

## 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:

### **CAPP Examination Content Outline**

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

(22 percent of exam)

- A. Demonstrates knowledge of the following management practices and techniques:
  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. Manages revenue sources, cash flow, and/or allocation of resources
- C. Analyze, propose, and/or determine aspects of revenue control solutions, including:
  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
- D. Determine, recommend, and/or employ business-partner relationships and alliances including:
  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
- E. Evaluate, review, and/or select policies and procedures
- F. Examine and/or select transportation demand management (TDM) plans, including:
  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
- G. Recognize organizational human resources practices regarding:
  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*

## Domain II: Project Management

(15 percent of exam)

- 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)
  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. Recognize the components to sustainability
- C. 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
- D. Recognize and/or compare financial options new or capital renewal (e.g., types and purposes, bond indenture and debt service obligations, mortgages)

## Domain III: Financial and Operational Auditing

(16 percent of exam)

- A. Performs strengths, weaknesses, opportunities, and threats (SWOT) analyses
- B. Develops and evaluates performance metrics
- C. Performs internal financial audits
- D. Commission and/or assist external auditors
- E. Prepares for/assists in unscheduled outside regulatory compliance audits
- F. Creates/implements management plans to address audit findings

## Domain IV: Operations Management

(21 Percent of exam)

- 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)*
    - c. *Valet*
    - d. *Multi-modal (e.g., bikes, ped., TNC)*
    - e. *Fleet management*
    - f. *Buses and shuttles*
    - g. *Events*
  4. Integration of technology (e.g., parking guidance systems, handheld equipment, LPR)
  5. Employ peak demand/utilization strategies
- B. Manages the revenue control system(s) by:
  1. Managing the installation of system hardware and software
  2. Training staff and ensuring customers can use the system
  3. Managing, supervising, auditing, and reporting on performance, security, and revenue
  4. Determining maintenance and revenue collection schedules
- C. Determines and follows a maintenance program schedule by:
  1. Conducting regularly scheduled inspections to identify maintenance requirements for facility:
    - 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)*
  2. Identifying, analyzing, and prioritizing long-term, short-term, and preventive maintenance projects
  3. Implementing cost-saving measures, including energy-efficient equipment upgrades
  4. Ensuring continuity of services
  5. Performing in-house or subcontracted maintenance/repairs:
    - 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)*
  6. Conducting quality control maintenance performance inspections
- D. Managing parking system revenue controls by:
  1. Establishing internal revenue controls by:
    - 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)*
  2. Responding to unexpected findings in revenue and inventory audits
  3. Keeping inventory records, redundant systems, and performing audits
  4. Using active and passive monitoring systems
- E. Establishes and supervises the parking system enforcement policy, including:
  1. Purpose of enforcement (e.g., safety, vehicle turnover requirements)
  2. Personnel training
  3. Enforcement practices (e.g., warning, citations, booting, towing, impounding, LPR)

4. Adjudication and appeals
  5. Fine collections (e.g., lookups, notices, third-party collections)
- F. 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)*
    - d. *Fee payment options*
    - e. *Market rate survey comparisons*
    - f. *Budget variances*
    - g. *Pricing strategies (e.g., dynamic, progressive)*
  2. Managing revenue by performing:
    - 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*
  3. Managing expenses including:
    - 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)*
  4. Evaluate internal operational policies to assess potential improvements:
    - 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*
- G. Create and implement an emergency management/disaster preparedness program including responses to and safeguards for:
1. Natural and/or man-made disasters/incidents
  2. Data and information protection (e.g., computer system backups, off-site data storage, off-site monitoring)
  3. Equipment and asset protection

## Domain V: Marketing and Public Relations

(10 percent of exam)

- A. Establishes and/or implements an external communications policy and protocol to communicate with stakeholders
- B. Shares the details of emergency/disaster response(s) with stakeholders
- C. Identifies and markets services based on stakeholder and service profiles, competitors, and feedback
- D. Communicates organizational mission and service expectations to stakeholders

- E. Practices community involvement/engagement
- 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)
- G. Develops and implements customer retention and satisfaction programs (e.g., jump starts, flat tires, lights left on, lost cars)

### Domain VI: Analysis and Application of Technology

(16 percent of exam)

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

**Appendix A contains sample questions.**

### 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 particular text or author.

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

The exam questions are written based on the knowledge and tasks identified in the CAPP Examination Content Outline.

*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 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