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Technology Committee
Agenda

- EPS Interest Levels at Their Highest
- What is EPS Anyway??
  - Various Technologies/Applications
- National EPS Initiatives
- Regional EPS Deployments
- Why Should We Establish and Follow Guiding Principles??
- EPS Guiding Principles and the Process
- Discussion
EPS Interest Is High

- IPI Strategic Plan
  - EPS is a Top 10 Subject
- IPI 2000 Expo
  - EPS Sessions: best attended at conference
- IPI Board, State, Regional Association Leadership
  - Unanimous interest in taking Guiding Principles to the these associations to obtain adoption
The EPS Technologies

- Automatic Vehicle Identification (AVI) Transponders - Tolls, Traffic Management / Probes, Parking Access Control, Retail, Etc.
- Smart Cards - Tolls, Access Control, Parking, Transit, Cell Phones
- Cellular Phones - Traffic Management / Probes, Parking, Internet Access
- Internet - Parking, Parking Citation and Other Fee Payments
The EPS Applications

- Toll Roads
- Transit
- Retail – Fuel Purchases, Drive Thru Fast Food
- PARKING!! (Both On-Street and Off-Street)
**EPS Payment Processing**

- Stored Value (E-Purse)

- Account-Based (Back Office / Service Center Processing)
National EPS Deployment

- Smart Card/Chip Cellular Based
National EPS Deployment

- Personal Data Assistants – Cellular and Internet Based
National EPS Deployment

- Fuel Purchases
National EPS Deployment

- **E-ZPass**
  - 18 electronic toll collection (ETC) agencies
  - 7 states
  - 4.76 million transponders
  - 2.7 million active accounts
  - 6.2 million annual transactions
  - $1.3 billion collected annually

- Additional Uses Deployed
  - Retail
  - Parking
National EPS Deployment

- E-ZPass™ for McDonald’s Drive Thru
National EPS Deployment

- Albany Airport **E-ZPass Plus SM** Parking
- Use Prevalent EPS Technology for Airport Parking Fee Collection
- Uses **E-ZPass SM** as “Method of Payment”
- 3 Facilities, 1 Garage; 4,300 Spaces
- 9 Lanes (Exit Only)
- Integration With Customer Service Center System
- **E-ZPass Plus SM** Payments = 18% of All Parking Transactions
- $900,000 in Revenue (12% of Total)
National EPS Deployment

- Washington Metro Area Transit Authority’s (WMATA) SmarTrip® Card
WMATA's Universal Fare Payment Strategy

- Regional Fare System Integration
  Incorporating Metrobus, Metrorail, Local Bus, and Commuter Rail

- Inter-Modal Connections
  - Transit
  - Toll roads and bridges
  - Parking at regional airports and possibly including on-street meters

- Regional Service Center for Inter-Agency Financial Settlement
Deploy Technology to Consolidate Services Into a Single Card

- Parking (predominant card use) – parking drove the technology selection process
- Replace 5-6 single-use cards with contactless smart card
- 40,000 cards issued

Star Card Functions Include:

- Student/employee identification
- Student/employee parking card
- Library card
- Building access card
- Food and vending debit card
- Parking
National EPS Deployment—Lansing Community College

- Parking Environment
  - 4 surface lots + 2 garages; 1,800+ spaces
  - 18 entry and exit lanes
  - Integration with resident revenue control, vending, and POS infrastructure
Regional EPS Deployment

- Regional Electronic Toll Collection

[Map of the region showing various cities and highways, with markers indicating ETC sites and other toll sites.]
Why EPS Guiding Principles for Parking?

- US DOT is promoting and encouraging the use of EPS.
- EPS deployments for transportation are increasing at a rapid pace.
- Requirements and guidelines are being established for other segments of the transportation industry.
- To ensure interoperability, the needs of the parking industry must be known!
**EPS Guiding Principles Development & Review Process**

- Developed by IPI EPS Committee
- Consensus Reached by Committee Via Notices and Conference Calls
- Presented at 2000 IPI Conference
- Presenting To and Seeking Consensus From State/Regional Parking Associations: 10 of 18 to Date.
- Principles Incorporated Into ITS America, U.S. DOT, Transit, Etc.
These guiding principles have been developed to provide guidance to parking industry stakeholders as they develop and deploy electronic payment systems (EPS) that will increase operating efficiencies and offer greater convenience for the public. EPS technologies include but are not limited to smart cards applications (including both contact and contactless technologies), automatic vehicle identification transponders, cellular communication systems, and the Internet.
The International Parking Institute (IPI) realizes the importance of achieving both regional and national interoperability and also understands that some level of deployment “migration” must occur before interoperability is achieved. It is with these two facts in mind that the guiding principles have been produced. The ultimate purpose of these principles is for the implementers of EPS technology to measure technology design and purchase decisions against these guiding principles. Nationwide adherence to these guiding principles for EPS in parking will reduce overall technology costs, increase convenience for the public, and ultimately optimize market penetration.
**EPS Guiding Principles Sections**

- General
- Smart Card Technology
- Privacy
- Interoperability
- Standards
Parking EPS Guiding Principles

General

- Investment and Participation in EPS for Parking Is Voluntary.
- EPS Parking Applications Provide System Security and Payment Integrity.
- EPS Parking Applications Have the Potential to Expand Without Compromising Security.
- EPS Parking Applications Have the Capability to Integrate With Existing Information and Payment Systems.
- EPS Parking Applications Have the Capability to Accurately Audit Transactions.
- EPS Parking Applications Have Certified Clearinghouse Interface Capability.
Parking EPS Guiding Principles

Smart Card Technology

- EPS Smart Card Parking Applications Have the Flexibility to Support Industry Standards for Multiple Smart Card Schemes.


- EPS Smart Card Parking Applications Support Multiple Card Issuers.
Parking EPS Guiding Principles

Privacy

- EPS Parking Applications Provide Reasonable Expectation of Privacy Regarding Access to and Use of Personal Information. The Parties Must Be Reasonable in Collecting Data and Protecting the Confidentiality of That Data.

- EPS Parking Application Data Access Shall Be Controlled and Tracked; Civil and Criminal Sanctions Should Be Imposed for Improper Access, Manipulation, or Disclosure, As Well As for Knowledge of Such Actions by Others.
End Users May Obtain an EPS Device From the Operating Agency or a Compatible EPS Device From an Independent Equipment Vendor of the End User’s Choice.

Parking Agencies Shall Work to Establish Business Interoperability Agreements Among Parking Programs.

The United States Parking Community Works With the Parking Communities in Canada and Mexico to Implement Interoperable EPS Systems Throughout North America.

The Parking Industry Works to Ensure That EPS for Parking, Where Appropriate, Are Interoperable With Other Transportation Related EPS (e.g., Electronic Toll Systems, Transit Fare Collection, Etc.) That Are in Compliance With the National ITS Architecture.

The Parking Industry Works to Ensure That EPS for Parking, Where Appropriate, Are Interoperable With Other Electronic Systems to Encourage Multi-Functionality (e.g., Retail Applications, Identification/Access Systems, Campus Cards, Etc.).
Standards

- The Parking Industry Endorses the Use of Open Standards and Interoperability Between Systems in EPS Parking Applications.
Conclusion & Open Discussion

Nationwide Adoption

- We Need Adoption and ‘Sign-off’ From Carolinas Parking Association

- Obtain “Sign-Off” From All State Parking Associations and Deliver Consensus-Based Guiding Principles to ITS America, American Public Transportation Association, US Department of Transportation, Etc.