

Parking Problems – Potential Solutions On-Street Parking Today



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Presentation Overview

- Basic Principles – The Big Picture
 - ◆ Why regulate and control on-street parking?
- On-Street Parking Examined
 - ◆ History / Evolution
 - ◆ Organization and Elements Common to Successful Programs
 - ◆ The Role of Data and Analysis

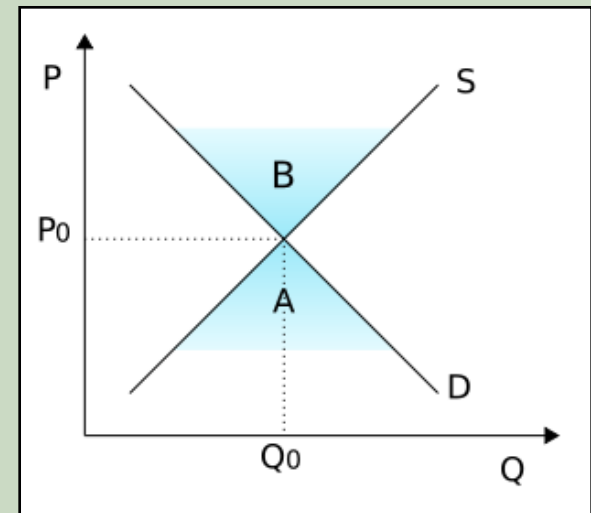
Presentation Overview

- The Factors that Help Achieve Program Excellence
- The Role of Technology
- The Role of Enforcement
- What Public Officials and Program Managers Need to Know

Basic Principles / The Big Picture

Basic Principles

- On-Street Parking is a matter of basic supply-and-demand economics
 - ◆ Physical supply is fixed
 - ◆ Demand could be unlimited
 - ◆ But ways exist to create a larger “virtual” supply and regulate it through effective management practices (regulations, enforcement)



Basic Principles

- Management practices include
 - ◆ Regulating demand through pricing techniques
 - Meters
 - Enforcement (tickets)
 - Fines and collection measures
 - ◆ Regulating demand through parking prohibitions
 - ◆ Optimizing supply through parking permissions
 - Time
 - Day
 - Duration
 - Permits

Basic Principles

- As in all “economies”, there are market segments
 - ◆ Regulation (governments)
 - ◆ Manufacturing (equipment and technology)
 - ◆ Distribution, sales and service (parking management programs and staff)
 - ◆ Customers (those who park, motorists, residents, pedestrians, transit agencies, merchants, etc.)

- Ultimately, on-street parking is a **public service** provided by, or overseen by, a level of government because the streets are public

Basic Principles

- Multiple stakeholders must be served
 - ◆ Government and politicians
 - ◆ Citizens
 - ◆ Those working in the parking program
- It takes commitment to resist the “speed-trap” mentality – setting up the program to encourage violations
- Those in the supply and distribution chain must understand and believe in the TRUE “product” of parking management

Basic Principles

- What *IS* the TRUE product?
 - ◆ Is it municipal revenue?
 - ◆ Is it enforcement officer productivity?
 - ◆ Is it meter revenue?



Basic Principles

- Or is the TRUE PRODUCT...
 - ◆ Better-flowing traffic, transit, deliveries
 - ◆ Safer streets for pedestrians
 - ◆ Improved transit times
 - ◆ A healthier economy
 - ◆ A better quality of urban life
- The challenge for the public official is remembering these are the true program benefits as opposed to the financial “by-product” created by a well run program

Urban Transport Development Project Beirut

- Major project under the Council of Development and Reconstruction (CDR)
- Deployment since February 2008
- Paid parking, multi-space meters, and parking management in major commercial areas
- Designed to encourage short-term parking, turnover in on-street parking, and improved use of off-street parking

Reasons for the Program

■ Before

- ◆ Long duration of parking at curb
- ◆ High rates of illegal short-term parking
- ◆ Double parking
- ◆ Low turnover
- ◆ Competition between residents and customers

■ After

- ◆ Shorter duration
- ◆ Reduced illegal parking
- ◆ Higher turnover
- ◆ Reasonable on-street parking for residents
- ◆ Ultimate support for transit (discouraging some car ownership)

On-Street Parking Examined

History / Evolution

Organization and Elements Common to
Successful Programs

The Role of Data and Analysis

On-Street (curb) Parking: History and Evolution

- Difficulties of free parking have been known since the first parking meter was installed in Oklahoma City in 1935
- Modern “parking management” dates from the late 1970s and early 1980s, beginning in Washington, DC
- The objective has always been to use parking management tools to encourage people to park where you want them to park, and for the length of time desired
- How do you make that happen?



Need to Organize Functions

- Typical functions: meter operations, signs and regulations, enforcement (ticketing, vehicle immobilization, towing), ticket processing, residential programs, adjudication, public information
- Often located in different areas of government, or perhaps not existing at all
- Different organizational arrangements and alternatives

Organizational Alternatives

- The most common parking management model in the US is the management of on-street parking by a government entity
 - ◆ City department (Transportation, Public Works, Department of Parking Management)
 - ◆ Parking Authority
- Both Europe and the Middle East more often follow a model of contracting with a third party company to manage parking

Almost Any System Can Be Effective

With proper coordination of key elements

- Some are inherently superior to others
 - ◆ “Single Responsibility Center”
- Nevertheless, the key element is having the right regulation for the adjacent land use, in balance with the needs of traffic movement, access and off-street parking prices... *AND*
- Strategic and tactical coordination of enforcement practices with the regulations, sufficient to optimize turnover and deter inordinate illegal parking rates

Necessities Common to a Successful Program

- Regardless of the model used, there are important common necessities
 - ◆ Sensible parking policies
 - ◆ Parking signs and equipment in good repair
 - ◆ Standard operating procedures
 - ◆ Data collection and measurement of results
 - ◆ Analysis of financial and program data
 - ◆ Prompt and courteous customer service
 - ◆ The organization's view toward the parking violator – customer or criminal?
 - ◆ Outreach with business and community groups

The Role of Data and Analysis

The Role of Data and Analysis

- Equipment can produce data, but only human analysts can produce meaning
- A major characteristic of today's life is that we have large amounts of data but not enough understanding of what they mean
- What are some of the key on-street parking activity indicators?



Parking Activity Indicators

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)	93% - 95%	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	60% - 85%	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	3% - 5% - 7% (Multi-space to single-space electronic)	Meter fee excessive; duration too short
Unpaid Legal Meter Occupancy	$\frac{\# \text{ Unpaid Legal SpHr}}{\text{Total SpHr}}$	--	Up to 15%	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)	5% to 7%	Insufficient demand; meter fee excessive
Meter Downtime	$\frac{\# \text{ Unique Failed Meters Observed}}{\# \text{ Unique Meters Surveyed}}$	Effective maintenance program; low vandalism	1%-2%	Inefficient maintenance; vandalism or intentional jamming
Rate of Meter Downtime	$\frac{\# \text{ Meter Downtime SpHr}}{\text{Total \# Meter SpHr}}$			
Duration (D) or Average Length of Stay (ALOS)	$\frac{\# \text{ Occupied SpHr}}{\# \text{ Unique Vehicles}}$	Regulated time limit may be too long; meter rate possibly too high for area, with overzealous enforcement	67% to 140% of Regulated Time Limit	Regulated time limit may be too short; enforcement may be insufficient and/or ticket fine too low
Percent of Optimum Meter Turnover (Refined method, divided by O%)	$\frac{\# \text{ Unique Veh.} \div \# \text{ Unique Spaces}}{\text{Length of Survey} \div \text{Length of Reg.}}$ O%	Excessive unpaid legal occupancy; meter fee too low; meter feeding (inefficient enforcement; ticket fine too low vs. off-street prices); regulation period too short (Solution: lengthen the period)	67% - 140%	Regulation period is too long (Solution: shorten the regulation period)
Meter Violation Capture Rate	$\frac{\# \text{ Unique Meter Tickets}}{\# \text{ Unique Meter Violations}}$	Inefficient enforcement/poor supervision; beats too big	33% - 40%	Regulation not suited to parking generator / land use; patrol beats too small
Safety/Service Violation Capture Rate	$\frac{\# \text{ Unique Safety or Service Vio.}}{\# \text{ Unique Violations}}$		25% - 33%	

Parking Activity Indicators – Parse by Time Period and Geography

- Meter occupancy across important periods
- Turnover of meter spaces
- Meter paid rate
- Meter violation rate
- Unpaid legal meter occupancy
- Meter downtime
- Duration of stay
- Meter violation capture rate
- Ticket collection rate

But never confuse the indicators of
operational efficiency
with the true measures of
program effectiveness

Remain Service Focused

Not Revenue Driven

Operational Efficiency Measures

- Tickets per officer
- Patrol area covered per officer
- Meter dollars per space per period
- Violation capture rates
- Meter in-service / downtime rates

These indicators reveal how well the program is working on the micro-level

Program Effectiveness Measures

- Parking space turnover
- Percent of optimum turnover
- Violation rates in metered zones
- Violation rates in prohibited parking zones
- Traffic and transit movement

These indicators reveal how well the program is working on the macro-level

The Factors That Help Achieve Program Excellence

What Makes Excellent Programs?

- Survey of individuals with over 20 years each in the parking business
- They were asked to indicate the cities with successful programs
- What were the criteria chosen for determining program excellence?
- What attributes of success were evidenced?

Criteria for Program Excellence

- Have the programs “withstood the test of time” and maintained the quality of their service delivery across all subject matter areas (meters, regulations, etc.)?
- Have the programs demonstrated their capacity to anticipate and/or respond to their cities’ evolving parking management needs?

- Have the programs consistently monitored and improved the quality of their on-street parking management “product” in terms of customer service/responsiveness, and the delivery of curb management services?
- Have the programs been able to remain focused on their parking management “mission”, or have they sometimes succumbed to urban fiscal pressures by raising rates and/or fines in the absence of justifications grounded in sound parking management principles?

Ten Attributes of Excellent Parking Management Programs

#	Attribute	Benefit
1	Program directors and staff at all levels realize the organization must be driven by public policy, not revenue.	Avoids parking decisions based solely on revenue that will backfire on the organization.
2	Enforcement staffing is able to expand to meet new parking management requirements.	Ensures consistent enforcement across city, avoids uneven and inequitable coverage.
3	Analytical staff proactively reach out to businesses and communities to address parking needs.	Program solves parking problems and is viewed as an effective public agency.
4	Branch managers and directors are “hands-on” and maintain a field presence.	This basic leadership principle promotes employee morale.

#	Attribute	Benefit
5	Managers understand field requirements, so they can provide employees with the resources they need to perform their jobs.	Helps accomplish mission; promotes morale; informs decision-making.
6	Whether the programs fully or partially achieve the single responsibility center organizational structure, they still are comprised of professional staff with vision and creativity.	By consolidating responsibility for the parking “product”, the organization becomes a powerful platform for effective parking management.
7	Private-sector management techniques are deeply rooted in the business culture of the organization, which creates a degree of self-sufficiency or autonomy.	Regular monitoring of key performance indicators, and budgeting as profit and cost centers helps ensure optimum performance and service delivery.

#	Attribute	Benefit
8	Training occurs regularly within the organization – ideally, from “top to bottom”, or for all management levels – to reinforce the parking management mission.	Results in staff who know WHY they enforce, regulate, etc., and ensures consistency of the parking management message throughout the organization.
9	Leaders are experienced and they understand the importance of viewing and treating the public as “customers”, not “violators”.	Improves the agency’s image; ultimately helps avoids conflicts.
10	Programs are structured (that is, organized and staffed) to provide a level of service above and beyond that typically seen in most programs in the industry.	Helps ensure accurate, prompt, coordinated and efficient customer service.

To begin or sustain
a successful
on-street parking program:

Remain Service Focused

Not Revenue Driven

The Role of Technology

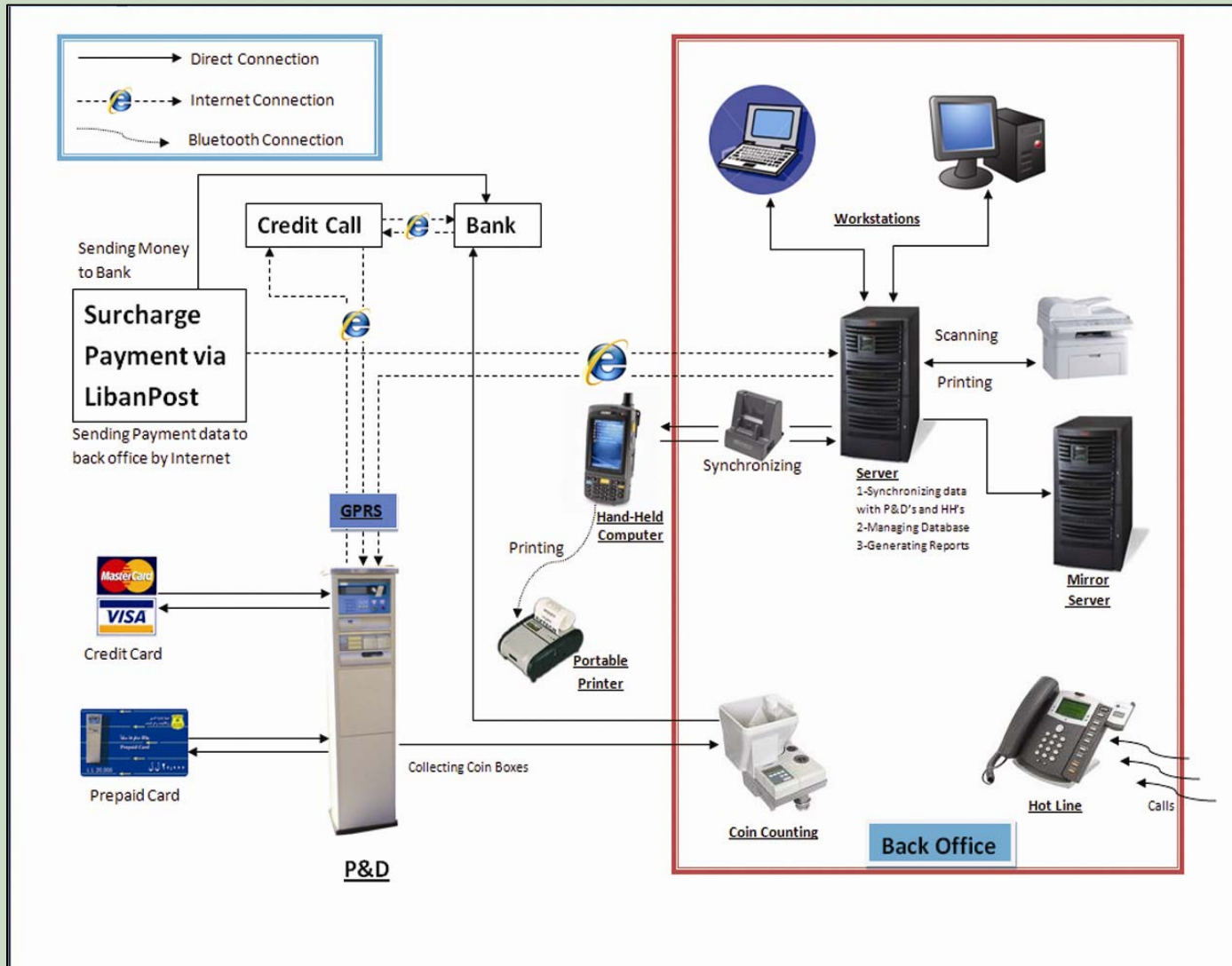
Technology Keeps Advancing



Technology

- The speed of change has allowed most countries to upgrade from the basic meter and payment systems
- Some countries have skipped over early technology altogether, beginning with the most modern technology
- Technology has not only changed the jobs associated with on-street projects, but also the technical skills required of staff

Technology Diagram for Beirut

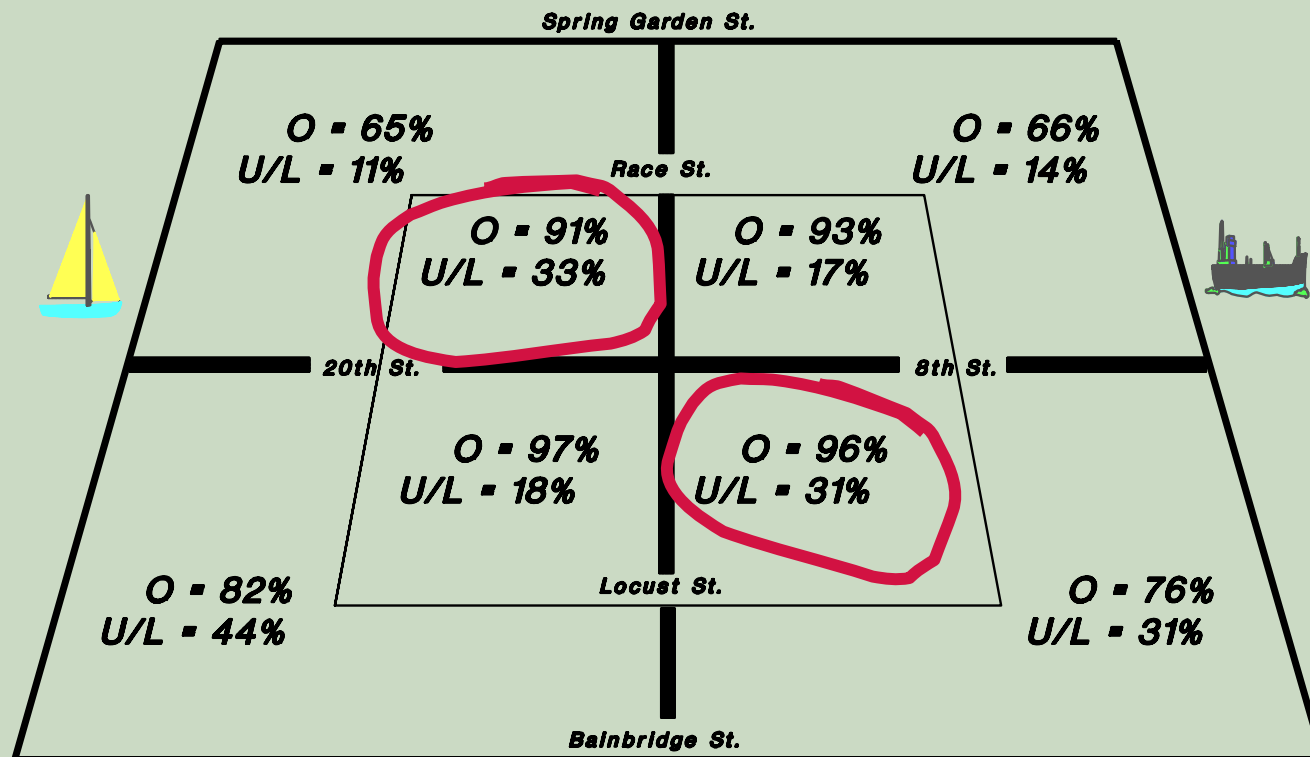


Despite the Technology, Field Surveys Are Still Important

- Verify what the equipment is telling you
- Confirm with your own eyes what the equipment may NOT be telling you
 - ◆ There may be minimum ticket counts, but effective and appropriate turnover rates
 - ◆ There may be high ticket counts, but ineffective parking safety levels, turnover, etc.

A Geographic Perspective Is Essential

Meter Occupancy vs. Unpaid Legal Parking Rates
Occupancy = "O"; Unpaid Legal = "U/L"



The Role of Enforcement

The Role of Enforcement

- Drivers do not willingly pay for parking
- It creates a credible deterrent to illegal parking
- It should ensure consistent treatment of the public
- It is a means to the end – not the end itself



- It is the “point of sale” of the parking program – it is the public face
- Benefits from good enforcement and detriments from bad are both “more than meets the eye”
 - ◆ Chronically good enforcement achieves the benefits of parking management
 - ◆ Chronically bad enforcement prevents the benefits from being achieved

Enforcement

- Preserves spaces for bus drop-off/pick-up and taxi stands
- Facilitates delivery regulations – maintaining clear delivery spaces so trucks do not double-park and impede traffic
- Manages rush-hour clearance, but not a total ban of parking (part of the “virtual” supply)
- Facilitates demand pricing – now possible with programmable meters
- Ensures on-street motorcycle and moped parking spaces and public safety



What Public Officials and Program Managers Need to Know

Ultimately, On-Street and Off-Street Parking Systems are Complementary

- An “equilibrium” must be sought for supply and demand, affected through...
 - ◆ Pricing of on-street spaces in relation to off-street spaces
 - ➔ Ticket fines and penalties are part of the on-street parking price structure
 - ➔ But the on-street price structure only works through efficient enforcement that provides a credible deterrent to inordinate illegal parking levels

Again, never confuse the indicators of
operational efficiency
with the true measures of
program effectiveness

Remain Service Focused

Not Revenue Driven

And It Is Still People That Will Determine The Quality of the On-Street Parking Management Program

- Public officials resisting the urge to increase revenue for revenue's sake
- Program managers with the courage to ensure the program's qualitative mission is not sacrificed for revenue expediency
- Program managers with enough concern for the mission to ensure employees, citizens and public officials alike understand – and on a certain level come to appreciate – the real reasons for the parking program

The "Norms for Parking Activity Indicators" and other materials about managing on-street parking may be found and downloaded from www.chancemanagement.com



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