

On-Street Meter Auditing

# Defending the "IRS"

*Integrity of the Revenue Stream*



**Parking Industry Exhibition**  
**Trade Show and Seminars**  
March 7-10, 2010 • Chicago (O'Hare) IL



# Joseph P. Sciulli

*Vice President and Senior Operations Consultant*



# Ten (10) Topics

1. What **SHOULD** your Meter Revenue Be?
2. Organizational Safeguards
3. Types of Internal Controls
4. Standard Operating Procedures (SOPs)
5. Collection Equipment Inventory Controls
6. Accountability Transfers (the Weakest Link)

# Ten (10) Topics

- 7. Revenue Projections, Safeguards, Reconciliations**
- 8. Inspecting for Signs of Compromise**
- 9. Steps in Recovering from a Loss**
- 10. Implementing an Audit Approach**

# 1. What **SHOULD** your Meter Revenue Be?

- Does not equate (only) to history
- Traditional Meter Revenue Formula
- Determine for Location and Period
- Conduct Paid Occupancy Surveys

# Meters		400
x		
Hours of Operation per Day		10
x		
Days per Week		5.5
x		
Weeks per Year		50
x		
Hourly Rate	\$	1.00
x		
Paid Legal Occupancy Rate		50%
=		
Meter Revenue	\$	550,000
Average Meter Revenue/Meter/Year	\$	1,375.00

# 1. What **SHOULD** your Meter Revenue Be? (cont'd)

- Location (hierarchy, bottom-up)
  - ◆ Parking space or meter
  - ◆ Blockface
  - ◆ Collection “segment” or “zone” = CANISTER
  - ◆ Collection Route (a number of segments)
  - ◆ Enforcement Patrol Beat
  - ◆ Contiguous area (neighborhood, Central Business District quadrant, CBD, etc.)
  - ◆ Meter Maintenance Route
  - ◆ City

# 1. What **SHOULD** your Meter Revenue Be? (cont'd)

## ■ Period

- ◆ Days
- ◆ Weeks
- ◆ Months
- ◆ Seasons
- ◆ Year
- ◆ Fluctuations in parking activity, enforcement staffing, special events, etc.

**Fluctuations will occur**

**Projections can be made**

**Collection frequencies should be established so meter coin boxes are not overloaded or store excessive value**

**Revenue should be tracked by **time, location, etc.****

# 1. What **SHOULD** your Meter Revenue Be? (cont'd)

## ■ Fun Facts

Approximate maximum capacities for revenue boxes:

S/S regular coin box:	c. \$30 - \$35
S/S extended coin box:	c. \$60 - \$70
M/S coin box:	up to \$1,200?
M/S cash box:	\$1,000 in singles

One pound of mixed coin,  
mostly quarter: c. \$17.75

One traditional collection canister: Hernia-city  
c. 22.5 pounds for the canister; c. \$4,000 in coin (>220 lbs.)

# 1. What **SHOULD** your Meter Revenue Be?

## (cont'd)

### ■ Paid Occupancy Surveys

- ◆ Peak, off-peak, evening, weekend, etc.
- ◆ Worth the time and money spent
- ◆ Collect the **Paid Legal** Parking Rate
- ◆ Collect **Unpaid Legal Parking** rate
  - ➔ Placard or plate: person with disability
  - ➔ Broken meters, etc.
- ◆ Collect **Violation Capture** rate
  - ➔ # of Unique Tickets / # of Unique Violations

# 1. What **SHOULD** your Meter Revenue Be? (cont'd)

## SUGGESTED NORMS FOR ON-STREET PARKING ACTIVITY INDICATORS (updated October 2009)

Note: In the following table, the term "Space Hours" is abbreviated with "SpHr".

Indicator	Calculation	Observed Rate that is Lower May Be Caused By:	Typical Downtown "Balanced System"	Observed Rate that is Higher May Be Caused By:
Occupancy (O%)	$\frac{\# \text{ Occupied SpHr}}{\text{Total SpHr}}$	Regulated Duration too short; meter rates too high for area (esp. versus off-street)	<b>93% - 95%</b>	Insufficient legal parking supply or too few meters; rates too low for area (esp. versus off-street); possible need to evaluate necessity of safety regulations
Meter Paid Rate	$\frac{\# \text{ Paid SpHr}}{\text{Total SpHr}}$	Inefficient enforcement (capture rate too low); Meter rate too high or meter duration insufficient	<b>60% - 85%</b>	Rates too low; durations too long; insufficient enforcement
Meter Violation Rate	$\frac{\# \text{ Expired SpHr}}{\text{Total SpHr}}$	Meter rate too low, duration too long; ticket fine too low	<b>3% - 5% - 7%</b> (Multi-space to single-space electronic)	Meter fee excessive; duration too short
Unpaid Legal Meter Occupancy	$\frac{\# \text{ Unpaid Legal SpHr}}{\text{Total SpHr}}$	--	<b>Up to 15%</b>	Disabled parking abuse; inappropriate free parking policies; excessive meter outages
Meter Vacancy	$\frac{\# \text{ Vacant SpHr}}{\text{Total SpHr}}$	Excessive demand; meter fee too low; insufficient number of meters (perhaps inappropriate or unnecessary non-metered regulations)	<b>5% to 7%</b>	Insufficient demand; meter fee excessive
Meter Downtime	$\frac{\# \text{ Unique Failed Meters Observed}}{\# \text{ Unique Meters Surveyed}}$	Effective maintenance program; low vandalism	<b>1%-2%</b>	Inefficient maintenance; vandalism or intentional jamming
Rate of Meter Downtime	$\frac{\# \text{ Meter Downtime SpHr}}{\text{Total \# Meter SpHr}}$			

## 2. Organizational Safeguards

- Security staff (ROI)
  - ◆ Reporting relationship: to the TOP
- Meter program manager
- Maintenance staff
  - ◆ Traditional: 1 to 2,000 meters
  - ◆ Electronic / multi-space
    - program, city, geography-specific
    - vendor input
    - local conditions
    - program status

## 2. Organizational Safeguards (cont'd)

- Meter planning analysts!!!
  - ◆ Program-specific
  - ◆ Major area of city
  - ◆ Determine tasks: outreach, monitoring, revenue analysis, etc.
- Key control
  - ◆ Secure storage, controlled access
  - ◆ Vested in “disinterested party”
  - ◆ Counter-signatures, verifications, etc.

## 2. Organizational Safeguards (cont'd)

- Consider the capital investment
- Consider the potential revenue
- Consider NOT investing in security and revenue analysis
  - ◆ the negative press
  - ◆ damage to the parking program
  - ◆ public embarrassment to the organization
  - ◆ embarrassment to elected officials, the mayor, etc.

# 3. Types of Internal Controls

- Administrative / Procedural
- Physical
- Revenue / Accounting
- FOUR Categories of each
  - ◆ Exist on paper
  - ◆ In effect
  - ◆ Absent
  - ◆ You wish you had

# 3. Types of Internal Controls (cont'd)

## ■ Administrative / Procedural Controls include

- ◆ Who, what, when, where, **WHY**, how, and how often
- ◆ Responsibility assignments ↓
- ◆ **In WRITING**

### **Responsibility Assignments Cover**

Maintaining  
Assigning  
Issuing  
Receiving  
Counting  
Reporting  
Transferring  
Verifying  
Inspecting  
Observing

Rotating (collector)

# 3. Types of Internal Controls (cont'd)

## **WHAT SHOULD BE COVERED**

**Keys to vehicles**

**Keys to meters**

**Coin boxes**

**Collection canisters**

**Collection carts**

**Vehicles**

**Manifests**

**Other equipment**

**Crew assignments**

**Security procedures**

# 3. Types of Internal Controls (cont'd)

## ■ Physical Controls include

- ◆ Locks (meters, spare inventory)
- ◆ Locks (collection canisters)
- ◆ Keys (maintenance and collections)
- ◆ Tamper-evident seals (numbered and/or bar-coded)
- ◆ Flash bags
- ◆ Bar-code or RFID equipment
- ◆ Locking key rings
- ◆ Pocket-less garments
- ◆ Forms, handhelds, etc.
- ◆ Baffle/bladder
- ◆ Cameras, video, two-way glass
- ◆ Ultraviolet solutions and lights

**Inventory records**  
**Issuance / receipt records**  
**Inspection documentation**  
**Discrepancy reports**

# 3. Types of Internal Controls (cont'd)

## ■ Revenue / Accounting

- ◆ Collection Route, zone, segment, area **projections**
- ◆ Daily reporting and comparison with history and projections
- ◆ Item counts and weights in/out/received
- ◆ Maintaining piece count history
- ◆ Deposit ticket preparation, tracking and reconciling
- ◆ Bank statement reconciliations: coin and electronic (credit card, cell-phone) transactions
  - ➔ area analysis

# 3. Types of Internal Controls (cont'd)

■ **FOUR CATEGORIES** of each TYPE of internal control

- ◆ *Exist on paper*
- ◆ *In effect and are working*
- ◆ *Absent or missing*
- ◆ *You wish you had after a mishap*

# 4. Standard Operating Procedures

- Should be written for each function
  - ◆ Collection crew member, crew leader, supervisor, manager
  - ◆ Equipment set-up staff (may be counting room staff, or other)
  - ◆ Security / surveillance staff and leader (inspections)
  - ◆ Key control, etc.
- Top of meter revenue (recovery)
- Issuance and receipt of keys and canisters
- Equipment transfers in the field
- Revenue reconciliation (for deposits, etc.)
- Communications (radio reporting protocols, etc.)

# 5. Collection Equipment Controls

- Begin with a physical inventory
- Separately number each piece of equipment – traditional or bar-coded labels
- Document condition with digital photos
- Establish database of ALL equipment items
- Maintain in secure surveillance area
- Require counter-signatures on equipment transfers

# 5. Collection Equipment Controls (cont'd)

- For collection canisters
  - ◆ Check for presence and condition of baffle and receptacle sleeve
- Ensure coin box doors can not turn outside of the sleeve
- Do NOT use any “off-the-shelf” locks
  - ◆ Use special locks and keys obtained for your program
- Use one-way or other non-duplicable security seals on collection canisters always

# 6. Accountability Transfers

## ■ This IS the Weakest Link

- ◆ All collection equipment items, including vehicles
- ◆ Establish and enact procedures...
  - ➔ Always document (forms) – even electronic records can disappear
  - ➔ Require countersignatures and verification of item counts on all transfers
  - ➔ Instruct in notation of condition
  - ➔ Line by line, not all at once
  - ➔ Observe in the shop and in the field
  - ➔ Conduct surprise inspections
  - ➔ Document any instance of non-compliance
  - ➔ Provide refreshers

# 7. Revenue Projections, Safeguards and Reconciliations

- Conduct daily and trend-based analysis of revenue by collection hierarchy, whether automated or manual
- Compare with projections
- Institute “Top of Meter” coin recovery procedures
  - ◆ Technicians do NOT deposit loose coins in vault
  - ◆ Issue numbered coin boxes to technicians daily
  - ◆ Count receipts daily
- Conduct overt and covert surveillance (safety of all concerned)

# 7. Revenue Projections, Safeguards and Reconciliations (cont'd)

- Track maintenance response times
- Examine technicians' reports
  - ◆ Too many or not enough repair actions?
- Examine collector and maintenance tech. vacation schedules
  - ◆ He's always here, what a guy!
  - ◆ Ensure vacation time is used

# 7. Revenue Projections, Safeguards and Reconciliations (cont'd)

- Plant and recover “salted” coins in vaults and tops
- Check for loose meters on poles, bent poles
  - ◆ Field special maintenance crews
- Respond IMMEDIATELY to vandalism
- SUBJECT MATTER FOR Q&A, but...

# 7. Revenue Projections, Safeguards and Reconciliations (cont'd)

## ■ ESTABLISH DAILY CONTINUITY OF COLLECTION ACTIVITY

- ◆ From the collector
- ◆ To the canister used
- ◆ To the route segment collected

# 8. Inspecting for Compromised \$

- Supporting Infrastructure – The Big Picture
  - ◆ Poor sign maintenance / conditions
  - ◆ Rusted meter housings, faded domes
    - ➔ Conveys inattention to the program, non-payment increases
  - ◆ Ticket complaints for meter outages
  
- Conduct post-collection audits
  - ◆ Was everything collected?
  - ◆ Open vault doors, missing coin boxes, etc.

# The Big Picture - Examples



# 8. Inspecting for Compromised \$ (cont'd)

- Check for damaged collection equipment items
  - ◆ Start with a reliable inventory, note condition and any damages daily
  - ◆ Determine responsibility for damage
  - ◆ Question EVERY CHANGE in condition
  - ◆ Keys, canisters, heads, baffles, coin boxes
  
- Routinely inspect upper and lower housings (single-space meters)
  - ◆ Loose coins, foreign objects, missing elements
  - ◆ Can be a two-person inspection

# 9. Recovering from a Loss

## ■ PREVENTION FIRST

- ◆ Develop comprehensive, preventive security checklists and operating procedures
- ◆ Check daily for adherence by staff

## ■ PLAN FOR THE WORST

- ◆ Develop ER (Emergency Response procedures in advance)

# 9. Recovering from a Loss (cont'd)

## ■ Planning for the worst

- ◆ Collector assault or robbery
- ◆ Stolen truck
- ◆ **Lost key in the field** or during inventory
- ◆ Missing or lost canister / coin box
- ◆ Unaccounted-for item (lock, coin bag, locking key bag, etc.)
- ◆ Etc.

**ER procedure should identify actions and a game plan to be executed: notification chain, timeframe of response, steps to be taken...**

## 9. Recovering from a Loss (cont'd)

- ALL HANDS ON DECK and EVERY OTHER THING STOPS during the contingency
  - ◆ Example: lost collection key, immediate lock (until 2:00 a.m.)
- Conduct investigation
  - ◆ Two-person interviews / statements
  - ◆ Internal security leads, police if needed

# 9. Recovering from a Loss (cont'd)

## ■ Prepare after-action memo

- ◆ Recounting of incident
- ◆ Identify cause and responsibility
  - Failure to follow SOP?
  - Supervisory/managerial culpability?
  - Negligence?
  - Accidental?
- ◆ Revise procedures
- ◆ Progressive discipline

# 10. Implementing an Audit Approach

## ■ Preliminary steps

- ◆ Identify key players and responsibilities
- ◆ Identify resources needed
- ◆ Secure top-level commitment to the overall audit approach
- ◆ Ensure training and time will be made available within the organization for participants

# 10. Implementing an Audit Approach (cont'd)

- Develop and Implement the Revenue Stream Audit Plan
  - ◆ Develop a schedule for initial tests and inspections by type and frequency
    - ➔ External checks beyond the normal everyday inspections
  - ◆ Develop checklists for ease of documentation
  - ◆ Conduct the inspections
  - ◆ Document findings
  - ◆ Identify causes for any non-compliance
  - ◆ Develop recommendations for corrective action with a timeframe
  - ◆ Prepare a report of the Audit



[joseph.sciulli@chancemanagement.com](mailto:joseph.sciulli@chancemanagement.com)