

***Perry Eggleston, DPA, CAPP***

***Eric Harp, CAPP***

***Megan Leinart, CAPP, LEED AP, BD+C***

***Shawn McCormick***

***Victoria Pero, SPHR***

***Kevin Rowald, CAPP***

***Joseph Sciulli, CAPP***

***Brian Shaw, CAPP***

## Introduction

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The International Parking Institute (IPMI) provides CAPP certification as the industry's benchmark of management and operational excellence. CAPP certification continues to be the signature of excellence associated with the expertise and skills required of parking, transportation and mobility professionals. CAPP has evolved to reflect and encompass the growth and changes in the parking, transportation, and mobility profession.

What does it mean to be a CAPP? Connect with any professional who currently holds the title, and you will find that the CAPP community comprises the very best in the profession— mentors, innovators, leaders—those who combine talent, skills, expertise, and a commitment to share their ideas and knowledge to advance the parking profession.

Increased knowledge and certification can lead to better performance, visibility, opportunities, and jobs. In an increasingly complex and highly-specialized working environment, accredited professional credentials are essential. For many career-minded professionals, certification is often the answer to convincing potential employers that they can do the job and do it successfully. This CAPP Resource Guide is intended to assist in the preparation to take the CAPP examination. This resource guide provides information and recommendations to help you to adequately prepare to take the exam. This list is not intended to be all inclusive but reflects references used to support the test development process.

**Section 1: Get Started** – Journey to Become a CAPP and Self- Assessment Methods

**Section 2: Study Plan** – Identify How You Study Best

**Section 3: Exam Day Preparation** – What to Expect Before, During, and After You Take the CAPP Exam

**Section 4: Studying for the Exam** – Recommended Readings and CAPP Examination Content Outline

## Resource Links and Documents

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- [CAPP Resources](#)
- [Code of Ethics](#)
- [Technology Glossary for Parking Professionals](#)
- [EMV Definitions](#)

## The Purpose of the CAPP Resource Guide

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This guide is intended to assist those studying for the CAPP exam to prepare for the testing experience.

The CAPP exam is designed to test individual's knowledge of tasks related to performing the job of a parking, transportation and mobility professional as defined through IPMI's CAPP Job Analysis. The enclosed CAPP Exam Content Outline provides the breakdown of the six content areas on the exam.

**For assistance and more information about the CAPP Program:**

**Email: [capp@parking-mobility.org](mailto:capp@parking-mobility.org)**

**Phone: CAPP Certification Department +1.571.699.3011**

The CAPP Resource Guide is independent of the CAPP Certification Program. The CAPP Certification Program is administered by the CAPP Certification Board, which operates as an autonomous board of the International Parking & Mobility Institute (IPMI). The CAPP Certification Board is responsible for all aspects of the CAPP credential, as authorized by the bylaws of IPMI. IPMI is a nonprofit membership 501(c) 6 trade organization providing services to and representing the parking industry since 1962. The CAPP credential is a program of IPMI and is administered through the independent CAPP Certification Board of IPMI in cooperation with the University of Virginia.

The CAPP Certification Board and the CAPP exam question writing volunteers are not involved in the development of any part of this CAPP Resource Guide. No preparatory resource is endorsed by the CAPP Certification Board.

*\*Note: Using this resource guide does not guarantee successful completion of the CAPP examination.*

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## Section 1: Getting Started

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### Introduction

Thank you for your interest in IPMI's CAPP Certification Program. Designation as a CAPP is intended to demonstrate to stakeholders (employers, regulators, consumers, and the public) that the credentialed professional has demonstrated an established level of knowledge in the field.

The CAPP Certification Program is a relevant and engaging program that will continue to grow in accordance with the changes of the profession and the associated professional practices.

### Mission Statement

The certification program is designed to:

- Establish a benchmark of excellence for the parking and mobility profession.
- Provide continual information and training to parking, mobility, and transportation professionals.
- Increase the body of knowledge available to parking and mobility professionals.
- Provide a means by which parking and mobility professionals may demonstrate their proficiency and be recognized by their peers, employers, regulators, customers, and the public.

### What is CAPP Certification?

The CAPP Certification Program is voluntary. Specific eligibility requirements must be fulfilled to qualify to take the CAPP examination. Parking, transportation and mobility professionals must demonstrate that they have the management or supervisory experience in parking or an allied profession, including, but not limited to, architect, engineer, construction, maintenance, service/material vendor, transportation, or consultant. Parking professionals must also demonstrate a minimum level of education. Potential applicants must complete a minimum of 25 professional development hours, which must be accumulated during a period of five years prior to applying for the CAPP credential.

Note: Face-to-face, instructor-led IPMI Professional Development courses (formerly "CAPP classes") will be held at IPMI-sponsored events, including the annual IPMI Conference & Expo. Although these classes are no longer required, they are an effective way to earn professional development hours and develop strong professional networks with fellow CAPP applicants and instructors. IPMI offers [several online courses](#) and [webinars](#) that satisfy professional development training points.

Once the credential is earned, CAPPs must recertify every three years. Recertification requires earning a total of 20 points over this three-year period. During the first year of recertification, the points are prorated, depending on the date you achieved the certification. For additional information, refer to the [CAPP Recertification Guidelines document](#).

## Why Earn the CAPP?

The relationship between certification and career advancement is no secret. Education and certification are in everyone's best interest, not to mention the potential increase in salary that can come with an advancement in education.

The CAPP credential demonstrates you have met the eligibility requirements, demonstrated the required level of knowledge by passing the exam, and are committed to ongoing professional development by maintaining your certification.

*"The CAPP program was definitely challenging. I didn't expect there to be so much information to absorb. CAPP is a standard that gives you an instant leg up in the parking and mobility industry. Once I included the CAPP certification on my LinkedIn account, my weekly profile views jumped considerably."*

**Richard L. Bradley, MBA, CAPP 2018**

Manager of Administrative Affairs  
Department of Parking & Transportation  
The University of Mississippi

*"As a newcomer to the parking and mobility world, I was looking for a credential that will show my commitment to excellence to everyone that I serve and work with. Once I started researching my options and talking to colleagues, it was clear that the CAPP program was exactly what I was looking for and the top credential for anyone in our industry. I was pleasantly surprised by the community response and the number of parking and mobility professionals that have reached out to me for advice and information after I obtained my certification. This has been a great journey and provided me an excellent opportunity to grow professionally and help others in the process. CAPP is the credential that believe every parking and mobility professional should have."*

**Wady Burgos, CAPP 2019**

Parking & Transportation Demand Management Coordinator  
City of Westminster, Colorado

*"CAPP is a game changer! It felt like I finally joined the big league after playing 17 years in minor leagues. The exposure and opportunities I've encountered after receiving my credential have boosted my career trajectory upwards. I am very fortunate to have access to a supportive and engaging network of professionals that are in the forefront of the parking and mobility industry."*

**Rafael Abanilla, CAPP 2019**

Regional Manager, Southern California  
Reef Parking

## Are You Ready to Take the CAPP Exam?

If you are an experienced professional working in the industry and desire to elevate your career, it makes sense to pursue the highest professional industry credential: CAPP. Before you begin your journey to pursue CAPP, you must verify that you meet the eligibility criteria. Prior to completing the application, ensure that you have a minimum of three years of manager/ supervisor experience in the parking industry.

### Eligibility Criteria

**STEP 1:** To become a candidate for the CAPP credential, applicants must:

- Document a minimum of three years of management/supervisory experience in parking, mobility, or an allied profession (e.g., planning, operations, management, architecture/engineering, construction/maintenance, service/material supplier, consultant).
- Document the minimum education of a high school diploma.
- Document the minimum of 25 professional development contact hours within the past five years of the CAPP application.
- Document the minimum of 50 combined education, experience, and professional development eligibility points as they relate to the profession.
- Receive an endorsement from a CAPP or applicant's employer attesting to the accuracy of education, training, and experience claimed on the application.
- Complete the application in its entirety.
- Sign the Statement of Understanding agreeing to abide by the CAPP Code of Ethics, attesting to the applicant's good standing according to the CAPP Code of Ethics, and to the truth of the professional experience, education, and professional development documentation.
- Submit the application fee.

Applicants will be eligible to schedule and pass the CAPP examination within 365 days after their application is approved. If the applicant is not ready within this period, the clock will reset and will require a new application and all accompanying fees.

**STEP 2:** Complete the application.

Applicants must include and document experience, professional education, professional development hours, and an endorsement form from a CAPP, employer, or equivalent of the attestation of education, professional development, and experience claimed on the application. The CAPP Certification Board reserves the right to verify/audit the experience, education, and training or professional development as attested by the applicant and may request additional supporting documentation/evidence of what is stated on the application.

### Application requirements:

1. Include all requested information.
2. Document all courses taken to satisfy the minimum of:
  - 25 professional development hours/training points on the CAPP Professional Development Documentation Form.
3. Log experience on the CAPP Experience Documentation Form, in the IPMI Online Learning Management System, or the IPMI Membership Database to keep everything in one place.
4. Document and provide formal education information on the CAPP Education/Certification/License Documentation Form.
5. Have a current CAPP, employer, or equivalent attest that the information on your application is correct by completing the CAPP Application Endorsement Form. Endorsements must be received by IPMI via email independent of the application.

### **STEP 3:** Submit your application and fee.

You may reapply to retake the examination upon receipt and processing of a \$150 re-examination fee. Candidates may retest up to four times within one year from application approval. You can reschedule by accessing the test registration menu at [isoqualitytesting.com](http://isoqualitytesting.com), using the same username and password previously provided in your CAPP Candidate Admission letter. The fee for rescheduling a missed examination appointment is \$150 US.

**STEP 4:** Upon approval of your application, IPMI will send a Candidate Admission Letter via email with instructions on how to register for the exam, a login, and password. Applicants will have 365 days from the date of application approval to sit for and pass the exam. Applications will be processed within 10 business days of receipt. Once the application is approved, the applicant is a “CAPP Candidate.”

**STEP 5:** Use your login and password on your Candidate Admission Letter to schedule the exam at a convenient testing location. This date must be no later than 365 days from the application approval date. At the testing center, a certified proctor will check your application and valid government-issued photo ID and may assign you a locker for storing your personal belongings. The proctor will escort you to your computer and explain the tutorial before you begin. You will have three hours to complete your exam.

The CAPP examination score report provides scores using a scaled-score model, in which raw scores are placed on a 0–100 scale, with 70 reported as the passing score. Candidates receive a pass/fail notice prior to leaving the testing center.

- If you pass the exam, congratulations on earning the CAPP!
- If you do not pass the exam, you will receive information detailing the percent of questions you got correct in the six domains of the exam, which can assist when preparing to re-take the exam.

You may reapply to retake the examination upon IPMI’s receiving and processing the \$150 re-examination fee. Non-U.S. (International) re-test fees may apply.

## Self-Directed Study Options

Self-directed study requires self-discipline. Take an active role in all your study efforts. If you would like to have a guide alongside you in the process, please submit to have a CAPP Mentor. [The CAPP Mentor Program](#) will put you in touch with other CAPP candidates as well as an experienced CAPP who can guide you. The Mentors are there as a valuable resource to you in the process, but they do not have nor know the CAPP exam questions.

Online tools are available to develop a study schedule:

[wikiHow: How to Create a Study Schedule](#)

[Ways to Study: How to Create a Study Schedule](#)

This is a public educational service that is intended to empower all learners. Please use this webpage to find apps for your mobile phones: <https://techzillo.com/best-student-planner-homework-apps-android-ios/>

Be prepared by planning your steps. As Dwight D Eisenhower stated, “Plans are nothing: Planning is everything”. Take a moment to plan and write out your goals for your study program. This is an area where your mentor can be of assistance. Identifying goals will help focus your study time spent studying.

My goals for studying for the CAPP exam include:

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Each person learns differently, and there are different types of learners. They are:

- 1. Active learners:** who tend to retain and understand information best by doing something active with it - discussing or applying it or explaining it to others. They prefer to process information by talking about it and trying it out.
- 2. Reflective learners:** who tend to think about the content they are learning quietly. They prefer to think things through and understand things before acting.
- 3. Visual learners:** who tend to remember best what they see in pictures, diagrams, flow charts, timelines, films, and demonstrations. Visual learners try to find diagrams, sketches, schematics, photographs, flow charts, or any other visual representation of course material that is predominantly verbal.
- 4. Verbal learners:** tend to get more out of words—written and spoken explanations. Verbal learners learn well by writing summaries or outlines of course material in their own words. Working in groups can be particularly effective: you gain an understanding of the material by hearing classmates’ explanations and you learn even more when you do the explaining.

## SECTION 2: Study Plan

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### Introduction

Many CAPP Candidates have formed study groups comprised of their peers to prepare for the exam. This not only provides multiple individuals for collecting information and identifying study resources but establishes a network of peers to engage with in the future. Social media technology that supports remote in-person connections has made it even easier to create these groups. If you want to learn more about the [CAPP Mentor Program, click here](#). This program can put you in touch with other CAPP Candidates so that you can form this network.

### What is the Exam Like?

The exam is a closed-book examination, administered online at a certified testing center. It consists of 165 scored multiple-choice, single-answer questions (see sample questions in Appendix A on page 29 of the CAPP Candidate Handbook). 150 of the questions are scored, and 15 are pretest items that can be used for future versions of the exam. Each multiple-choice question has four answer choices; only one choice is correct. The test is timed, and you have three hours in which to complete all questions. At the end of the session, the center will provide a computer-generated report with a score indicating a passing or failing grade.

### Ready to Test?

Use the login and password you received when your application was approved to schedule your test session at a convenient testing center. Take a printout of your Candidate Admission Letter email along with your valid, government-issued form of photo identification to the testing center. No candidate will be permitted to take the exam without these documents. Your government-issued ID must match the name on your Candidate Admission letter. If it does not, you will be denied access to test.

When preparing to take the test, ask yourself these questions:

#### **1. Do you learn best in face-to-face classes?**

All face to face classes offered by IPMI are aligned with the CAPP Exam Outline and will satisfy professional development point requirements provided they have been taken within five years of the CAPP application submission. All IPMI-sponsored courses, such as approved State and Regional classes, are aligned with the CAPP Exam Content Outline. [Click here to learn more about IPMI face to face classes offered](#). Please note that the multi-day classes offered at the IPMI Conference and EXPO align to the CAPP Exam Content outline. Please see the conference website to learn more. To learn more about the SRA offerings, kindly [click here](#) for the calendar.

#### **2. Do you learn best with online courses and materials?**

All online courses offered through IPMI are aligned with the CAPP Exam Content Outline. Please see our [library of courses](#) and [webinars](#).

## SECTION 3: Exam Day Preparation

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### Before You Arrive at the Testing Center

Each candidate will receive a unique user name and password via email (Candidate Admission Letter) once the CAPP application has been approved. Candidates will sit for the CAPP exam at an ISO Quality Testing, Inc. (IQT) location or Prometic location. You must schedule your test session ahead of time with the testing center—no walk-ins are allowed as other exams are administered at that site, so you may have to wait to schedule your exam date. When scheduling an exam time, allow plenty of time in your day, scheduling the full three hours for the exam.

To familiarize yourself with the test taking technology, a tutorial of the computer-based format is available by clicking here:

<https://www.igttesting.com/ExamV2008/Default.aspx?Function=SampleExam&Exam=8>

### Prior to the Day of your Exam

- Retrieve your testing center information.
- Make sure you have the testing center address correct and handy.
- Map out a place to park.
- Gather your exam receipt, Candidate Admission Letter, and your government-issued photo ID and ensure the names on both matches exactly. (Remember, you must have all of these or you will not be able to test)

### What to Expect at the Testing Center

- No food or drink is allowed.
- No babysitting services or childcare services will be provided.
- No visitors will be allowed in the testing room.

Some facilities may have lockers available to store small items. If your testing center does not have lockers, no cell phones may be brought inside.

### The Day of the CAPP Exam

- Take your directions.
- Take your Candidate Admission Letter.
- Take one form of valid government-issued photo identification with a signature, such as a current driver's license or passport, and ensure the names on both matches exactly.

## At the Testing Site

- Provide your Candidate Admission Letter.
- Provide valid government-issued photo identification with a signature, such as a current driver's license or passport and ensure the names on both matches exactly.
- Sign in on the test roster.
- Place belongings, including mobile phones, in the locker assigned to you, if available.
- The certified proctor will direct you to your assigned seat in the examination room.
- The certified proctor will provide scratch paper to use during the exam and collect the paper once your exam is over.

## CAPP Exam Test Taking Tips

- Complete a stress-reducing activity prior to taking the exam. This will help you be more alert and reduce your stress, allowing you to concentrate better. You can find some tips here:
  - <http://www.state.ky.us/agencies/behavior/academic/testtips.html>
  - <https://knowledgeworks.org/resources/using-social-emotional-learning-prepare-learners-high-stakes-tests/>
- Do not rush through the exam questions.
- Each multiple-choice question only has one response.
- Skip difficult questions or bookmark them for later review. Completing known answers first will increase your confidence during the exam. Second-guessing yourself sometimes confuses you. Studies show your initial reaction to the question is usually the correct answer.
  - <https://www.weber.edu/wsuiimages/vetsupwardbound/StudySkills/testtaking.pdf>
  - <https://www.une.edu/sites/default/files/Tips-for-Multiple-Choice-Tests.pdf>
- If you are not sure of an answer, it is best to make an informed guess rather than leave that question blank. Try to eliminate obvious incorrect responses quickly, then choose from the remaining answers.

## What to Expect While Testing

- A navigation grid on the upper right-hand corner of the computer screen will show the number of questions you have answered, as well as, skipped and bookmarked questions.
- A clock on your screen will count down the time remaining to complete the exam; three hours is the maximum time allowed to complete the exam. There is an option on the screen to hide the clock, but don't lose track of time.

### Once You Complete the Exam

- The testing center will notify you about your pass/fail status prior to leaving the site.
- If you pass the exam, you may begin to immediately use CAPP after your last name (written as all capital letters, no periods, no spaces).
- All candidates will leave the exam testing center with a score report stating passing or failing.
- Reports indicating a failing status will provide you with the percent of questions you got correct in each of the six domains.

### Retesting for Candidates Who Do Not Pass

- Payment of a \$150 re-examination fee is required.
- Candidates have 365 days to take and pass the examination from when your application was approved.
- The first retake may take place as soon as the re-examination fee is received and processed.
- Candidates may retest four times within one year of the application being approved.
- An additional \$150 re-examination fee must be paid for every retest.
- After the fourth failure, there is a six-month waiting period, after which candidates must reapply and pay all initial application fees.

## SECTION 4: Studying for the Exam

### **NOT SURE IF YOU ARE READY TO TAKE THE CAPP EXAM?**

Evaluate your readiness by completing the document titled The **CAPP Exam Content Outline Self-Assessment**.

*Note: The intention of the self-assessment is to assist candidates in the objective analysis of their industry skills and knowledge.*

### CAPP Examination Content Outline Self-Assessment

#### Examination Content

As described, the CAPP Examination Content Outline is based upon the 2018 Parking and Mobility Professionals Job Analysis Study and is divided into six domains. The complete CAPP Examination Content Outline follows:

	I have heard of this before	I can explain this to someone	I can and have applied this	I can make this happen
<b>Domain I: General Management (22% of exam)</b>				
<b>A. Demonstrates knowledge of the following management practices and techniques:</b>				
1. Management structure and teams				
2. Internal communications				
3. Business and strategic plan				
4. Performance measures				
5. Budgeting				
6. Hardware and software interoperability				
7. Electronic data security (e.g., encryption, data storage, backup, PCI compliance)				
8. Customer service policies				
9. Project/operations management				
10. Risk management, including:				
a. Business practices/liability exposure (e.g., insurance, permits, licenses)				
b. Financial markets/economy				
c. Revenue/inventory/asset control auditing				
d. Facility maintenance				
e. Data management, data security, remediation				
f. Safety and security (e.g., security patrol, emergency phones, cameras, suicide prevention)				
g. Emergency procedures (e.g., power/system outages, disaster)				
<b>B. Manages revenue sources, cash flow, and/or allocation of resources</b>				
<b>C. Analyze, propose, and/or determine aspects of revenue control solutions, including:</b>				
1. Researching and matching various systems options to customer usage patterns				
2. Performing a cost-benefit analysis on different systems; selecting system(s)				
3. Financing and contracting system purchase and installation				

	I have heard of this before	I can explain this to someone	I can and have applied this	I can make this happen
<b>D. Determine, recommend, and/or employ business-partner relationships and alliances including:</b>				
1. Government and quasi-government				
2. Administrative services providers (e.g., bookkeeping, banking, insurance, recordkeeping)				
3. Professional service providers (e.g., architects, engineers, attorneys, consultants)				
4. Facilities and operational services providers				
<b>E. Evaluate, review, and/or select policies and procedures</b>				
<b>F. Examine and/or select transportation demand management (TDM) plans, including:</b>				
1. Programming by mode-split (e.g., bike, carpools, transit)				
2. Coordinating TDM and transit with parking management				
3. Marketing to and educating stakeholders				
4. Assessing and measuring the effectiveness of the program/strategies				
<b>G. Recognize organizational human resources practices regarding:</b>				
1. Writing and updating employee job descriptions based on required skills and responsibilities				
2. Recruiting staff				
3. Setting staffing levels, organizational structure, performance goals, scheduling and succession planning				
4. Performing staff internal and external training (e.g., safety, benefits)				
5. Identifying and complying with organized workers' associations (e.g., unions, collective bargaining agreements)				
6. Applying management/leadership principles				
7. Establishing, applying, monitoring, and/or enforcing:				
a. A code of ethics				
b. Policies and procedures				
c. Incentive programs and retention				
8. Develop and monitor performance metrics for unambiguous evaluation				
9. Providing a safe and secure work environment by:				
a. Applying government workplace standards				
b. Posting applicable employee safety and rights information and hazardous materials data sheets				
c. Providing protection from workplace injury, hazards, the elements, and crime				
<b>Domain II: Project Management (15% of exam)</b>				
<b>A. Identify/recognize the variables and considerations of facility design (surface and structure) including:</b>				
1. Functional design				
2. Operational considerations (e.g., safety and security, automated)				
3. Financial feasibility				
4. Site considerations, location, climate, and local architecture				
5. Maintenance considerations				
6. Relevant government requirements (e.g., disability, environmental building codes)				
<b>B. Recognize the components to sustainability</b>				
<b>C. Explain the variables and considerations of procurement practices including:</b>				
1. Research and due diligence (e.g., test, pilot, systems, demo, site visits)				

	I have heard of this before	I can explain this to someone	I can and have applied this	I can make this happen
<b>2. Big process (e.g., request for proposal/information/qualifications, selection process)</b>				
<b>3. Implementation</b>				
<b>D. Recognize and/or compare financial options new or capital renewal (e.g., types and purposes, bond indenture and debt service obligations, mortgages)</b>				

<b>Domain III: Financial and Operational Auditing (16% of exam)</b>				
<b>A. Performs strengths, weaknesses, opportunities, and threats (SWOT) analyses</b>				
<b>B. Develops and evaluates performance metrics</b>				
<b>C. Performs internal financial audits</b>				
<b>D. Commission and/or assist external auditors</b>				
<b>E. Prepares for/assists in unscheduled outside regulatory compliance audits</b>				
<b>F. Creates/implements management plans to address audit findings</b>				

<b>Domain IV: Operations Management (21% of exam)</b>				
<b>A. Applies operations management based on:</b>				
<b>1. Industry segments (e.g., airport, municipal, university, hospital, commercial operators)</b>				
<b>2. Number of spaces, ingress/egress lanes, and demand cycles</b>				
<b>3. Prepare standard operating procedures including:</b>				
a. On-street				
b. Off-street (e.g., multi-use garage)				
c. Valet				
d. Multi-modal (e.g., bikes, ped., TNC)				
e. Fleet management				
f. Buses and shuttles				
g. Events				
<b>4. Integration of technology (e.g., parking guidance systems, handheld equipment, LPR)</b>				
<b>5. Employ peak demand/utilization strategies</b>				
<b>B. Manages the revenue control system(s) by:</b>				
<b>1. Managing the installation of system hardware and software</b>				
<b>2. Training staff and ensuring customers can use the system</b>				
<b>3. Managing, supervising, auditing, and reporting on performance, security, and revenue</b>				
<b>4. Determining maintenance and revenue collection schedules</b>				
<b>C. Determines and follows a maintenance program schedule by:</b>				
<b>1. Conducting regularly scheduled inspections to identify maintenance requirements for facility:</b>				
a. Structure (e.g., corrosion, spalling, delamination, oxidization, cracking, leaks)				
b. Equipment (e.g., elevators, fencing, lighting, signage, revenue)				
c. Aesthetics (e.g., painting, landscaping, cleaning)				
<b>2. Identifying, analyzing, and prioritizing long-term, short-term, and preventive maintenance projects</b>				
<b>3. Implementing cost-saving measures, including energy-efficient equipment upgrades</b>				
<b>4. Ensuring continuity of services</b>				
<b>5. Performing in-house or subcontracted maintenance/repairs:</b>				

	I have heard of this before	I can explain this to someone	I can and have applied this	I can make this happen
a. Structural (e.g., concrete, beams, coatings, sealants)				
b. Equipment (e.g., elevators, fencing, lighting, signage)				
c. Aesthetics (e.g., painting, landscaping, cleaning, sweeping)				
d. Geographical weather mitigation (e.g., snow/ice removal as applicable, floods, sandstorm)				
<b>6. Conducting quality control maintenance performance inspections</b>				
<b>D. Managing parking system revenue controls by:</b>				
<b>1. Establishing internal revenue controls by:</b>				
a. Eliminating staff conflicts of interest				
b. Segregating duties				
c. Managing bank-facility relationship (e.g., financial flows within your organization, managing revenue processing relationships)				
<b>2. Responding to unexpected findings in revenue and inventory audits</b>				
<b>3. Keeping inventory records, redundant systems, and performing audits</b>				
<b>4. Using active and passive monitoring systems</b>				
<b>E. Establishes and supervises the parking system enforcement policy, including:</b>				
<b>1. Purpose of enforcement (e.g., safety, vehicle turnover requirements)</b>				
<b>2. Personnel training</b>				
<b>3. Enforcement practices (e.g., warning, citations, booting, towing, impounding, LPR)</b>				
<b>4. Adjudication and appeals</b>				
<b>5. Fine collections (e.g., lookups, notices, third-party collections)</b>				
<b>F. Manage day-to-day financial operations, including:</b>				
<b>1. Creating and assessing fee structures and revenue collection procedures based on evaluation of:</b>				
a. Utilization and occupancy studies				
b. Types of fees (e.g., permit, hourly, daily, weekly, event)				
c. Rate schedules (e.g., time of day, special events, overnight, long-term, and lost tickets)				
d. Fee payment options				
e. Market rate survey comparisons				
f. Budget variances				
g. Pricing strategies (e.g., dynamic, progressive)				
<b>2. Managing revenue by performing:</b>				
a. Daily reconciliation by method of payment				
b. Monthly access card/permit audits comparing active vs. paid				
c. Scheduled and unscheduled internal auditing of revenue (e.g., surprise equipment and vehicle inventories, audit of payroll deduction records)				
d. Execution of audit findings				
<b>3. Managing expenses including:</b>				
a. Comparison of orders-to-invoice-to-inventory				
b. Comparison of contract to payments (e.g., accounts payable)				
c. Staff salaries and/or expenses				
d. Taxes and fees where applicable				
e. Changes to purchase patterns (e.g., gas purchase doubled in one month)				

	I have heard of this before	I can explain this to someone	I can and have applied this	I can make this happen
<b>4. Evaluate internal operational policies to assess potential improvements:</b>				
a. Cash and credit transaction processing procedures				
b. Data security for credit transactions				
c. Stakeholder satisfaction				
d. Safety and security				
e. Emergency preparedness				
f. Staffing requirements				
g. Maintenance goals and requirements				
h. Energy consumption				
<b>G. Create and implement an emergency management/disaster preparedness program including responses to and safeguards for:</b>				
<b>1. Natural and/or man-made disasters/incidents</b>				
<b>2. Data and information protection (e.g., computer system backups, off-site data storage, off-site monitoring)</b>				
<b>3. Equipment and asset protection</b>				

<b>Domain V: Marketing and Public Relations (10% of exam)</b>				
<b>A. Establishes and/or implements an external communications policy and protocol to communicate with stakeholders</b>				
<b>B. Shares the details of emergency/disaster response(s) with stakeholders</b>				
<b>C. Identifies and markets services based on stakeholder and service profiles, competitors, and feedback</b>				
<b>D. Communicates organizational mission and service expectations to stakeholders</b>				
<b>E. Practices community involvement/engagement</b>				
<b>F. Integrates marketing tools to increase market share and improve brand (e.g., external wayfinding, focus groups, customer survey, newsletter, social media, website, online search optimization, email marketing)</b>				
<b>G. Develops and implements customer retention and satisfaction programs (e.g., jump starts, flat tires, lights left on, lost cars)</b>				

<b>Domain VI: Analysis and Application of Technology (16% of exam)</b>				
<b>A. Analyze, manage, and/or apply parking management solutions (e.g., PARCS, ALPR[1][KF2], RFID, robotic systems, parking guidance systems, event parking solutions)</b>				
<b>B. Analyze, manage, and/or employ enforcement applications (e.g., citation management, LPR, enforcement handhelds, plate lookups, online appeals/payments)</b>				
<b>C. Examine and propose payment processing and applications (e.g., credit card processing, PCI compliance, online payments, cybersecurity, cashiering systems, payment apps)</b>				
<b>D. Evaluate and recommend smartphone technology (e.g., payment/reservation apps, near-field communications, QR code, parking availability, trip planning)</b>				
<b>E. Evaluate and/or employ real-time communications (e.g., GPS, parking availability, sensors, APIs, bus schedules/arrivals)</b>				
<b>F. Evaluate and/or employ sustainable technologies (e.g., EV charging stations, smart lighting, solar panels, ride-sharing, bicycle-sharing, car-sharing)</b>				
<b>G. Manage data collection, reporting and analytics (e.g., cloud-based data, parking utilizations, predictive parking algorithms, demand-based pricing recommendations)</b>				
<b>H. Review and evaluate emerging technologies (e.g., autonomous vehicles, mobility-as-a-service, (MaaS), smart cities)</b>				

## Self-Assess more than Once

There are six domains on the exam. The CAPP Examination Content Outline provides the percent of questions dedicated to each of the domains and can help candidates to focus their study efforts. It is recommended that a candidate regularly check his or her progress against their self-assessment of the CAPP Examination Content Outline. In addition to classes, conference sessions, and seminars, other resources for study material may be related articles in Parking & Mobility magazine.

## Domain Weight of the Exam

Domains	Weight (%)
Domain I: General Management	22
Domain II: Project Management	15
Domain III: Financial and Operational Auditing	16
Domain IV: Operations Management	21
Domain V: Marketing and Public Relations	10
Domain VI: Analysis and Application of Technology	16

## Suggested Study References

The CAPP Certification Board provides a suggested reference list as a resource that may be useful to candidates as they study for the exam. This list is not intended to be all-inclusive but reflects references used to support the test development process.

Candidates are encouraged to review resources and information in all content areas. The CAPP Certification Board does not endorse any text or author.

The CAPP Certification Board does not recommend candidates memorize all suggested references.

*Note: Using the references does not guarantee successful performance on the examination.*

### **Regulations/Processes**

- *The Generally Accepted Accounting Principles (Foreword and Preamble)*
- *The Generally Accepted Auditing Standards*
- <https://www.cisecurity.org/white-papers/cis-primer-emergency-preparedness-for-cyber-infrastructure/>
- [https://www.ibm.com/support/knowledgecenter/en/ssw\\_ibm\\_i\\_73/rzarm/rzarmdisastr.htm](https://www.ibm.com/support/knowledgecenter/en/ssw_ibm_i_73/rzarm/rzarmdisastr.htm)
- <https://www.fema.gov/preparedness-checklists-toolkits>
- *Emergency Preparedness Manual, International Parking & Mobility Institute*

- *The Complete Guide to Physical Security, 1<sup>st</sup> Edition; Dr. Paul Baker, and Dr. Daniel Benny, <https://www.amazon.com/Complete-Guide-Physical-Security/dp/1420099639>*

#### IPMI Publications

- *[Sustainable Parking Design & Management: A Practitioners Handbook](#), International Parking & Mobility Institute*
- *[A Guide to Parking](#), International Parking & Mobility Institute*
- *[The Technology Glossary for Parking Professionals \(First edition 2017\)](#), International Parking & Mobility Institute and the British Parking Association*
- *[Parksmart Certification Standard, Version 1.0 with Addenda](#), Green Business Certification Inc.*

#### Parking-Related Texts

- *[The Dimensions of Parking](#), (5th Edition, 2010) Urban Land Institute, National Parking Institute*
- *[The High Cost of Free Parking](#), (Edition June 2011) Shoup, Donald C., APA Planners Press*
- *[Lots of Parking: Land Use in a Car Culture](#), (July 8, 2004) Jakle, Scuttle, University of Virginia Press*
- *[Parking Structures: Planning, Design, Construction, Maintenance and Repair](#), (Third edition February 2001) Chrest, Smith et. al., Springer*
- *[Parking Management Best Practices](#), (Second edition March 2006) Litman, Todd, APA Planners Press*
- *[Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition PDF eTextbook](#) ISBN: 978-1628251845\_Publication Date: 2017\_Author: Project Management Institute (PMI)*

#### Ancillary Resources

- *[Management: Building a Competitive Advantage](#), 3rd Edition 1996, Bateman, Snell.*
- *[Management: Leading and Collaborating in a Competitive World](#), (Tenth edition, January 2012) Bateman and McGraw-Hill/Irwin; 10 edition (January 17, 2012)*
- *[The Leadership Challenge](#), James Kouzes and Barry Posner, Jossey-Bass Publishers, 7<sup>th</sup> Edition, 2012*
- *[Please Understand Me](#), David Keirsey and Marilyn Bates, Prometheus Nemesis Book Company, 1984*
- *[Team Players and Teamwork](#), Parker, Glenn; 1990*
- *[Management of Organizational Behavior: Leading Human Resources](#), Hersey, P. Blanchard, K and Johnson, D. Upper Saddle River, NJ: Prentice Hal, 2001*
- *[The Situational Leader](#). The Center for Leadership Studies, Hersey, Paul. Escondido, CA. 1984*

## Domains in Depth

### **Domain I: General Management**

(22 percent of exam)

#### **Key Content:**

- A. Demonstrates knowledge of the following management practices and techniques:
  1. Internal communications
  2. Customer service policies
  3. Business and strategic plan
  4. Performance measures
- A. Manages revenue sources, cash flow, and/or allocation of resources
- B. Analyze, propose, and/or determine aspects of revenue control solutions including:
  1. Performing a cost-benefit analysis on different systems; selecting system(s)
- C. Determine, recommend, and/or employ business-partner relationships and alliances including:
  1. Facilities and operational services providers
- D. Evaluate, review, and/or select policies and procedures
- E. Examine and/or select Transportation Demand Management (TDM) plans including:
  1. Assessing and measuring the effectiveness of the program/strategies
- F. Recognize organizational human resources practices regarding:
  1. Applying management/leadership principles
  2. Establishing, applying, monitoring, and/or enforcing:
    - a. Policies and procedures
    - b. A Code of Ethics

#### **Domain Explanation:**

As with most high-level management positions, effective senior management in parking, transportation, and mobility environments requires a broad expanse of industry-relevant knowledge. Though it is not expected that senior management are subject matter experts in all aspects of their operation, they must be reasonably fluent, able to determine if there are problems to be addressed and determine if individuals assigned to different departments and/or tasks can fulfil the needs to which they are assigned.

This Domain will focus on those areas in which a senior manager in the parking, transportation, and mobility industry will be expected to create and manage a strategic business plan, determine all associated costs and financial components, determine anticipated labor requirements and departmental management needs, and oversee a safe and effective work environment. In addition, the senior manager should have a working knowledge and high-level expertise regarding intended technology and the required associated support structures.

#### **Notable concepts include but are not limited to:**

- Develop a 'team-oriented' organization
- Develop a 'Mission' to foster organizational understanding and consistency
- Identify departmental needs and create cure plans
- Establish a clear strategic business plan: both short and long term
- Understand and develop emergency procedures

**Resources associated with this content area include:**

**Regulations/Processes**

- [https://www.ibm.com/support/knowledgecenter/en/ssw\\_ibm\\_i\\_73/rzarm/rzarmdisastr.htm](https://www.ibm.com/support/knowledgecenter/en/ssw_ibm_i_73/rzarm/rzarmdisastr.htm)
- <https://www.fema.gov/preparedness-checklists-toolkits>
- [Emergency Preparedness Manual](#), International Parking & Mobility Institute

**IPMI Publications**

- [Sustainable Parking Design & Management: A Practitioners Handbook](#), International Parking & Mobility Institute
- [A Guide to Parking](#), International Parking & Mobility Institute
- [The Technology Glossary for Parking Professionals \(First edition 2017\)](#), International Parking & Mobility Institute and the British Parking Association

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- [The High Cost of Free Parking, \(Edition June 2011\)](#) Soup, Donald C., APA Planners Press
- [Lots of Parking: Land Use in a Car Culture, \(July 8, 2004\)](#) Jakle, Scuttle, University of Virginia Press
- [Parking Management Best Practices, \(Second edition March 2006\)](#) Litman, Todd, APA Planners Press
- [Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition](#) PDF eTextbook ISBN: 978-1628251845\_Publication Date: 2017\_Author: Project Management Institute (PMI)

**Ancillary Resources**

- [Management: Building a Competitive Advantage, 3rd Edition 1996](#), Bateman, Snell.
- [Management: Leading and Collaborating in a Competitive World, \(Tenth edition, January 2012\)](#) Bateman and McGraw-Hill/Irwin; 10 edition (January 17, 2012)
- [The Leadership Challenge, James Kouzes and Barry Posner, Jossey-Bass Publishers, 7<sup>th</sup> Edition, 2012](#)
- [Please Understand Me, David Keirse and Marilyn Bates, Prometheus Nemesis Book Company, 1984](#)
- [Team Players and Teamwork, Parker, Glenn; 1990](#)
- [Management of Organizational Behavior: Leading Human Resources, Hersey, P. Blanchard, K and Johnson, D. Upper Saddle River, NJ: Prentice Hal, 2001](#)
- [The Situational Leader. The Center for Leadership Studies, Hersey, Paul. Escondido, CA. 1984](#)

## Domain II: Project Management

(15 percent of exam)

### Key Content:

- A. Identify/recognize the variables and considerations of facility design (surface and structure) including:
  1. Functional design
  2. Operational considerations (e.g., safety and security, automated)
- B. Explain the variables and considerations of procurement practices including:
  1. Research and due diligence (e.g., test, pilot, systems, demo, site visits)
  2. Bid process (e.g., request for proposal/information/qualifications, selection process)
  3. Implementation

### Domain Explanation:

Effective management of projects is necessary for the successful growth of a parking program and are key to the overall success of the organization. Senior management may not be directly involved in the day to day management of projects; whether they are facility construction, maintenance, or programmatic changes to how the organization functions, they must possess an understanding of the key skills of project management. Project management can be an internal function of the organization, or it could be handled through oversight of outside contractors or vendors that deliver the project.

### Notable concepts include but are not limited to:

The variables and considerations of facility design of the parking structures and surface lots including:

- Project Delivery
- Sustainable Design – LEED Site Requirements
- Site Constraints
- Concept Design
- Circulation and Ramping
- Access Design
- Parking Geometrics
- Parking Layout Efficiency
- Vehicular Entry/Exit Lanes
- Pedestrian Requirements
- Accessible Parking Requirements
- Safety and Security
- Lighting
- Signage and Wayfinding
- Drainage
- Open or Enclosed Parking Structures
- Durability Design

### Resources associated with this content area include:

- *The Generally Accepted Accounting Principles (Foreword and Preamble)*
- *The Generally Accepted Auditing Standards*

- *A Guide to Parking, International Parking & Mobility Institute*
- *The Dimensions of Parking, (5th Edition, 2010) Urban Land Institute, National Parking Institute*
- *Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition, PDF eTextbook ISBN: 978-1628251845, Publication Date: 2017, Author: Project Management Institute (PMI)*

### Domain III: Financial and Operational Auditing

(16 percent of exam)

#### Key Content:

- Performs strengths, weaknesses, opportunities, and threats (SWOT) analyses
- Develops and evaluates performance metrics
- Performs internal audits
- Creates/implements management plans to address audit findings

#### Domain Explanation:

Both areas directly affect mission performance and customer service.

A program that is not financially sustainable will be unable to perform its mission for long; neither will a program that is weak or unsound operationally. Shortcomings in financial accountability, internal controls, and daily operations inevitably will result in negative publicity and embarrassment to the organization and its employees. Public or community support for the organization will wane, and delivery of the very tangible public safety, economic development, and quality of life benefits that the organization supports will suffer.

Thus, given the high stakes involved in the financial and operational spheres of a parking program, this Domain is designed for the CAPP to help ensure the integrity of the program's revenue stream and operational controls by proactively assessing weaknesses, and recommending effective solutions to safeguard the areas in question.

#### Notable concepts include but are not limited to:

- Gaining the support of program leadership to adopt a mindset promoting the proactive review of internal financial and operational performance
- Periodically evaluating (formally, through the SWOT analysis process) the departments and processes involved with program finance and operations
- Institutionalizing a system of performance metrics or Key Performance Indicators (KPI) within all departments by routinely collecting data and monitoring performance trends
- Supporting management's efforts to reinforce or modify strategies, processes, and tactics, given the performance feedback provided by the KPI
- Supporting the establishment of an internal audit function, or the assignment of internal audit responsibilities to qualified persons, within the organization
- Ensuring the separation of duties involving oversight versus the performance of financial and operational functions

- Conveying the importance of having outside auditors periodically review operations, but equally important, ensuring that those auditors fully understand and appreciate the special requirements and nuances of a parking management organization (its mission, operations and responsibility to all stakeholders), to enhance the auditors' effectiveness
- Knowing the details of regulatory compliance audits (e.g., Payment Card Industry Data Security Standard (PCI DSS) reviews, accessible parking compliance audits, etc.), and ensuring the organization is prepared to meet all requirements
- The ability to develop, facilitate, lead and/or co-author with parking organization representatives a plan that would implement corrective actions in response to audit findings, focused on the necessary changes to financial and operational systems and procedures, and identifying the priorities, objectives, activities, responsibilities, support requirements, and costs for implementation

**Resources associated with this content area include:**

**IPMI Publications**

- *[A Guide to Parking](#), International Parking & Mobility Institute*

**Parking-Related Texts**

- *[The High Cost of Free Parking](#), (Edition June 2011) Shoup, Donald C., APA Planners Press*
- *[Parking Management Best Practices](#), (Second edition March 2006) Litman, Todd, APA Planners Press*
- *[Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition PDF eTextbook](#) ISBN: 978-1628251845 Publication Date: 2017 Author: Project Management Institute (PMI)*

**Ancillary Resources for Further Study Information:**

- [A Beginner's Guide to SWOT Analysis](#)
- [6 Principles of Internal Control Activities \(quizlet\)](#)
- [The PCI Compliance Guide for Ecommerce \(downloadable white paper\)](#)

## Domain IV: Operations Management

(21 Percent of exam)

### Key Content:

- A. Applies operations management based on:
  1. Industry segments (e.g., airport, municipal, university, hospital, commercial operators)
  2. Number of spaces, ingress/egress lanes, and demand cycles
  3. Prepare standard operating procedures including:
    - a. On-street
    - b. Off-street (e.g., multi-use garage)
  4. Integration of technology (e.g., parking guidance systems, handheld equipment, LPR)
  5. Employ peak demand/utilization strategies
- A. Manages the revenue control system(s) by:
  1. Training staff and ensuring customers can use the system
  2. Managing, supervising, auditing, and reporting on performance, security, and revenue
- B. Determines and follows a maintenance program schedule by:
  1. Ensuring continuity of services
- C. Manages parking system revenues by:
  1. Establishing internal revenue controls by:
    - a. Segregating duties
  2. Responding to unexpected findings in revenue and inventory audits
  3. Keeping inventory records, redundant systems, and performing audits
- D. Establishes and supervises the parking system enforcement policy including:
  1. Purpose of enforcement (e.g., safety, vehicle turnover requirements)
  2. Personnel training
- E. Manage day-to-day financial operations including:
  1. Creating and assessing fee structures and revenue collection procedures based on evaluation of:
    - a. Utilization and occupancy studies
    - b. Types of fees (e.g., permit, hourly, daily, weekly, event)
    - c. Rate schedules (e.g., time of day, special events, overnight, long-term, and lost tickets)
  2. Evaluate internal operational policies to assess potential improvements to:
    - a. Data security for credit transactions
    - b. Stakeholder satisfaction
    - c. Safety and security
    - d. Emergency preparedness
    - e. Staffing requirements

### Domain Explanation:

A leader in the parking, transportation and mobility industry requires a broad understanding of how the associated operations are managed and controlled. Such understanding will provide a leader with the tools required to maximize the utilization of facilities, ensure effective audit controls are in place, identify and implement technology enhancements, and write policies and procedures which enhance the business' capability of meeting the goals of their business.

This Domain will focus on these areas and the understanding needed in order to ensure the integrity of the business operations.

**Notable concepts include but are not limited to:**

- Understanding of facility/system utilization
- Types of technology systems
- Importance of audit procedures as well as segregation of duties
- Development and understanding of emergency response plans

**Resources associated with this content area include:**

**Regulations/Processes**

- *[The Generally Accepted Accounting Principles \(Foreword and Preamble\)](#)*
- *[The Generally Accepted Auditing Standards](#)*
- *<https://www.cisecurity.org/white-papers/cis-primer-emergency-preparedness-for-cyber-infrastructure/>*
- *[https://www.ibm.com/support/knowledgecenter/en/ssw\\_ibm\\_i\\_73/rzarm/rzarmdisastr.htm](https://www.ibm.com/support/knowledgecenter/en/ssw_ibm_i_73/rzarm/rzarmdisastr.htm)*
- *[Emergency Preparedness Manual, International Parking & Mobility Institute](#)*
- *[The Complete Guide to Physical Security, 1<sup>st</sup> Edition; Dr. Paul Baker, and Dr. Daniel Benny, https://www.amazon.com/Complete-Guide-Physical-Security/dp/1420099639](#)*

**IPMI Publications**

- *[A Guide to Parking, International Parking & Mobility Institute](#)*
- *[The Technology Glossary for Parking Professionals \(First edition 2017\), International Parking & Mobility Institute and the British Parking Association](#)*

**Parking-Related Texts**

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- *[The High Cost of Free Parking, \(Edition June 2011\) Shoup, Donald C., APA Planners Press](#)*
- *[Parking Structures: Planning, Design, Construction, Maintenance and Repair, \(Third edition February 2001\) Chrest, Smith et. al., Springer](#)*
- *[Parking Management Best Practices, \(Second edition March 2006\) Litman, Todd, APA Planners Press](#)*
- *[Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition PDF eTextbook ISBN: 978-1628251845\\_Publication Date: 2017\\_Author: Project Management Institute \(PMI\)](#)*

## Domain V: Marketing and Public Relations

(10 percent of exam)

### Key Content:

- A. Practices community involvement/engagement
- B. Communicates organizational mission and service expectations to stakeholders

### Domain Explanation:

An often-overlooked component of parking, transportation, and mobility management is the marketing and public relations strategies, which are critical to the success of an organization. Effective communication with the public and other key stakeholders involves numerous media platforms and delivery methods and should include frequent updates regarding operational changes, expectations, plans of action and protocols, and more. It is important to establish an effective marketing and communication plan for both ongoing updates, as well as responses to unplanned or unforeseen circumstances.

This domain will focus on the tools and resources that senior management must utilize in developing an effective marketing and public relations plan. It will also highlight the strategies and best practices for successful communication and public engagement.

### Notable concepts include but are not limited to:

- View parking as a valued component of economic development efforts and give equal consideration.
- Develop strategies for the development of a strategic marketing and public relations plan for parking programs.
- Establish consistent media relations protocols.
- Implement regular customer feedback strategies and tools.
- Create social media policies and best practices.
- Establish clear and effective emergency/crisis response communication protocols.
- Prepare event management plans and strategies.
- Incorporate effective branding strategies.

### Resources associated with this content area include:

- *A Guide to Parking*, International Parking & Mobility Institute
- *Parking Management Best Practices*, (Second edition March 2006) Litman, Todd, APA Planners Press
- *Management: Leading and Collaborating in a Competitive World*, (Tenth edition, January 2012) Bateman and McGraw-Hill/Irwin; 10 edition (January 17, 2012)

## Domain VI: Analysis and Application of Technology

(16 percent of exam)

### Key Content:

- A. Analyze, manage, and/or apply parking management solutions (e.g., PARCS, ALPR, RFID, robotic systems, parking guidance systems, event parking solutions)
- B. Examine and propose payment processing and applications (e.g., credit card processing, PCI compliance, online payments, cybersecurity, cashiering systems, payment apps)
- C. Analyze, manage, and/or employ enforcement applications (e.g., citation management, LPR, enforcement handhelds, plate lookups, online appeals/payments)
- D. Manage data collection, reporting and analytics (e.g., cloud-based data, parking utilizations, predictive parking algorithms, demand-based pricing recommendations)
- E. Evaluate and recommend smartphone technology (e.g., payment/reservation apps, near field communications, QR code, parking availability, trip planning)

### Domain Explanation:

Technology continues to play a substantial role in many aspects of our lives: both our professional lives and our private lives. This includes how we engage with and utilize components of mobility and transportation. The parking industry, as a critical component of the transportation and mobility realm must remain current; by deploying technology to meet the expectation of our consumers and having our business run as efficiently and effectively as possible.

Purchasing and deploying technology can be a daunting task. The volume of marketing information is staggering. In addition, the skill sets needed to install and operate new technology often exceed the skill sets of the relevant staff members, ultimately hindering a successful implementation. The pressure of functional expectations of the public at large and legislated requirements will not allow us to remain technically stagnant. Technology topics will include internal components such as PCI or EMV compliance, transactional components such as AVI or LPR, potential payment apps your patrons expect you to have, wayfinding components such as space detection and video counting products, cyber-security and breach protection, new lighting products, and consideration of 'Green' technologies. The list and the associated products addressing these items is ever expanding and evolving.

There are several fundamental steps to take when considering new technology for your operation. If you take the time and follow these steps, the results should be as intended. It truly is a case of 'Measure Twice – Cut Once.' However, it is critical to take the time and be objective when following the steps indicated.

### Notable concepts include but are not limited to:

- Determining if new technology is applicable to your situation
- Understanding the new terms and technology abbreviations – what they mean
- Examination of your current staff capabilities as you consider new technology
- Engaging your internal stakeholders to gain a greater perspective on expectations
- Steps to take when evaluating new technology
- Engage your peers
- What constitutes success

**Resources associated with this content area include:**

- *[A Guide to Parking](#), International Parking & Mobility Institute*
- *[The Technology Glossary for Parking Professionals \(First edition 2017\)](#), International Parking & Mobility Institute and the British Parking Association*
- *[Parking Management Best Practices](#), (Second edition March 2006) Litman, Todd, APA Planners Press*
- *[Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition](#) PDF eTextbook ISBN: 978-1628251845\_Publication Date: 2017\_Author: Project Management Institute (PMI)*
- *[Management of Organizational Behavior: Leading Human Resources](#), Hersey, P. Blanchard, K and Johnson, D. Upper Saddle River, NJ: Prentice Hal, 2001*

**Ancillary Resources for further study information:**

- <https://www.parking.org/wp-content/uploads/2015/12/Whats-What-in-Parking-Technology-2015.pdf>
- <https://www.parkingtoday.com/articledetails.php?id=1892&t=parking-apps>
- <https://whatis.techtarget.com/definition/Automated-License-Plate-Recognition-ALPR>
- <https://www.creditcards.com/credit-card-news/parking-car-credit-cashless.php>

## Study Resources

To guide you through the vast information available for study, this table aligns the references with the corresponding Domain for study purposes.

You may indicate that you wish to read the reference by placing an X in the Read column.

Reference	Read	Domain of the CAPP Exam
<a href="#"><i>The Generally Accepted Accounting Principles (Foreword and Preamble)</i></a>		Domain II Domain IV
<a href="#"><i>The Generally Accepted Auditing Standards</i></a>		Domain II Domain IV
<a href="https://www.cisecurity.org/white-papers/cis-primer-emergency-preparedness-for-cyber-infrastructure/">https://www.cisecurity.org/white-papers/cis-primer-emergency-preparedness-for-cyber-infrastructure/</a>		Domain IV
<a href="https://www.ibm.com/support/knowledgecenter/en/ssw_ibm_i_73/rzarm/rzarmdisastr.htm">https://www.ibm.com/support/knowledgecenter/en/ssw_ibm_i_73/rzarm/rzarmdisastr.htm</a>		Domain I Domain IV
<a href="https://www.fema.gov/preparedness-checklists-toolkits">https://www.fema.gov/preparedness-checklists-toolkits</a>		Domain I
<a href="#"><i>Emergency Preparedness Manual, International Parking &amp; Mobility Institute</i></a>		Domain I Domain IV
<a href="#"><i>The Complete Guide to Physical Security, 1<sup>st</sup> Edition; Dr. Paul Baker, and Dr. Daniel Benny, https://www.amazon.com/Complete-Guide-Physical-Security/dp/1420099639</i></a>		Domain IV
<a href="#"><i>Sustainable Parking Design &amp; Management: A Practitioners Handbook, International Parking &amp; Mobility Institute</i></a>		Domain I
<a href="#"><i>A Guide to Parking, International Parking &amp; Mobility Institute</i></a>		Domain I Domain II Domain III Domain IV Domain V Domain VI
<a href="#"><i>The Technology Glossary for Parking Professionals (First edition 2017), International Parking &amp; Mobility Institute and the British Parking Association</i></a>		Domain I Domain VI
<a href="#"><i>Parksmart Certification Standard, Version 1.0 with Addenda, Green Business Certification Inc.</i></a>		Domain I Domain IV Domain V Domain VI
<a href="#"><i>The Dimensions of Parking, (5th Edition, 2010) Urban Land Institute, National Parking Institute</i></a>		Domain I Domain II
<a href="#"><i>The High Cost of Free Parking, (Edition June 2011) Shoup, Donald C., APA Planners Press</i></a>		Domain I Domain III Domain IV
<a href="#"><i>Lots of Parking: Land Use in a Car Culture, (July 8, 2004) Jakle, Scuttle, University of Virginia Press</i></a>		Domain I
<a href="#"><i>Parking Structures: Planning, Design, Construction, Maintenance and Repair, (Third edition February 2001) Chrest, Smith et. al., Springer</i></a>		Domain IV
<a href="#"><i>Parking Management Best Practices, (Second edition March 2006) Litman, Todd, APA Planners Press</i></a>		Domain I Domain III Domain IV Domain V Domain VI

Reference	Read	Domain of the CAPP Exam
<i>Guide to the Project Management Body of Knowledge PMBOK Guide® 6th Edition PDF eTextbook</i> ISBN: 978-1628251845_Publication Date: 2017_Author: Project Management Institute (PMI)		Domain I Domain II Domain III Domain IV Domain VI
<i>Management: Building a Competitive Advantage, 3rd Edition 1996, Bateman, Snell.</i>		Domain I
<i>Management: Leading and Collaborating in a Competitive World, (Tenth edition, January 2012)</i> <i>Bateman and McGraw-Hill/Irwin; 10 edition (January 17, 2012)</i>		Domain I Domain V
<i>The Leadership Challenge, James Kouzes and Barry Posner, Jossey-Bass Publishers, 7<sup>th</sup> Edition, 2012</i>		Domain I
<i>Please Understand Me, David Keirse and Marilyn Bates, Prometheus Nemesis Book Company, 1984</i>		Domain I
<i>Team Players and Teamwork, Parker, Glenn; 1990</i>		Domain I
<i>Management of Organizational Behavior: Leading Human Resources, Hersey, P. Blanchard, K and Johnson, D. Upper Saddle River, NJ: Prentice Hal, 2001</i>		Domain I Domain VI
<i>The Situational Leader. The Center for Leadership Studies, Hersey, Paul. Escondido, CA. 1984</i>		Domain I
<i>Team Players and Teamwork, Parker, Glenn; 1990</i>		Domain I

#### Further Study Information:

[A Beginner's Guide to SWOT Analysis](#) (Domain III)

[6 Principles of Internal Control Activities \(quizlet\)](#) (Domain III)

[The PCI Compliance Guide for Ecommerce \(downloadable white paper\)](#) (Domain III)

<https://www.parking.org/wp-content/uploads/2015/12/Whats-What-in-Parking-Technology-2015.pdf>  
(Domain VI)

<https://www.parkingtoday.com/articledetails.php?id=1892&t=parking-apps> (Domain VI)

<https://whatis.techtarget.com/definition/Automated-License-Plate-Recognition-ALPR> (Domain VI)

<https://www.creditcards.com/credit-card-news/parking-car-credit-cashless.php> (Domain VI)

## Code of Ethics

The CAPP Certification Board hereby establishes this Code of Ethics stating that all CAPPs are bound to:

### Introduction

The CAPP Certification Board has adopted a Code of Ethics and Professional Responsibility (Code of Ethics) that establishes the expected level of professional conduct and practice for CAPP designees. The CAPP Certification Board retains the right to amend the Code of Ethics as required.

To promote and maintain the integrity of its CAPP certification for the benefit of credential holders and stakeholders, the CAPP Certification Board can enforce the provisions of the Code of Ethics. The CAPP Certification Board shall be required to enforce sanctions against CAPPs who violate the regulations as written in the Code of Ethics. The CAPP Certification Board will follow the disciplinary rules and procedures set forth below when enforcing the Code of Ethics.

### CAPP Code of Ethics

The CAPP Certification Board is the sole body authorized to award the CAPP designation. The CAPP designation is widely recognized and bestows a recognized level of competence knowledge in the field of professional parking, transportation and mobility management. Part of that knowledge relates to an understanding that CAPPs will abide by the Code of Ethics. The purpose of this Code is to direct CAPPs to conduct themselves with honesty, professionalism, integrity and fairness, and to provide a benchmark code of conduct that stakeholders may expect.

To this end, the CAPP Certification Board hereby establishes this Code of Ethics stating that all CAPPs are bound to:

- I. Conduct their businesses according to high standards of honesty and fairness and to render that service to customers so that any “prudent person” would agree that the CAPPs conduct themselves and their businesses in a manner that is beyond reproach.
- II. Provide “customer-centric” service that serves all stakeholders, and specifically protects the public.
- III. Abide by all applicable governing rules, regulations and standards.

The Code consists of two parts: The Principles and The Rules. The Principles embody the ethical and professional standards expected of CAPPs. These principles address the “substance” and not merely the “form” of service to customers and employers. The principles are the guidelines of professional conduct, the same conduct that any customer would expect of any professional on whom they rely. The rules serve as a description of best-practice or CAPP standards and outline how the principles must be implemented in specific circumstances.

## The Principles

**Principle 1. Competence:** The CAPP shall provide services to stakeholders in a manner that demonstrates competency. Competency must be maintained through participation in recertification activities that demonstrate the CAPP has maintained currency in the necessary knowledge, skills and abilities required in the role of the CAPP.

Competence is defined as having adequate levels of knowledge and skill to provide appropriate service in the parking, transportation and mobility profession as judged by one's peers. Competence includes the recognition that when one is involved in matters beyond one's competence, one must withdraw or seek appropriate professional assistance. Competence also includes maintaining one's level of knowledge through continuing education/recertification.

**Principle 2. Confidentiality:** A CAPP shall not disclose any confidential customer information without the specific written consent of the customer unless the disclosure is made in response to a legal proceeding, to defend against charges of wrongdoing by the CAPP, or in connection with a civil dispute between the CAPP and a claimant. Confidentiality is a fundamental aspect of trust on which the professional customer relationship is based.

**Principle 3. Professionalism:** A CAPP's conduct in all matters shall reflect professionalism and good character, as expected by the CAPP designation. A CAPP represents the credential and may not behave in any manner that would discredit the credential.

**Principle 4. Fairness and Integrity:** A CAPP shall perform professional services in a manner that is fair and reasonable to customers, prospective customers, colleagues, employers, and regulators, and shall disclose any conflicts of interest associated with service as a CAPP. Fairness includes subordinating one's own personal interest when it conflicts with the stakeholder's interests and when such conflicts are unclear, attempting to balance the interests of all parties equitably. The CAPP must demonstrate integrity by living according to high moral principles and serving the public with steadfast adherence to the CAPP Code of Ethics Rules and Principles, and the policies and procedures of the CAPP Certification Board.

## The Rules

### Rules that Relate to Principle I: Competence

**Rule 101:** CAPPs shall keep informed of developments in the profession and participate in continuing education throughout their professional careers in order to improve professional competence in all fields in which the designee is involved. CAPPs shall satisfy all minimum continuing education requirements established by the CAPP Certification Board.

**Rule 102:** CAPPs shall provide service and expertise only in those areas where they have competence. In those areas where the CAPP is not professionally competent, the CAPP shall seek the counsel of qualified individuals and/or refer stakeholders to such persons or withdraw from providing service or expertise.

### Rules that Relate to Principle II: Confidentiality

**Rule 201:** A CAPP shall not reveal or use, without the customer's written consent, any personally identifiable information relating to the customer except and to the extent that disclosure or use is reasonably necessary to:

- a. Comply with legal requirements or legal process; or
- b. Defend the CAPP against charges of wrongdoing; or
- c. Defend the CAPP in connection with a civil dispute between the CAPP and the customer.

**Rule 202:** A CAPP shall maintain the same standards of confidentiality to employers and employees as to customers.

### Rules that Relate to Principle III: Professionalism

**Rule 301:** A CAPP shall use the designation in compliance with the current rules and regulations of the CAPP Certification Board, as established and amended.

**Rule 302:** A CAPP shall show respect for other professionals and related occupational groups by engaging in fair and honorable competitive practices.

**Rule 303:** A CAPP who has knowledge that another CAPP has committed a violation of this Code shall promptly notify the CAPP Appeals and Discipline Committee. A violation would be any act that raises substantial questions as to another CAPP's honesty, integrity, competence, trustworthiness or fitness to practice. For the purposes of this Rule, knowledge means no substantial doubt.

**Rule 304:** A CAPP who has knowledge that raises a substantial question of legally actionable, unprofessional, fraudulent or illegal conduct by a CAPP shall promptly inform the appropriate regulatory body if appropriate, as well as the CAPP Appeals and Discipline Committee. For purposes of this Rule, knowledge means no substantial doubt.

**Rule 305:** A CAPP who has reason to suspect illegal conduct within the designee's organization shall make timely disclosure of the available evidence to the designee's immediate supervisor and/or partners or co-owners. If the CAPP is convinced that illegal conduct exists within the designee's organization, and that appropriate measures are not being taken to remedy the problem, the CAPP shall, where appropriate, alert the proper regulatory authorities, and the CAPP Certification Board.

**Rule 306:** In all professional activities, a CAPP shall perform services in accordance with:

- a. Applicable laws, rules and regulations of governmental and other applicable authorities; and
- b. Applicable rules, regulations and other established policies of the CAPP Certification Board.

**Rule 307:** CAPPs shall not engage in any conduct that reflects adversely on their integrity or fitness to practice.

**Rule 308:** A CAPP shall always act in the best interest of the customer and/or stakeholders, serving the overarching requirement to protect the public.

### Rules that Relate to Principle IV: Fairness and Integrity

**Rule 401:** A CAPP shall, in rendering services, disclose all material information relevant to the professional relationship, including but not limited to conflict(s) of interest(s), changes in the CAPP's employment affiliation, address, telephone number, credentials, and qualifications.

**Rule 402:** A CAPP who is an employee shall perform professional services with dedication to the lawful objectives of the employer and in accordance with this Code.

**Rule 403:** A CAPP shall not, while rendering professional services, engage in conduct that involves dishonesty, fraud, deceit or misrepresentation, or knowingly make a false or misleading statement to a

customer, employer, employee, professional colleague, governmental or other regulatory body or official, or any other person or entity.

**Rule 404:** A CAPP is prohibited from the unauthorized or misleading use of the CAPP credential. If the CAPP's renewal date has passed and the CAPP has not fulfilled requirements to maintain certification, the CAPP designation may not be used until the CAPP meets all requirements and pays all outstanding fees and fines. Additionally, CAPPs are prohibited from using the CAPP designation to represent themselves as specialists in a particular product or service, as having specific knowledge that they do not possess or from using the designation in any way to mislead stakeholders about their expertise or breadth of experience or knowledge.

**Rule 405:** A CAPP shall conduct him/herself with honor and dignity.

**Rule 406:** A CAPP shall not discriminate against others based on, but not limited to, gender, race, age, religion, disability, nationality, or sexual orientation.

### Violation of the Code of Ethics

CAPPs who violate the Code of Ethics shall be subject to disciplinary actions. The Disciplinary Policy and Procedures may be found on the CAPP portion of the IPMI website at [parking-mobility.org/capp](http://parking-mobility.org/capp).

The certification program is designed to:

- Establish a benchmark of excellence for the parking and mobility profession.
- Provide continual information and training to parking, mobility, and transportation professionals.
- Increase the body of knowledge available to parking and mobility professionals.
- Provide a means by which parking and mobility professionals may demonstrate their proficiency and be recognized by their peers, employers, regulators, customers, and the public.