Best Practices in Parking Pricing

- **Audio:**
  - Via Computer - No action needed
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- **Audience Q&A –** addressed after each presentation, please type your questions into the chat area on the right side of the screen
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- **Upcoming Webinars:**
  - Visit http://www.ops.fhwa.dot.gov/tolling_pricing/webinars/index.htm
- **Recordings and Materials from Previous Webinars:**
  - http://www.fhwa.dot.gov/ipd/revenue/road_pricing/resources/webinars/congestion_pricing_2011.htm

Upcoming Webinars

November 10, 2011	Best Practices in Parking Pricing
December 15, 2011	Results of the Urban Partnership and Congestion Reduction Demonstration Programs

Best Practices in Parking Pricing

Federal Highway Administration (FHWA) Webinar Series:

Overcoming the Challenges of Congestion Pricing

Allen Greenberg

FHWA Office of Operations

February 23, 2012

Overview

- Many dimensions of underpriced parking and its consequences
- Broad range of parking pricing strategies available
- Value Pricing Pilot Program support of different parking pricing strategies
- Focus on “performance pricing” for on-street parking in this Webinar

Problem

Parking costs are typically hidden from drivers, who therefore see few if any opportunities to save on such costs. Subsidized and hidden parking costs lead to increased driving, more vehicle ownership, and substantially higher housing costs.

Problem Manifestation

- Minimum parking requirements for housing substantially increase costs and reduce supply
- Minimum use-based commercial and office parking requirements hinder redevelopment and raise costs
- Over 90% of private employers subsidize employee parking, while only 6% subsidize transit

Solution (1)

Eliminate parking requirements, enabled by pricing on-street parking (differently for visitors and residents) to ensure appropriate availability, thereby eradicating the “parking spillover” rationale for such requirements.

Solution (2)

Enact state laws or local ordinances to require employers who choose to subsidize employee car parking to offer a similar “cash out” subsidy to employees using alternative transportation.

SAFETEA-LU Pricing

- The Value Pricing Pilot (VPP) Program sets aside $3 million of the $12 million annual program budget “only for congestion pricing pilot projects that do not involve highway tolls,” including parking pricing among other strategies.

VPP Program Support:

- Parking cash-out and “right sizing parking” in King County
- On-street parking pricing in New York City
- “Flexible” monthly parking in Minneapolis
- University parking pricing at Stanford and Cal Berkeley
- Combining “unbundling of parking” with carsharing in residential buildings in San Francisco
- *SF park* “performance parking” pilot

VPP Program Newly Funded:

- Delivery vehicle real-time parking availability information and reservations and occupancy-based pricing in Seattle
- Evaluation of comprehensive, area-wide parking pricing strategies as a form of “cordon pricing” in San Francisco

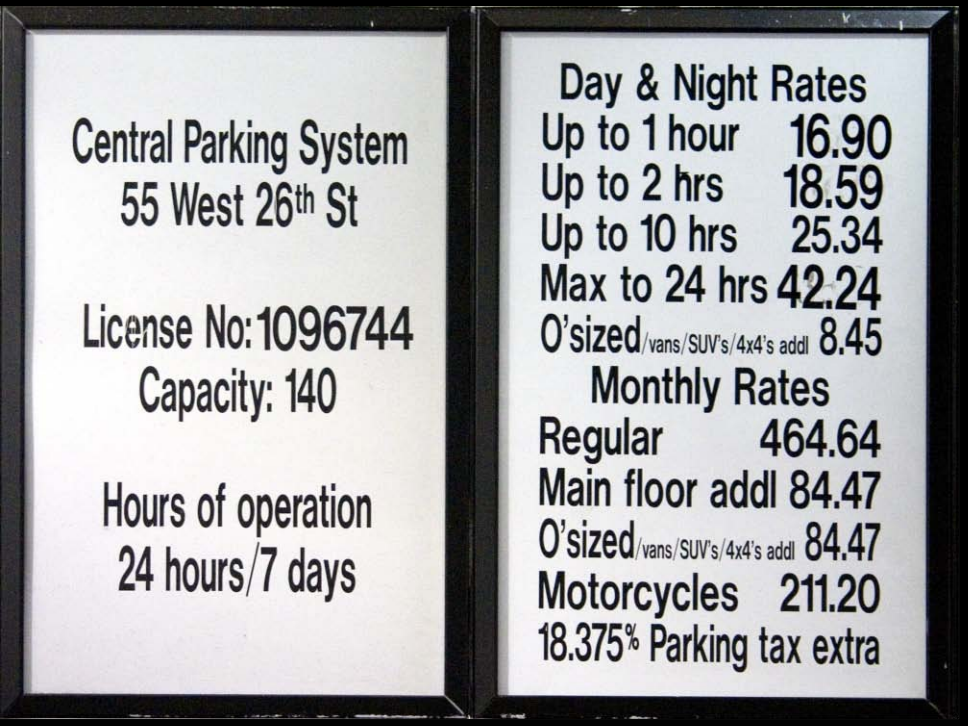
VPP Program Parking Future:

- Considering nine parking applications out of a total of 23 applications for FY 2012 funding
- Current applications cover a broad range of parking strategies, including employer commute benefits, multimodal on-street parking management, priced park-and-ride parking, and parking pricing modeling and evaluation using new tools
- Program funding announcement is expected in June 2012

The High Cost of Free Parking

DONALD SHOUP

Cruising for Cheap Curb Parking



Off-street: $20/hour

Curb: $1/hour

Cruising for cheap curb parking

Suppose you want to park for 1 hour.

Curb parking costs $1.

Off-street parking costs $20.

How long would *you* be willing to cruise for curb parking rather than pay the higher price for off-street parking?

TABLE 11-5

CRUISING FOR PARKING

Year	City	Share of traffic cruising (percent)	Average search time (minutes)
1927	Detroit	19%	
1927	Detroit	34%	
1934	Washington		8.0
1962	New Haven	17%	
1965	London		6.1
1966	London		3.5
1966	London		3.6
1977	Freiburg	74%	6.0
1984	Jerusalem		9.0
1985	Cambridge	30%	11.5
1993	Cape Town		12.2
1993	New York	8%	7.9
1993	New York		10.2
1993	New York		13.9
1997	San Francisco		6.5
2001	Sydney		6.5
2005	Los Angeles	68%	3.3
2007	New York	28%	
2007	New York	45%	
2008	New York		3.8
2011	Barcelona	18%	
Average		**34%**	**7.5**

Cruising in New York

Researchers interviewed drivers who were stopped at traffic lights.

Are you searching for curb parking?

28 percent of drivers on a street in Manhattan said they were searching for curb parking.

45 percent of drivers on a street in Brooklyn said they were searching for curb parking.

What is the right price for parking on the street?

The price is too high if many curb spaces are vacant because businesses will lose potential customers.

The price is too low if no spaces are vacant because drivers will congest traffic and pollute the air as they circle the block searching for an open space.

The price is just right if one or two curb spaces are usually open on every block because drivers can always find convenient parking at their destinations.

The Goldilocks principle of curb parking prices.

Performance Parking Prices

The right price for curb parking is the *lowest* price that will leave one or two vacant spaces on each block—performance pricing

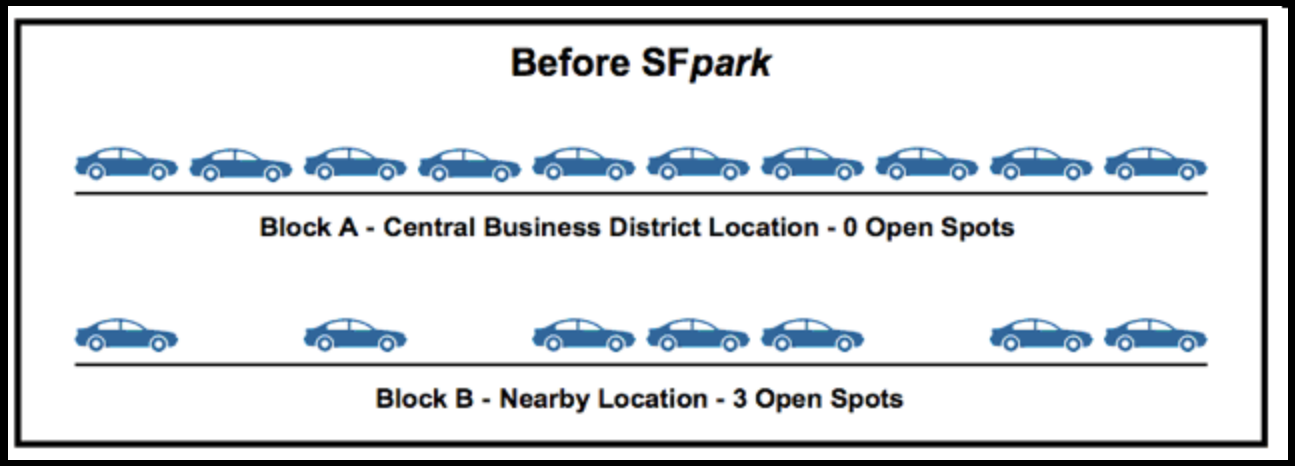
Performance prices adjust over time to maintain a few vacant spaces.

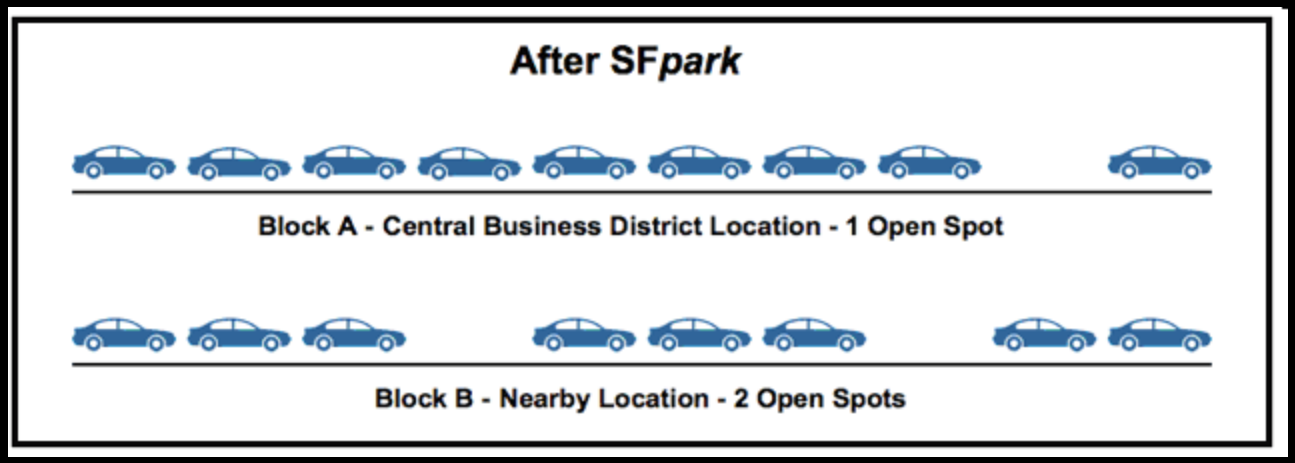
The goal is to keep about 85 percent of the parking spaces occupied all the time.

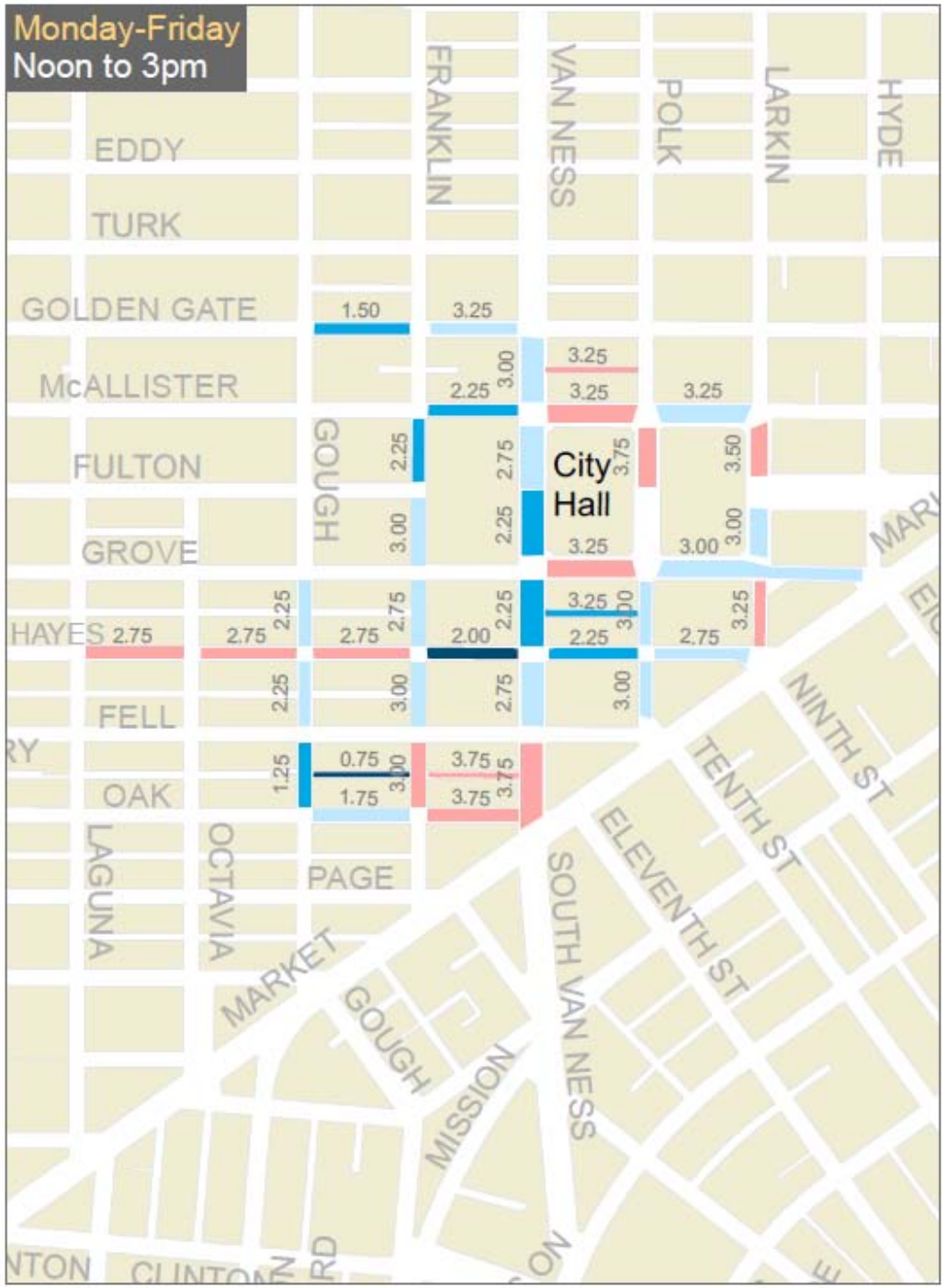
About one curb space is vacant on each side of each block so that everyone can see that convenient parking is available everywhere.

Curb parking prices and cruising

Get the prices right


Before SFpark
Block A - Central Business District Location - 0 Open Spots
Block B - Nearby Location - 3 Open Spots


After SFpark
Block A - Central Business District Location - 1 Open Spot
Block B - Nearby Location - 2 Open Spots



Civic Center Pilot Area

Meter Rate Changes December 2011

+ $0.25

no change

- $0.25

- $0.50

0.25 Mile

Higher prices for special events

Some areas host large, well-publicized events that greatly increase the demand for parking.

Concerts, conventions, parades, street festivals, sports events.

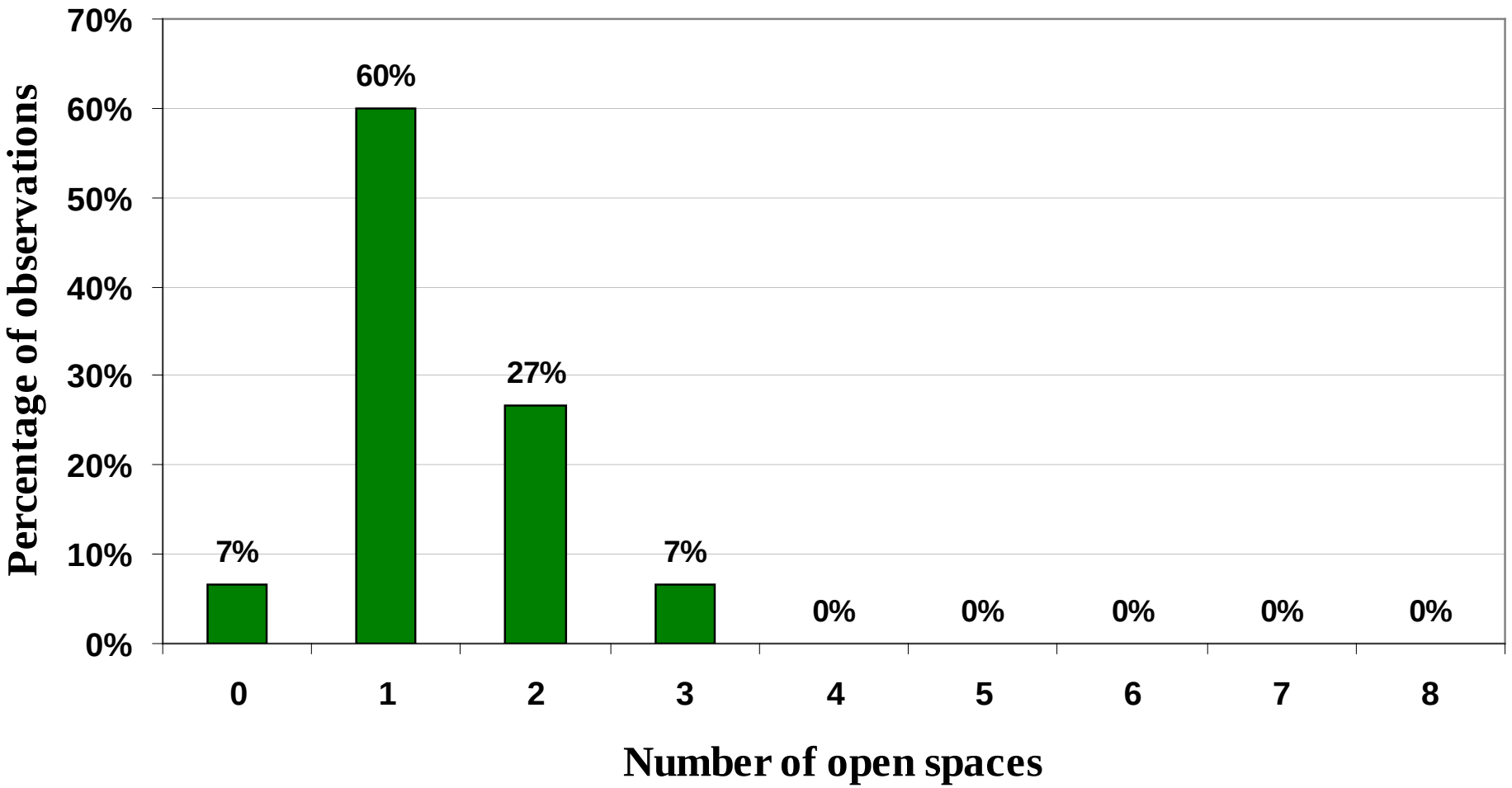
Curb parking prices for special events can range up to $18/hour.

Curb parking prices will be based on surveys of the prices at private off-street parking for the events.

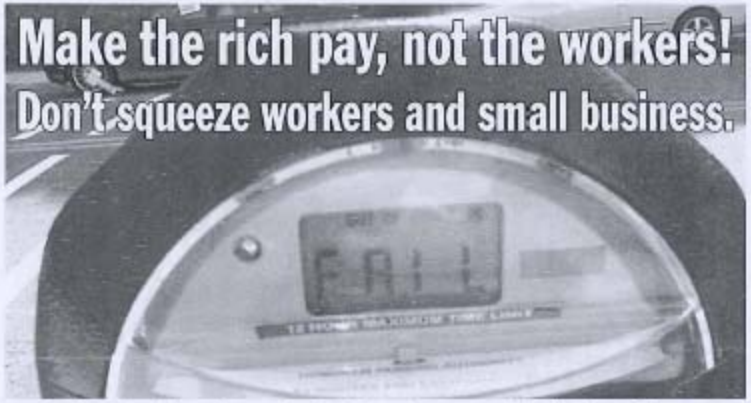

P
PAY· BY· SPACE
PAY BY:
CREDIT CARD
CASH
EXACT BILLS REQUIRED $1, $5 ONLY
REMEMBER
NO IN AND OUT PRIVILEGES
NOT TRANSFERABLE
PAY STATION TICKETS ARE ONLY VALID IN DESIGNATED PAY STATION AREAS
MUST DISPLAY PAY STATION PASS ON DASHBOARD AT ALL TIMES
VIOLATORS ARE SUBJECT TO CITATION
21113A CVC
INSTRUCTIONS
1 2 3 4
MAINTENANCE HOTLINE
PAY STATION UNIT #57-1
YOU ARE PARKED IN
Charles E. Young Dr. East
Pay Station Area
www.transportation.ucla.edu


DIGITAL
PAYMENT TECHNOLOGIES
Stall: 05769
Press Number on Keypad to Select Options:
1) 2 Hours $7.00
2) 1 Hr 30 Min $5.00
3) 1 Hour $3.00
4) 40 Minutes $2.00
5) 20 Minutes $1.00
www.digitalpaytech.com

Parking is well used but readily available



STOP THE PARKING METER HIKE!



An attack is underway, in San Francisco to push the burden of the economic crisis onto the workers. Transportation officials are attempting to extend metered parking to midnight and Sundays.

In Oakland, a popular movement of small business owners and workers stopped the city's plans to raise parking rates. **We can fight back and win!**

With this proposal, for almost 24-hours a day your car will be subject to heavy fines. Parking tickets are already astronomical.

THIS IS A TAX ON THE PEOPLE!

It's time to organize and defeat the parking meter robbery!

Join the campaign! Call the ANSWER Coalition at 415-821-6545
www.ANSWERsf.org • ANSWER@answersf.org

¡ALTO AL AUMENTO DE LOS PARQUIMETROS!

Un ataque está ocurriendo en San Francisco, para poner el peso de la crisis económica sobre los trabajadores. Oficiales de transporte están intentando extender las horas de los parquímetros hacia medianoche y los domingos.

En Oakland, un movimiento popular de las comunidades, de los trabajadores y de los negocios pequeños detuvieron gran parte de los planes de esa ciudad para aumentar la tarifas de los parquímetros. **¡Sí podemos luchar y ganar!**

Con esta propuesta, por casi 24-horas al día su coche será sujeto a tarifas altísimas. Multas ya son astronómicas.

¡ESTO ES UN IMPUESTO ILEGAL A LA GENTE!

¡Es la hora para organizarnos y derrotar el robo por los parquímetros!

¡Únete a la campaña! Llame a la Coalición ANSWER al 415.821.6545
www.ANSWERsf.org • ANSWER@answersf.org

STOP THE WAR IN AFGHANISTAN NOW!

Protest U.S./NATO War in Afghanistan on 9th Anniversary of Invasion

As the U.S./NATO war in Afghanistan enters its tenth year, casualties on both sides are at an all-time high. Spending on the war in Afghanistan alone is over $2.5 billion per week—that's $2,500,000,000 every week—at a time when tens of millions of people have lost their jobs, housing, healthcare and pensions here, and most Afghani people live in extreme poverty.

Join us on Oct. 6 to say NO to war, racism and all bigotry, and YES to meeting the needs of the people!

2. Revenue Return


PARKING

Ventura parking ordinance

A program of managing on-street and off-street parking to achieve a 15% vacancy rate.

Using metered parking to achieve a vacancy rate of 15% eliminates the need for time restrictions on those metered parking spaces.

All moneys collected from parking meters in this city shall be placed in a special fund, which fund shall be devoted exclusively to purposes within the geographic boundaries of the parking district from which the revenue is collected.

PARK IT
WHERE YOU WANT TO PARK.
DOWNTOWN

CITY OF VENTURA
www.cityofventura.net/parking

DOWNTOWN VENTURA

All net revenue from the pay stations will be used for a cleaner and safer Downtown:

- Downtown security
- Parking lot and alley improvements
- Clean sidewalks
- Landscape beautification

See map below for Free Public Parking lots located throughout Downtown.

DOWNTOWN VENTURA PARKING

02/21/2011

DOWNTOWN VENTURA

DowntownVentura.org

NEWS
For Immediate Release

Downtown Merchants Support the Parking Meters!

Downtown Ventura, May 5, 2011 - The overwhelming consensus downtown is that the meters are working! Downtown business owners were interviewed and business surveys were conducted over the past two weeks along Main Street in downtown Ventura. The downtown merchants gave the managed parking system a thumbs up with 83% surveyed in support of the meters, 13% neutral, and 4% not in support the meters.

In addition, the revenue generated from the meters is being reinvested into the downtown. The funds help pay for a dedicated police officer and nine police cadets. This has resulted in an overall decrease in crime by 40% and a 15% decrease in calls for service. Funds are also used for new improvements like additional lighting for parking lots, new planters and plant materials, and a cross-the-street banner planned for installation this summer.

Free Wi-Fi is yet another benefit made possible by the meters. Residents and visitors can stay "connected" through the outdoor network provided by the Downtown Parking Management program.

As our case is new, so must we think anew, and act anew.

Abraham Lincoln

SFpark

CIRCLE LESS, LIVE MORE

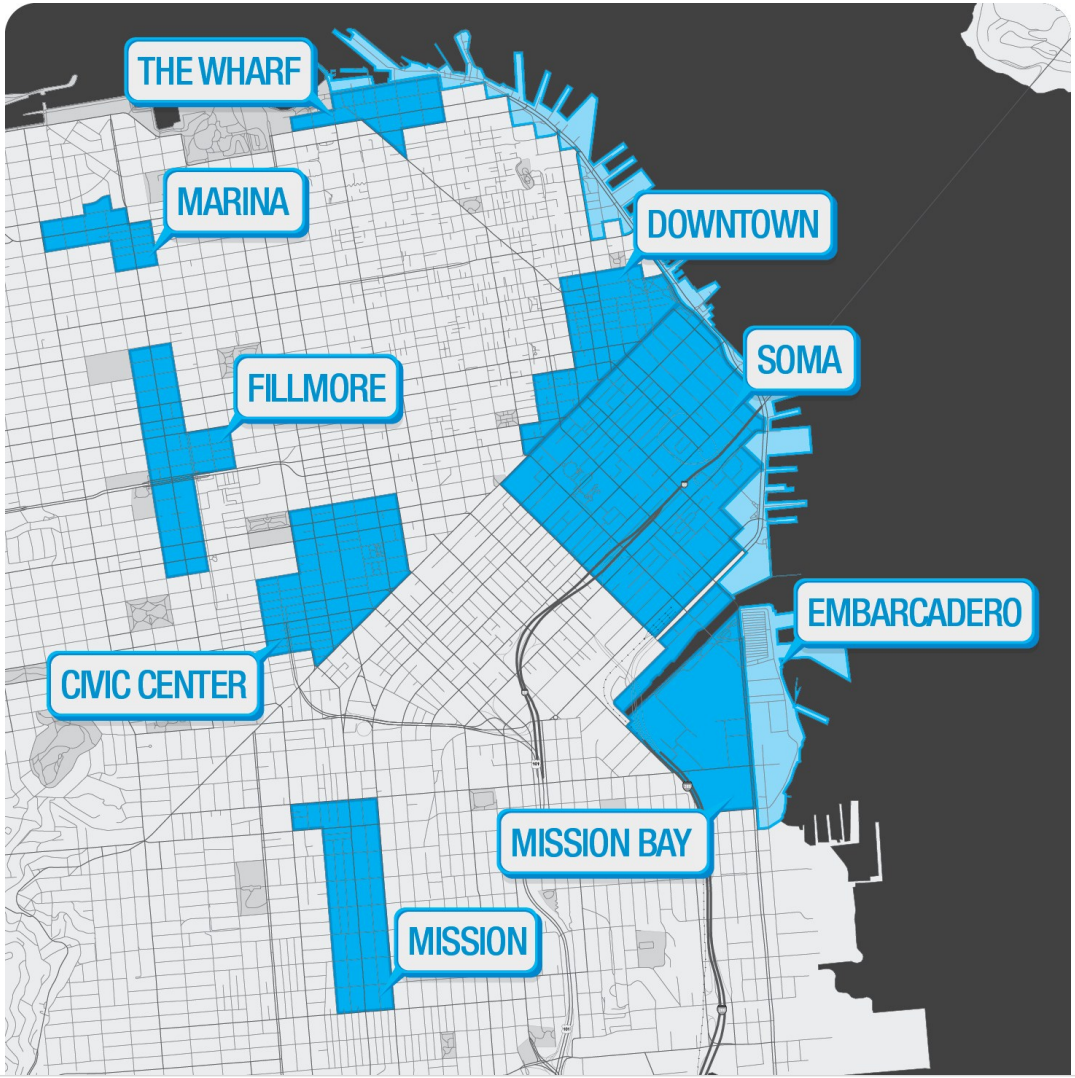
The SFMTA

What is parking like in San Francisco?

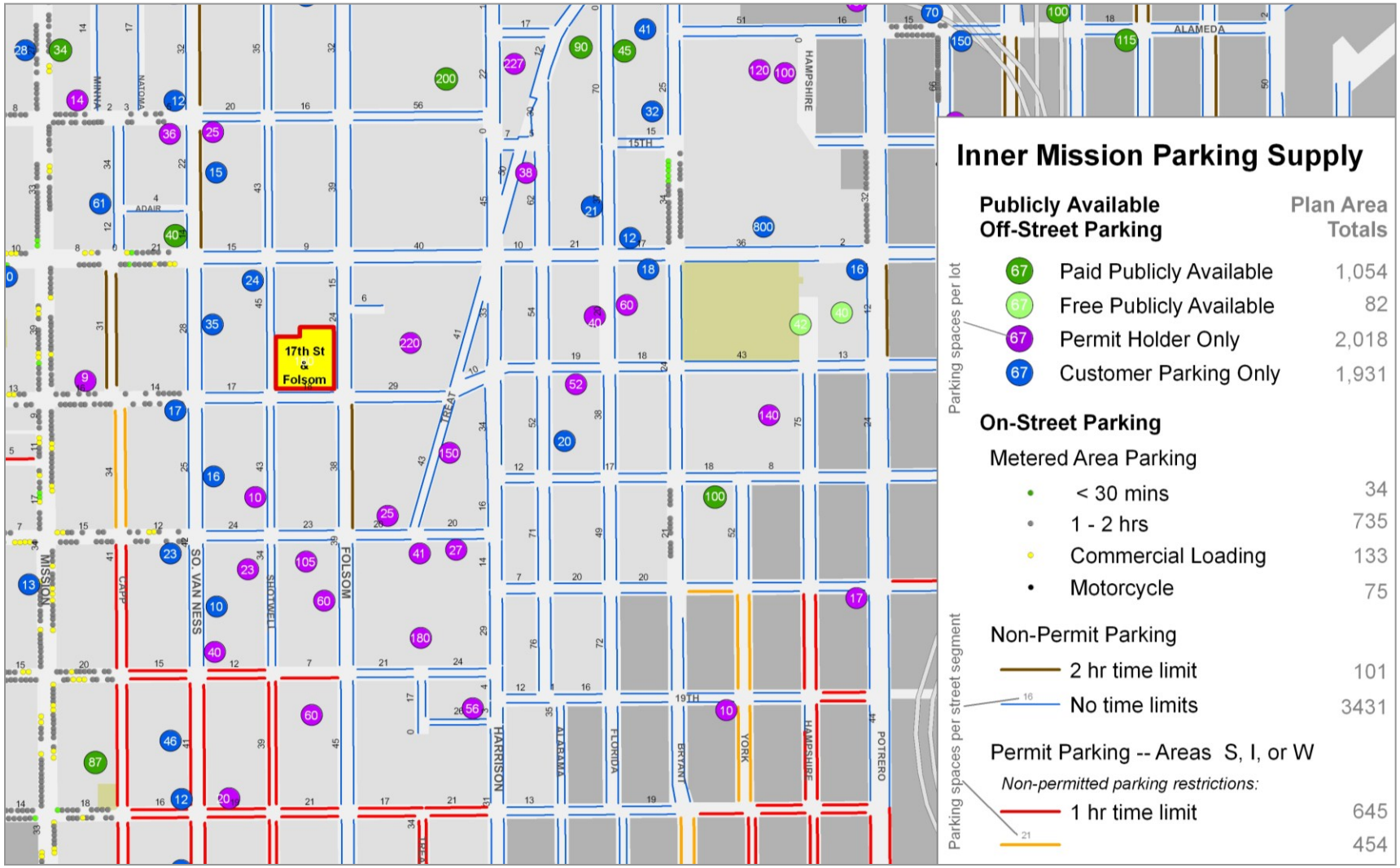
How did we get here?

What is the SFMTA doing about it?

Demonstrating a new approach to parking



Parking census



Managing employee parking

Coin and card meters

Parking sensors

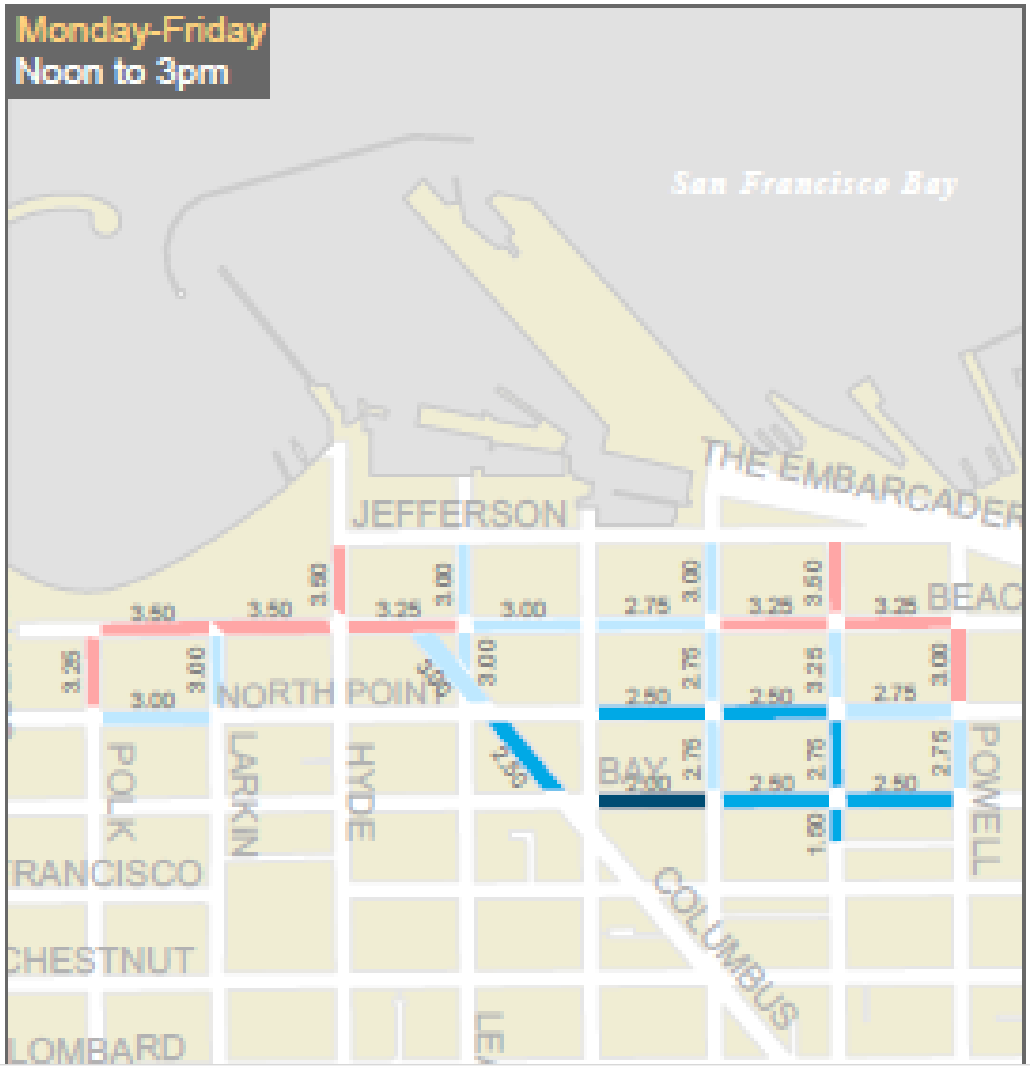
Real-time information

Pricing at parking meters and lots

- Demand responsive to find lowest possible prices
- Gradual and periodic changes: $0.25 up or down every 4-6 weeks
- Time of day pricing (vary by block + weekday/end)

Duration	Price Per Hour
9AM – 12AM	$2.50
12AM – 3PM	$3.50
3PM – 6PM	$2.00

Demand responsive rate adjustments



Demand responsive rate adjustments

Rate changes by metered hours

	1st rate change	2nd rate change	3rd rate change	4th rate change
Up $0.25/hr	26%	25%	27%	26%
No change	42%	37%	38%	39%
Down $0.25/hr	28%	30%	29%	30%
Down $0.50/hr	4%	7%	6%	5%

Pricing at SF*park* parking garages

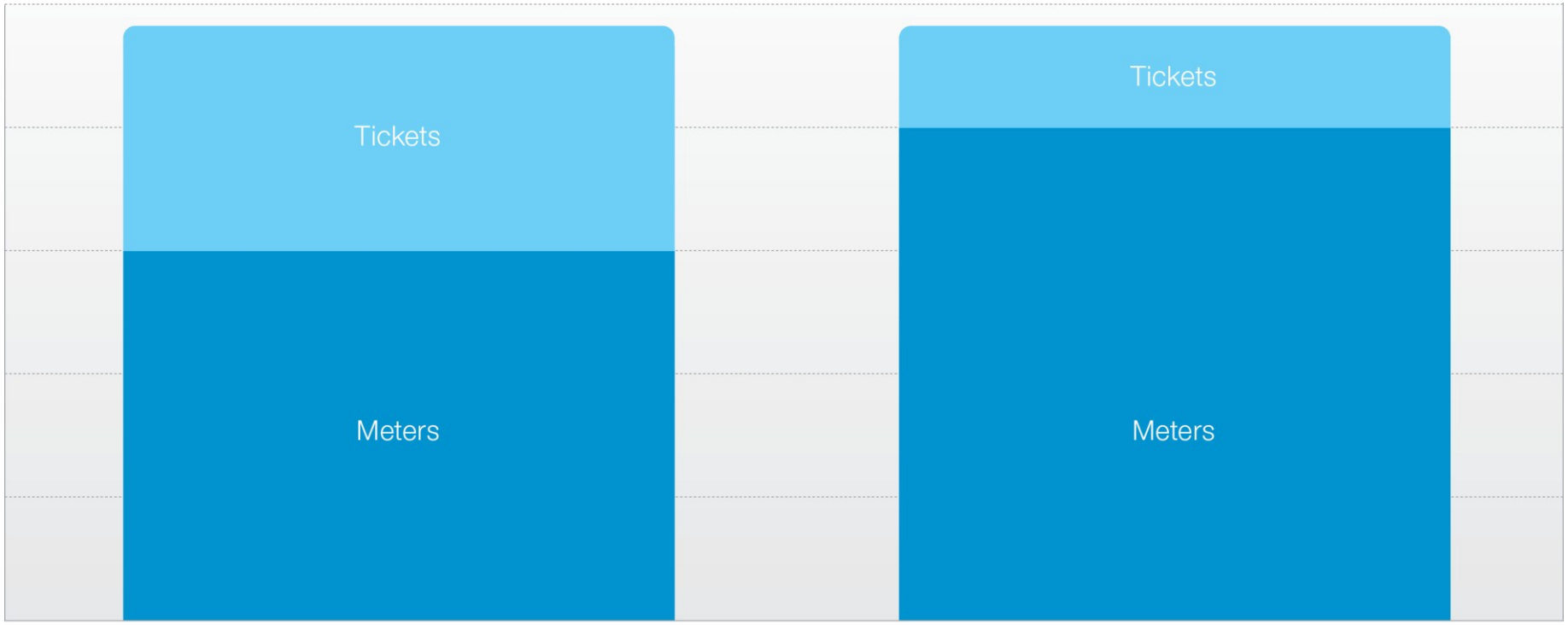
Low-tech demand-responsive pricing

Occupancy data can come from

- Parking sensors
- Parking meters
- Manual surveys

Enforcement

Initial revenue evaluation (new meters/time limits)



Old meters/time limits

New meters/time limits

Garage wayfinding + advertising

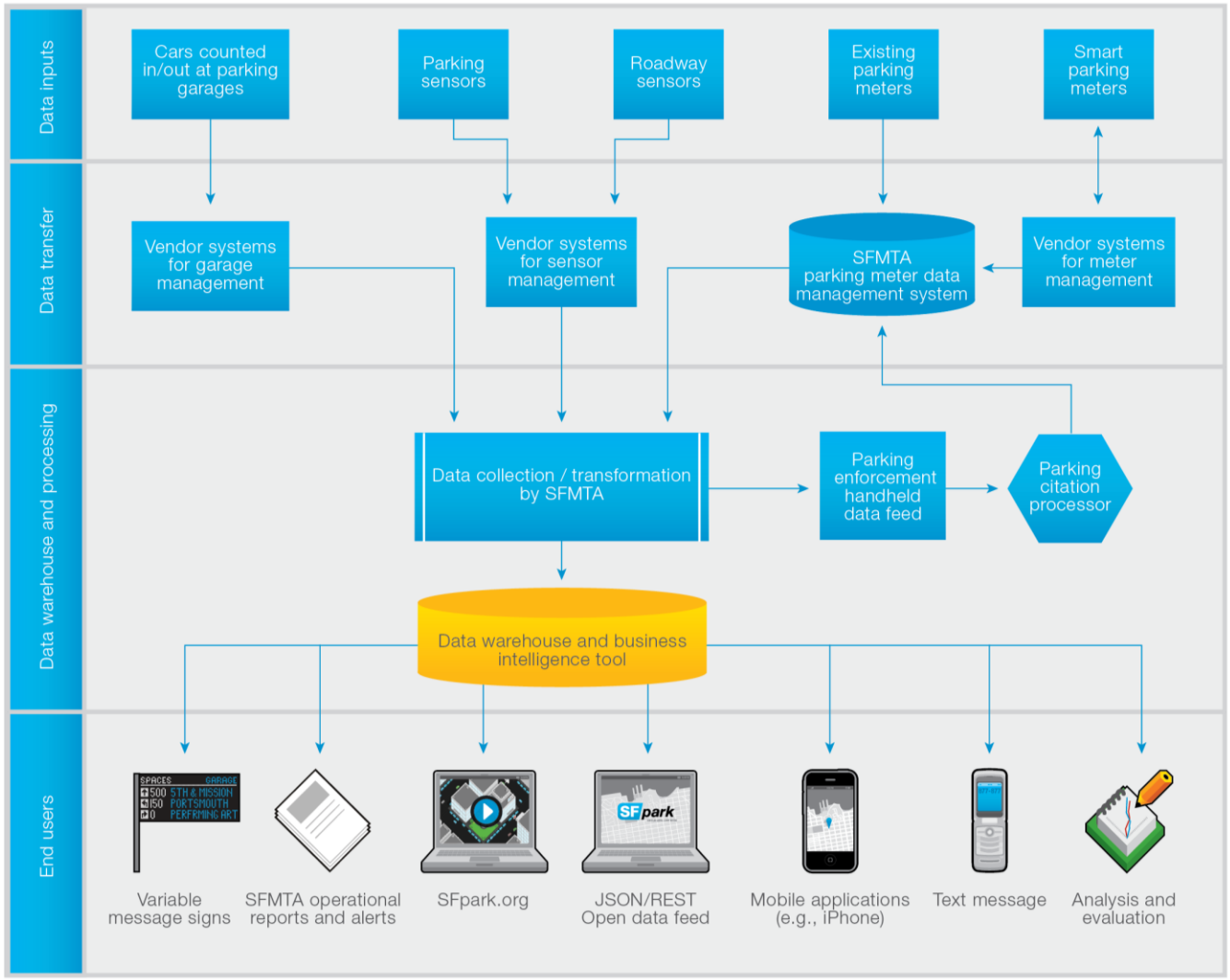
Automatic data collection

- Supply data (census, asset management, street closures)
- Parking data (from sensors, meters, and citations)
- Garage data (usage by hour)
- Travel demand data (roadway sensors, highways PEMS, BART, Muni)
- Muni data (travel time data from APCs)
- Parking tax
- Sales tax
- Safety (SWITIRS collision data)
- Exogenous (fuel price, CPI, unemployment, precipitation)

Manual data collection

- Parking search time
- Double parking
- Disabled placard
- Occupancy in residential areas
- Motorcycle occupancy
- Vehicle occupancy
- Intercept surveys (professional survey firm)

Data management and analytics



What's next

Through Spring 2012

- Roll out pay by phone (citywide)
- Continue to develop business intelligence tool
- Continue to improve and document business processes

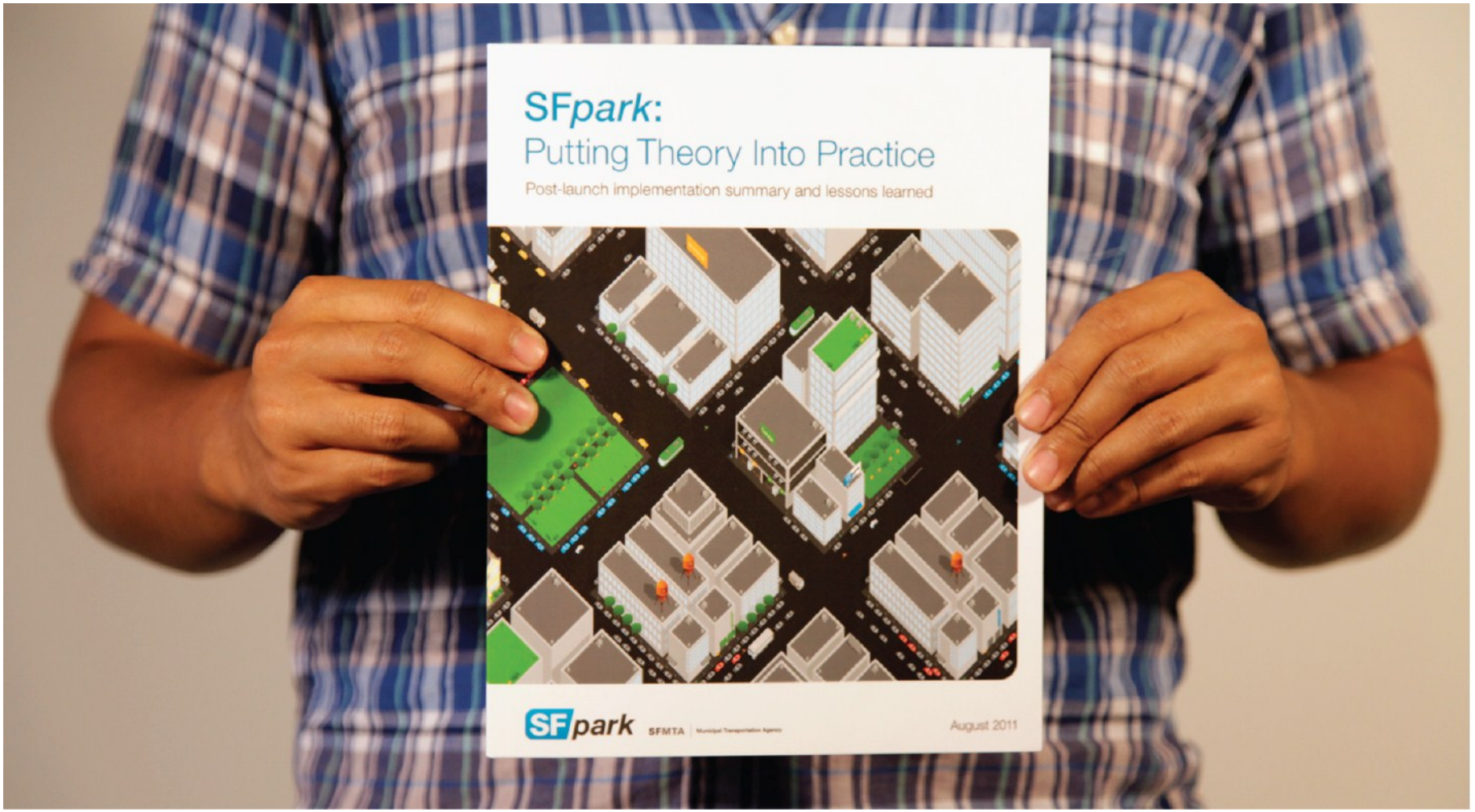
Spring through late 2012

- Initiate variable message signs
- Accelerate sharing and dissemination of lessons learned
- Develop proposal for expanding SF*park* citywide
- Release RFPs
- Evaluate pilot projects

High level lessons learned

- Focus on availability (not turnover)
- Shifting how people think about parking takes time
  - Extensive outreach
  - Branding is useful
- Having a transparent, rules-based, and data-driven approach helps
- SF*park* is essentially a complex IT undertaking
- Parking equipment is not plug and play

Sharing our resources



Thank you

Jay Primus
jay.primus@sfmta.com
SFMTA

DDOT Value Pricing Initiatives

by
Damon Harvey, Actg. Citywide Program Manager
Soumya Dey, P.E., Deputy Associate Director

Webinar on Best Practices in Parking Pricing
February 23, 2012

What is Performance Based Parking?

Performance parking is a curbside management strategy DDOT began in March 2008 in the Ballpark District of Ward 6.

Performance parking works by adjusting the rates and/or the time restrictions on metered blocks while protecting the parking supply on surrounding residential and mixed used corridors through increased residential parking enforcement.

Data Collection Process and Outcomes

In 2011, DDOT and COG enhanced the data collection methodology and approach by generating per block occupancy and turnover rates based on actual manual counts instead of mathematical formulas measuring curbside footage. The purpose of this data collection effort was to determine the impact of performance parking in the vicinity of the Washington Nationals Ballpark in southeast and Near Southeast DC.

TABLE 1: BALLPARK DISTRICT TOTAL CURBSIDE OCCUPANCY BY STATE WITH TURNOVER RATES ON ALL BLOCKS (with duplicate registration numbers not removed)

		DISTRICT OF COLUMBIA		MARYLAND		VIRGINIA		OTHER STATES	
		TOTAL CURBSIDE OCCUPANCY BY ZONE	TURNOVER RATE BY STATE PER ZONE	TOTAL CURBSIDE OCCUPANCY BY ZONE	TURNOVER RATE BY STATE PER ZONE	TOTAL CURBSIDE OCCUPANCY BY ZONE	TURNOVER RATE BY STATE PER ZONE	TOTAL CURBSIDE OCCUPANCY BY ZONE	TURNOVER RATE BY STATE PER ZONE
AWAY GAMES	ZONE A	1,553	31%	590	12%	387	8%	2,482	50%
	ZONE B	811	32%	316	13%	309	12%	1,066	43%
	ZONE C	2,321	45%	412	8%	559	11%	1,897	37%
	TOTAL	4,685	37%	1,318	10%	1,255	10%	5,445	43%
HOME GAMES	ZONE A	1,917	34%	714	12%	479	8%	2,610	46%
	ZONE B	1,078	24%	778	17%	796	17%	1,931	42%
	ZONE C	3,135	44%	568	8%	657	9%	2,728	38%
TOTAL OR AVG.		**6,130**	**35%**	**2,060**	**12%**	**1,932**	**11%**	**7,269**	**42%**

Block by Block Data Collection

EXECUTIVE SUMMARY: 2010 TOP TEN HIGHEST CURBSIDE OCCUPANCY RATES BY HUNDRED BLOCK ON NATIONALS GAME DAYS

ZONE	HUNDRED BLOCK	STREET NAME	PARKING SPACES PER BLOCK SEGMENT	AVERAGE OCCUPANCY		MAXIMUM OCCUPANCY		TURNOVER RATE
				NUMBER OF VEHICLES	OCCUPANCY PERCENTAGE	NUMBER OF VEHICLES	OCCUPANCY PERCENTAGE	
A	900		3	10	333%	16	533%	1:27
A	100	M Street, SW	3	6	200%	12	400%	1:20
A	1600		6	16	267%	19	317%	1:58
A	1100		8	11	138%	21	263%	2:12
B	900	Half Street, SE	5	7	140%	11	220%	0:46
B	1000		24	14	58%	67	279%	1:56
B	1000		3	4	133%	6	200%	2:01
B	1200		22	19	86%	46	209%	2:13
A	UNIT		8	8	100%	13	163%	1:25
A	1500	Half Street, SW	22	22	100%	34	155%	0:08

Data collectors used two or three private vehicles outfitted with LPR systems traveling the same routes continuously for eight hour intervals for three consecutive days, including a Saturday or Sunday This consists of a digital camera, a laptop computer, a video conversion unit (to convert images from the camera into a format acceptable for computer processing and a global positioning system (GPS) unit.

Columbia Heights Pilot Zone Data Collected

2011 Curbside Occupancy Rate
There are 44 blocks within the Columbia Heights pilot zone

- 32 or 73% of the blocks have an occupancy rate below 85%
- 12 or 27% of the blocks have an occupancy rate at or above 85%
- 6 blocks have multi space meters (MSMs) with variable hours of operation
- 3 MSM blocks or 50% have an occupancy rate at or above 85%

There are 44 blocks within the Columbia Heights pilot zone

The average turnover in the Columbia Heights pilot zone is 2:47

- 1:58 is the average turnover on multi space meter (MSM) blocks
- 2:52 is the average turnover on non metered streets in pilot zone

Data Collection Process and Outcomes

Table 2
State's of registration (with duplicate registration numbers removed)

D.C.		Maryland		Virginia		Other or unknown	
2005	42%	785	16%	406	8%	1635	34%

These MSM blocks above 85% are:

- 3000 block of 14th Street: 89%
- 3100 block of 14th Street: 130%
- 3300 block of 14th Street: 100%

The remaining nine blocks with occupancy rates at or above 85% are:

- 3000 block of 13th Street: 113%
- 3300 block of 13th Street: 85%
- 1200 block of Columbia Road: 86%
- 1500 block of Columbia Road: 140%
- 1200 block of Irving Street: 113%
- 1300 block of Irving Street: 110%
- 1200 block of Monroe Street: 86%
- 1300 block of Monroe Street: 86%
- 1200 block of Park Road: 92%

H Street NE Pilot

Beginning in March 2012 DDOT will begin performance based parking on all meters along the H Street, NE corridor from 3rd Street, NE to 15th Street, NE/Benning Road, NE. Performance based parking is a curbside management strategy DDOT has used since March 2008 with the introduction of the first pilot zone in the Ballpark District of Ward 6.

District Department of Transportation

Implementation Timeline

DDOT is working with Council member Tommy Wells' office to have a public kick off meeting during the first two weeks of February. At this event the department will provide an overview of performance based parking and modifications coming to the corridor.

After the kick off meeting DDOT will provide community stakeholders with approximately 30 days to review and comment on the plan before implementation.

Performance Based Parking will compliment Streetcar along the corridor

DDOT will begin variable rate meter operations along the H Street, NE corridor on all 36 multi space meters (MSMs) as well as Resident Only RPP on blocks within the RPP database as follows:
North: I Street, NE
East: 15th Street, NE/Benning Road, NE
South: G Street, NE
West: 3rd Street, NE

H Street NE Baseline Meter Rates

DDOT's networked MSM's along H Street, NE have the capacity for time of day or hourly variable rate meter operations. The idea of time of day meter operations is not new to the District performance parking zones.

In March 2009, when the department began performance parking operations in Columbia Heights, DDOT implemented a similar strategy. The original meter programming in Columbia Heights provided for two hour time limits in the mornings and three hour time limits in the afternoons and evenings at the same rate.

DDOT will measure Occupancy Rates for all metered spaces along corridor

In July of this year DDOT shifted from time of day meter operations to hourly variable rates on all performance parking meters in Columbia Heights and extended the meter hours of operations until 10pm. DDOT will use the same phased implementation approach along the H Street, NE corridor at the following rates:
7am to 6:30pm: $.75 per hour with a four hour limit
6:30pm to 10pm: $2.00 per hour with no time limit

Methodology

Pilot Zone boundaries are from 3rd Street, NE to 15th Street, NE

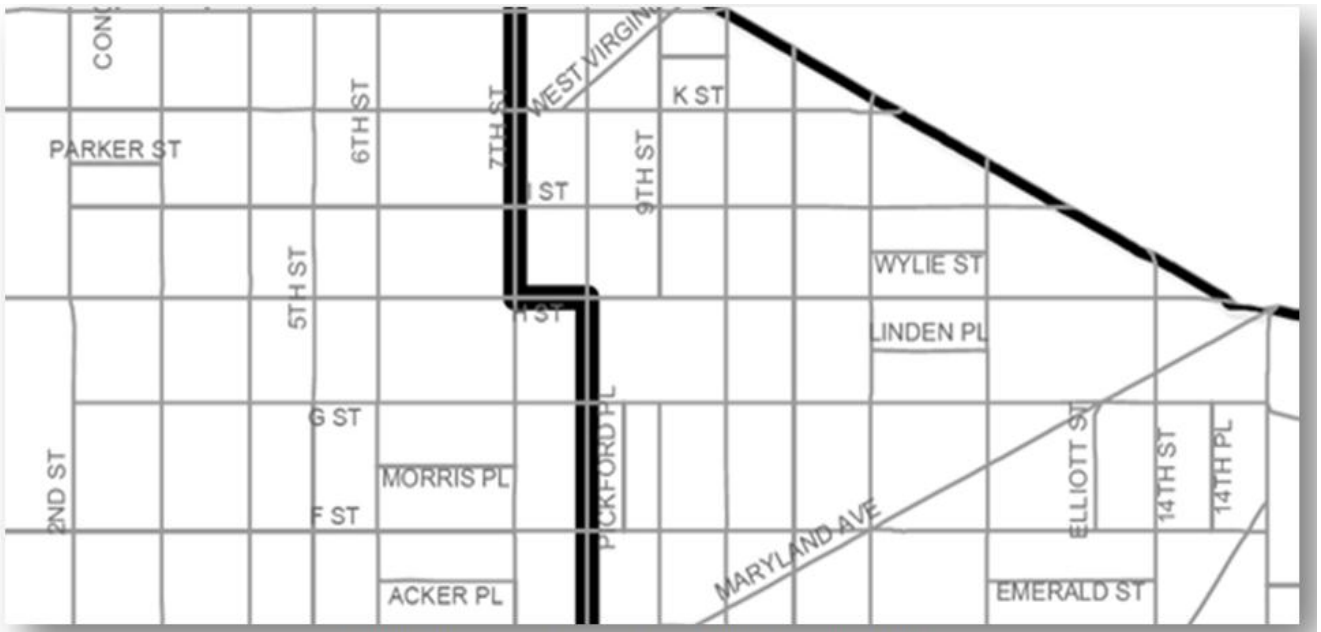
The occupancy rate target for metered curbside parking along the H Street, NE corridor will be between 80% and 90%; just as in the Ward 6 Ballpark District pilot. An occupancy rate set between these percentages will mean that approximately one or two spaces will be available out of every ten MSM spaces.

An occupancy rate target of 80% to 90% is standard in other jurisdictions implementing congestion pricing programs but it is by no means perfect. For example, the city of Seattle has a target occupancy rate of 60% in its zones and they have a very successful program. Seattle's target may be too low for the District, however after a year of analysis with regular updates using meter revenues the department will have a clear idea whether the target needs to be adjusted.

Enforcement

The H Street, NE performance based parking enabling law limits the Resident Only RPP and visitor passes to one block on each side of the corridor as follows:
North: I Street, NE
East: 15th Street, NE/Benning Road, NE
South: G Street, NE
West: 3rd Street, NE

At the outset of pilot zone operations DDOT will provide each household on existing RPP blocks within one block of H Street, with Resident Only RPP enforcement as well as one visitor pass per household.



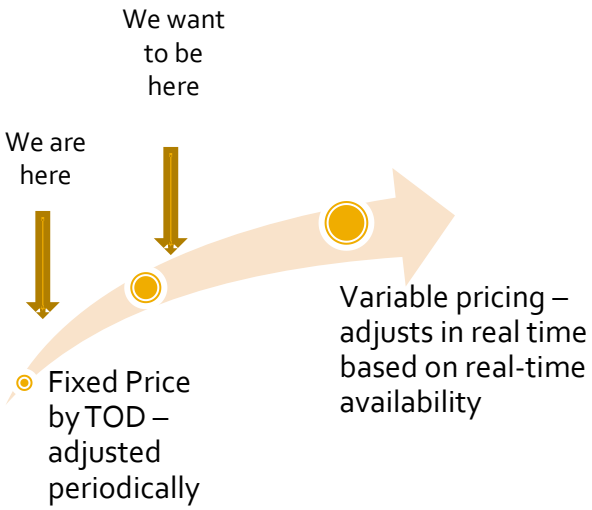
H Street, NE corridor including Resident Only RPP blocks in enabling law

Presentation Outline

- How "dynamic" do we need to be with our pricing strategies?
- How accurate do we need to be with real-time sensor information?
- Asset Lite Solutions
  - Do we need meters for all spaces?
  - Minimize sensor usage

How "Dynamic"?

Dynamic Pricing Spectrum



Pros and Cons on Real-Time Price Adjustments

Pricing Strategy	Advantages	Disadvantages
Fixed Price by TOD	Pricing structure easy to understand for consumers Easy to communicate	"Average" availability will be 1 space per block face Pricing strategy based on historical data
Purely "dynamic"	Price based on real-time availability – better impact on congestion?	Difficult to communicate for "open system" in an urban environment Sophisticated data collection, analysis and algorithm

Similarities between fixed time vs. adaptive controllers

Is the additional expense and effort justified by the ability of real-time pricing to affect congestion

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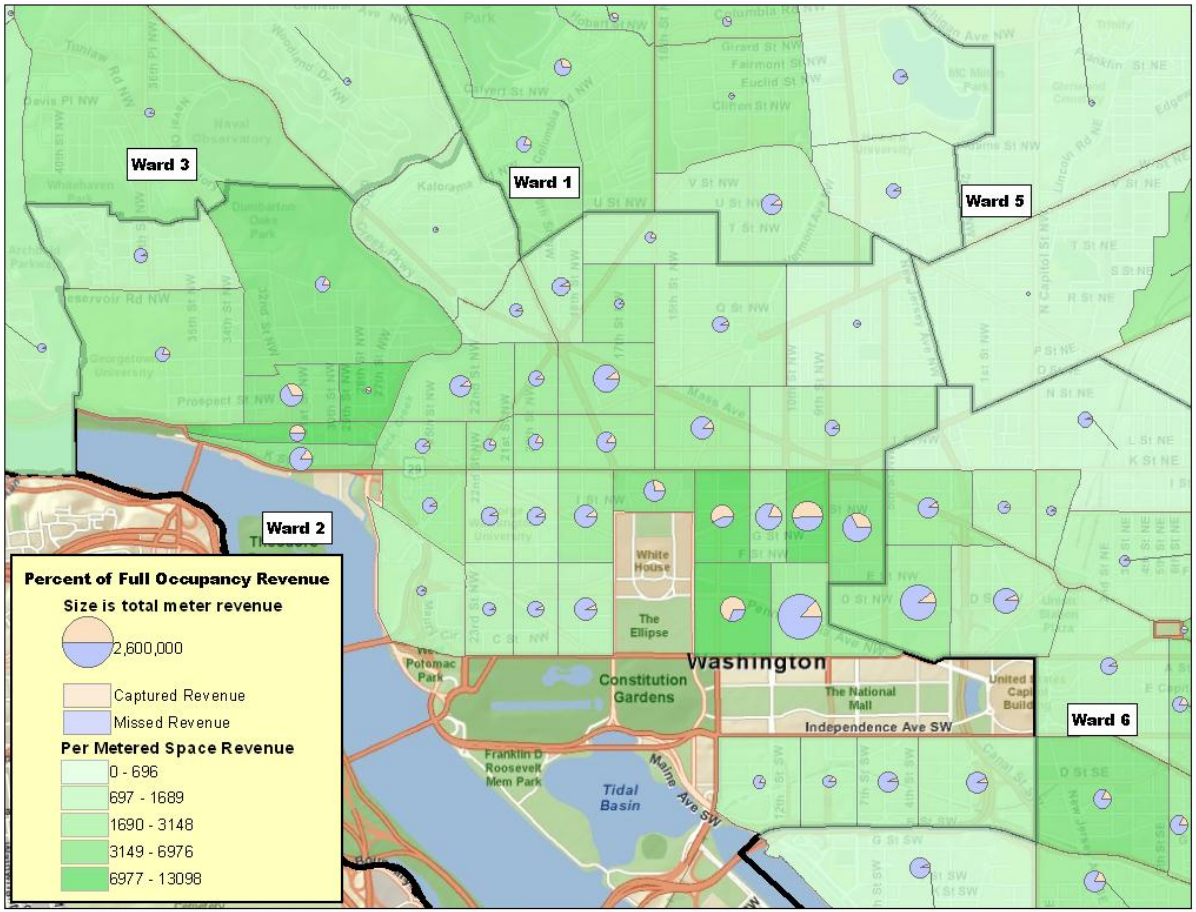
How accurate does occupancy information need to be?

- One sensor per space; sometimes more
- Capital + Operating Cost
- Driven by accuracy and latency needs
- Different accuracy requirements for dynamic pricing and traveler information?
- Can we derive occupancy from a sampling of real-time sensors, data-mining and real-time system information

Capture Rate Analysis



Capture rate = Max. Revenue/Actual Revenue

Capture rate can be available in real-time with networked assets

Capture rate = f(demand, meter uptime, percentage paid legal)

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Getting to Occupancy

Capture Rate = *f(system uptime, paid legal, occupancy)*

System Uptime	Occupancy	Paid Legal
• Available for networked assets	• Use capture rate as surrogate • Sampled detector data	• Calibrate using historical data

Analogy - Speed, travel time, congestion on roadways based on sample probe data

How accurate do we need to be?

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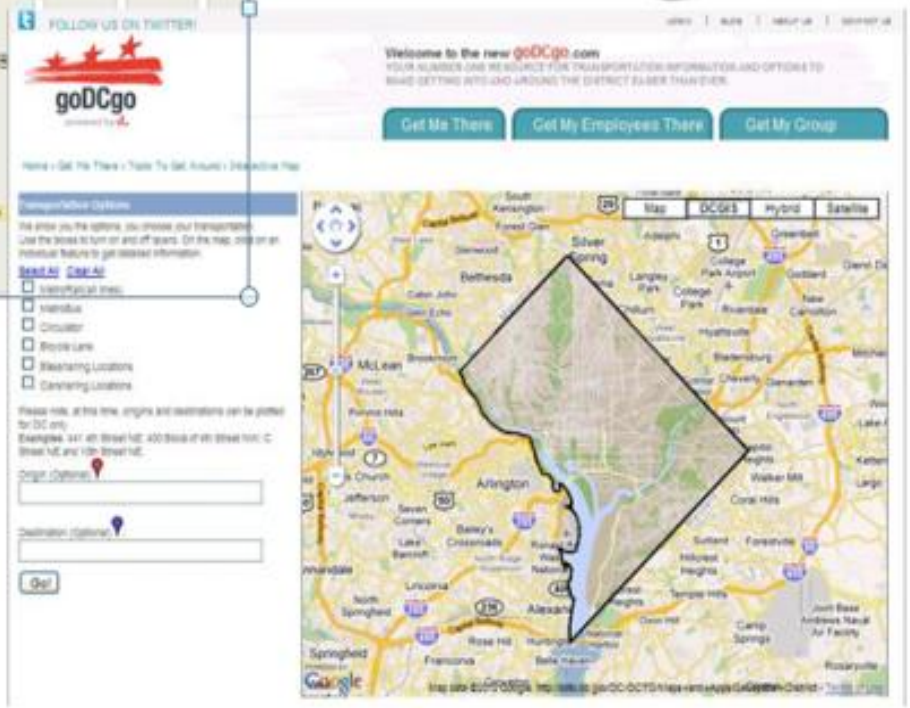
Real Time Traveler Information

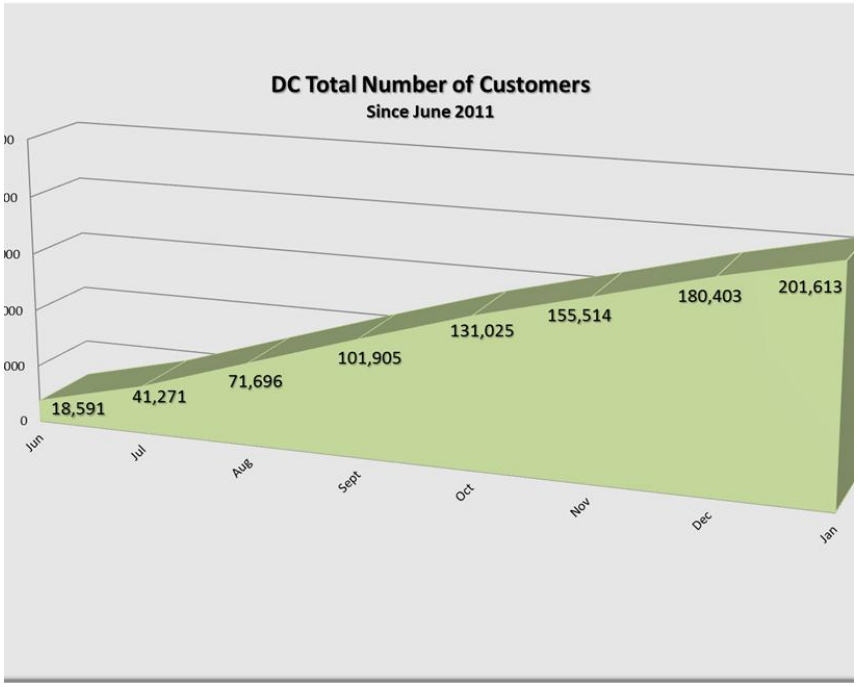


Curbside congestion map

Accuracy requirement higher for real-time traveler information than dynamic pricing algorithm?
Branding & Credibility

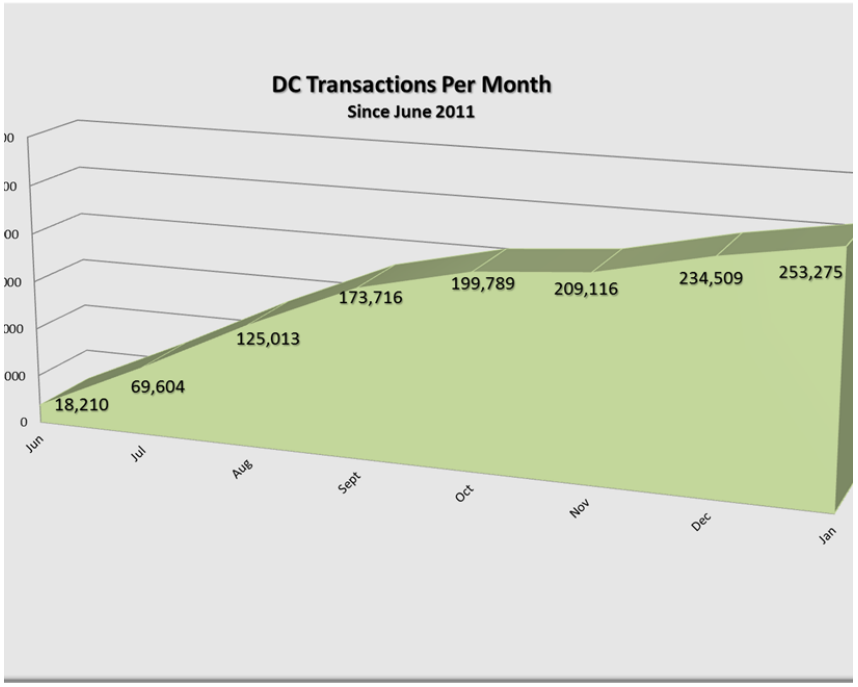
Asset Lite Solutions – DC Pay by Cell Program

CUSTOMERS



201,000 customers as of end of January 2012
Most successful pay by cell launch globally
Vehicles registered in all states have used the system
More than half the customers have used the system multiple times

TRANSACTIONS



1,300,000 transaction since launch
Highest week 70,000; highest day 12,000
67% of transactions initiated through smart phone application
Revenue/transactions higher than coin transaction
30% of revenues through PBC program

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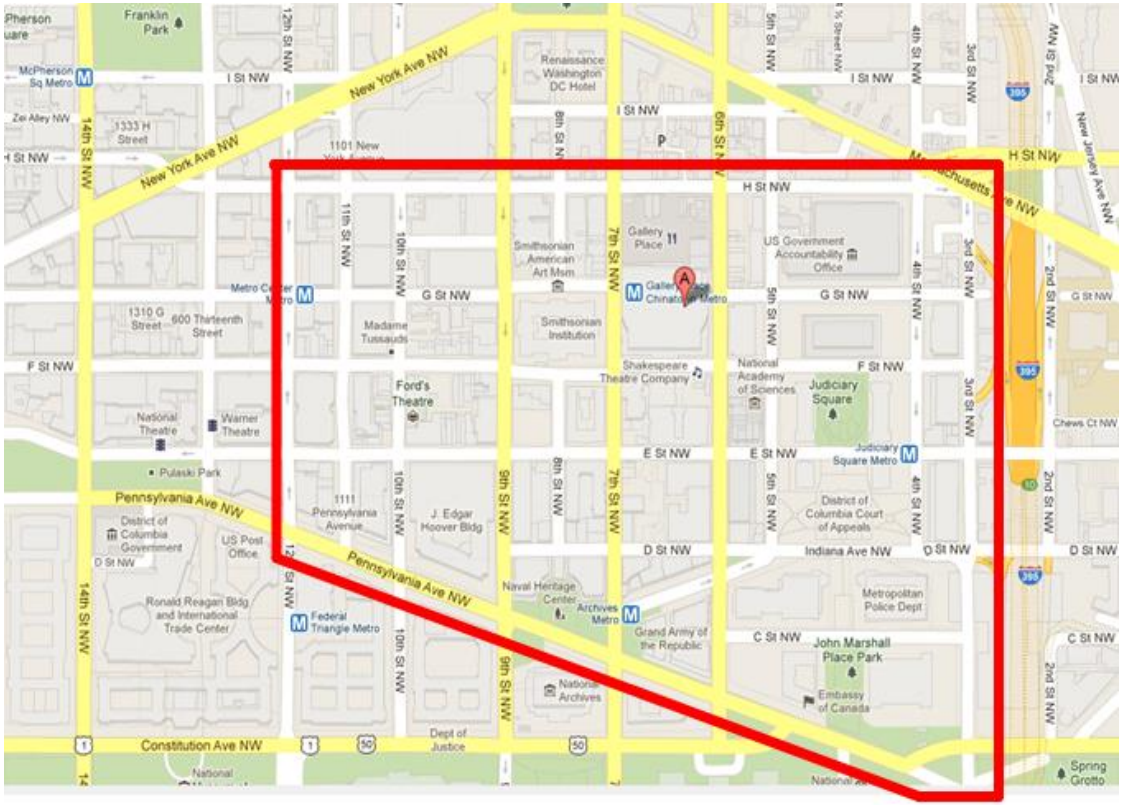
Multimodal Dynamic Pricing Pilot

Pilot area exemplifies Multimodal curbside demand and competition.

Pilot will provide real time rates from through street sensors and real time traveler information

Pilot has:
160 block faces
1,600 metered spaces
30 Loading zones
10 Commuter Bus Drop Off and Pick Up Locations



Asset Lite Solutions in DC in Dynamic Pricing Environment

- For passenger cars
  - Dynamic pricing – move-up the dynamic spectrum
  - As pay by cell penetration rates increase to above 50%, remove meters from one side of the street
- For tour buses
  - Pay by cell only solution
  - Rate structure based on length of stay
  - Spaces designated by pay by cell zone numbers
- For freight/trucks
  - Pay by cell only
  - Cost adjusted based on pre-AM rush, AM/PM rush, mid-day, post PM rush
  - Relieve congestion by trying to divert loading/unloading to off-peak
  - Real-time availability information adds value to freight industry by helping plan deliveries better

Seattle's Performance-Based Parking Program

This presentation will cover:

Seattle's on-street parking system

Performance-based Parking Program & Policy

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P


PAY HERE TO PARK
P


P
2 Hours MAX
Park it.


P

Seattle's Parking System

Est. on-street spaces citywide	500,000
Paid spaces	13,250
RPZ spaces	18,000
Time-limit spaces	11,500
Meters (single space)	100
Restricted Parking Zones	31 zones
Annual RPZ permits	21,500
Annual parking citations	500,000
Police - Parking Enforcement Officers	109 (FTE)

Seattle Performance-Based Parking Program

Citywide covering 13,250 spaces

Low-tech data collection

Annual management changes

Branding development

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Paid Parking Rate Policy

Establish rates based on measured occupancy so that approximately 1or 2 open spaces are available on each blockface on average throughout the day

Meet target occupancy – “Sweet Spot”

Set rates between $1 and $4 / hour

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Paid Parking Goals

Support neighborhood business districts by making on-street parking available

Maintain adequate turnover

Encourage parking availability for a variety of parking users

Reduce congestion in travel lanes caused by drivers seeking on-street parking

Data Collection

Occupancy in all paid parking areas

- November 2010
- April 2011
- June 2011
- September 2011
- June and October 2012

Typically spend between $125K - $250K on citywide manual parking studies

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How We Implement the Policy

Set rates, maximum time limits and hours of operation based on data

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Target Occupancy “Sweet Spot”

Area specific and tied to the average number of spaces on each blockface in that area

Example: 8 spaces on blockface
Need to meet target occupancy:
75% (6 spaces out of 8)
– 88% (7 spaces out of 8)

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Area Peak Occupancy

Use highest three hours of daytime occupancy from parking study

Does not include evening conditions – when occupancy is well over 100% in some areas

Example Area	
8 AM - 9 AM	35%
9 AM - 10 PM	45%
10 AM - 11 AM	58%
11 AM - 12 PM	63%
12 PM - 1 PM	72%
1 PM - 2 PM	78%
2 PM - 3 PM	67%
3 PM - 4 PM	73%
4 PM - 5 PM	73%
5 PM - 6 PM	90%
6 PM - 7 PM	106%
7 PM - 8 PM	120%

Making Parking Changes

If Area Peak Occupancy is <u>below</u> Target Occupancy:	If Area Peak Occupancy is <u>within</u> Target Occupancy (65% - 90%):	If Area Peak Occupancy is <u>above</u> Target Occupancy:
Look at rate decreases or parking max time changes	Keep rate and operating system as is	Look at rate increases or parking max time changes

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2011 and 2012

2011 Rate Changes

- 4 area rate increases
- 11 area rate decreases
- 7 areas kept at same rate

2012 Changes (implementation underway)

- 5 areas rate increase (core area)
- 3 areas rate decrease (edge area)
- 10 areas with maximum time limit extensions

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Example – North Downtown 2012

Effects of 2011 Rate Changes

Rate Increase (4 areas)	More availability at peak times
Rate Stayed Same (7 areas)	Results mixed, with minor fluctuations
Rate Decrease (11 areas)	Most areas saw no dramatic increase in occupancy

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Before and After Occupancy Comparison

Area	Spaces	2010 Peak Occupancy	2011 Rate Change	2011 Rate	2011 Peak Occupancy	Occupancy Changes
Ballard	320	68%	$0.50 Decrease	$1.50	49%	Decrease
Commercial Core	1,650	97%	$1.50 Increase	$4.00	79%	Decrease
Pike-Pine	700	85%	Same	$2.00	74%	Decrease
SLU - 10 hr	1,100	73%	Same	$1.25	84%	Increase
University District	700	64%	$0.50 Decrease	$1.50	63%	Same
Fremont	90	80%	Same	$1.50	77%	Slight decrease

Summary of 2012 Activities

Rate and time-limit Implementation

Pay by Phone project

- Citywide installation with RFP to be issued in next month

e-Park expansion from 6 to 10-15 facilities

Contact us!

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