THE CITY OF SAN DIEGO

REPORT TO THE CITY COUNCIL

DATE ISSUED: March 3, 2010 REPORT NO: _____

ATTENTION: Public Safety and Neighborhood Services Committee
Meeting of March 10, 2010

SUBJECT: New Technology Single Space Parking Meters

REFERENCE: Councilmember Marti Emerald's February 2, 2010 Memorandum
Ref: M-10-02-01

SUMMARY
THIS IS AN INFORMATIONAL ITEM ONLY. NO ACTION IS REQUIRED ON THE PART OF THE COMMITTEE.

BACKGROUND
On February 2, 2010, Councilmember Emerald distributed a Memorandum requesting an update on the status of the three-month pilot project that was undertaken by the City and the Downtown and Uptown Community Parking Districts to evaluate new high-tech solar powered single-space parking meter technology in a production environment and determine its suitability for broader use within the City. Consideration of this technology is important because it has the potential to make meter installation quicker and easier using existing single-space meter housings/poles and the solar-powered mechanisms are potentially more environmentally friendly than existing single-space meters and may reduce battery usage and disposal when compared to existing mechanisms. In addition, real-time communication capabilities may provide more complete and timely information/statistics allow greater flexibility and control of parking meter rates and include more robust displays with better information and instructions for users. The technology also includes a broader range of payment options including payment by credit card.

The equipment used during the pilot was provided by IPS Group Inc. at no material cost. If the technology is determined to be suitable for broader City use, an appropriate procurement process will be undertaken to identify and select a vendor. Experience gained during the pilot will better prepare staff to develop effective requirements associated with this new technology.

Before implementation, City staff identified and selected various criteria to evaluate the success or failure of this pilot project (Attachment 1). Baseline data for existing parking meters at the pilot locations (Attachment 2) was compiled in preparation for later comparison with data gathered during the pilot project period.

On January 20, 2009, 51 of the new mechanisms were put into service at various Downtown and Uptown locations. The mechanisms were installed in existing meter housings on existing poles. This milestone marked the completion of the implementation phase of the project and the beginning of the initial evaluation phase (January 20, 2009 through April 20, 2009).

As was requested in Councilmember Emerald's memorandum, additional data was then compiled for this report to compare an extended Pilot period of January 20, 2009 through January 19, 2010 with the pre-Pilot period of January 20, 2008 through January 19, 2009.

DISCUSSION

The purpose of this final report is to summarize data and detail lessons learned during the extended pilot project.

COST

Enforcment
The high-tech meter mechanisms are installed using the same process and materials (poles, flanges, housings) as existing single-space meters. As such, costs for installation and removal are the same.

Service	**Cost per Metered Space ($)**		
	Existing Single-space	**Existing Multi-space[1]**	**High-tech Single-space**
New meter	$487	$1,260	$786[2]
Installation	$257	$28	$257
New meter/pay station with installation	$744	$1,288	$1043
Conversion from existing single-space	N/A	$1,501	$525
Removal	$213	$8	$213
Monthly cost of meter maintenance	$5	$15[3]	N/A[4]

[1] Average of 6.20 metered spaces per multi-space meter
[2] Manufacturer suggested retail price for comparison only. Actual pricing obtained through a competitive procurement process could vary widely.
[3] Increase in monthly maintenance costs is attributed to higher costs of supplies, materials and labor costs associated with two hour response time. Supplies and materials comprise 75.8% ($70.55) of the costs; labor accounts for 24.2% ($22.52).
[4] Due to the short duration of the pilot and because no competitive process has been conducted to obtain the best value and pricing associated with this technology, it was not possible to reliably estimate the cost of monthly meter maintenance.

ENFORCEMENT

Citation issuance, revenue and appeals were tracked and compared to comparable existing single-head parking meter related data.

Parking Citations

There was a decline in the number of parking citations issued for parking meter related violations in blocks where the high-tech meter mechanisms were installed relative to the previous year. For comparison, citation information was also compiled for the other blocks on the pilot streets and then compared year over year. The comparison area showed a small increase of 0.5% in the number of citations issued.

Parking Citations	**Before Pilot (1/20/2008 – 1/19/2009)**	**During Pilot (1/20/2009 – 1/19/2010)**	**Difference (%)**
Number issued in Pilot areas	1760	1588	-9.8%
Number issued non-Pilot areas	28939	29083	0.5%

Although the data compiled neither supports nor negates the theory, it is likely that the reduction in parking citation issuance results from an increase in compliance. It is reasonable to assume that, without the option to pay by credit card, some customers with limited coins available to "feed" the meter may risk a citation rather than taking the time to obtain sufficient change. With the option to pay by credit card, the same customers may use their credit card and pay the full amount necessary rather than risking a citation. In addition, customers paying by credit card are more likely to pay for the maximum time allowed in case of any unexpected occurrence which could delay the return to their vehicle.

Other Enforcement Issues

Feedback from enforcement staff was not solicited in this evaluation. The new technology is identical to existing single-space meters from an enforcement standpoint.

OPERATIONS

Data on collection time, equipment reliability and parking meter revenue was compiled and compared to equivalent data from existing single-space meters.

Parking Meter Revenue and Equipment Reliability

The high-tech single-space meters proved more reliable, required fewer collection resources, and produced more revenue than single head meters at the same locations.

Parking Meters	Existing Single-space (Avg. 1/20/2008 – 1/19/2009)	High-tech Single-space (Avg. 1/20/09-1/19/2010)	Difference (%)
Collection time per meter	2.6 hours/wk (1 min./meter)	0.8 hours/wk (1 min./meter)	-69.2%
Parking meter malfunctions	66	39	-40.9%
Parking meter revenue	$98,830	$106,797	8.1%

City staff maintained a two (2) hour response time on all high-tech single-space meter repairs to minimize downtime and its negative impacts. The significant reduction in coin collection time results from two (2) factors. First, providing a credit card option reduced coin volume of the frequency of collections performed. In addition, access to real-time data on the volume of coins contained in the coin vaults allowed staff to delay collections until the coin vaults were actually full. During the evaluation period, collection frequencies varied from 4-7 days. Existing meters have neither a centralized management system nor remote access to meter data and are collected on a regular periodic schedule (3 times per week) to ensure meters do not overfill and jam.

Programming and Reporting Capabilities

High-tech single-space meters can be monitored, programmed, and controlled remotely via a web-based management application. Adjusting parking rates and time limits and other parking restrictions, such as special event parking prohibitions, is accomplished remotely via the management application eliminating the need to individually program meters on-site and allowing staff to monitor and control services from a remote location. In addition, the pilot meters are capable of imposing different parking rates and time limits during different hours or days of the week, providing greater flexibility in implementing parking regulations.

The web-based management application stores certain information for each transaction (but not sensitive credit or debit card information) and provides real-time access to data including revenue, maintenance activities and alarms. This eliminates the need to periodically visit each meter to download and collect necessary data.

Data Collection	Existing Single-space	High-tech Single-space (estimated)	Difference (%)
Data collection and review	266 hours/year	8.8 hours/year	-96.7%

Parking Meter Operations staff currently devotes 266 hours each year to collect data from existing single-space meters. With real-time access to meter data, the time necessary to review and collect meter data would drop to just 8.8 hours. It may also be possible to extract parking occupancy and duration information for street segments making this data available to planners and other stakeholders when evaluating parking related changes and improvements. The meters also report malfunctions directly on the machine display as well as by transmitting alert/alarm

messages to the management system and maintenance staff ensuring quick repair and minimal downtime.

PUBLIC ACCEPTANCE

With the assistance of key stakeholders like the DPMG and Uptown Partnership, significant information on the pilot was disseminated to the public prior to the pilot implementation. In addition, a formal press conference was held by the Mayor which garnered even more media attention. Although, no formal survey of users and stakeholders was conducted, information such as the number of meter service requests and complaints, number of citation appeals, and anecdotal information from businesses and users of downtown parking was reviewed and overall acceptance has been quite positive. The credit card payment option has been a welcomed improvement reducing the need for users to hunt for change and allowing those that do not have enough change an alternative payment option.

The larger display available on the high-tech meters allows the meter to provide more detailed information/instructions to the user which is also a significant benefit. This provides another avenue for alerting users to important information such a street sweeping hours, etc.

Number of Complaints and Number of Positive Comments

During the initial pilot, two (2) complaints were received and one (1) constituent provided both positive and negative comments specific to the high-tech meters. There has been no formal process to continue tracking complaints and comments since the conclusion of the initial pilot, however, we are not aware of any specific issues raised in regards to the functioning or performance of these meters.

Requests for Appeal

During the initial Pilot period only nine (9) appeal requests for citations associated with the high-tech meters were received..

Parking Citation Appeals	**Existing Single-Space (1/20/09 - 4/20/09)**			**High-tech Single-Space (1/20/09 - 4/20/09)**			**Difference (%)**
	Dsm	Uph	TTl	Dsm	Uph	TTl	
Appeals	2	18	20	3	6	9	-55.0%
Administrative Hearings	0	0	0	0	0	0	0%
Court Hearings	0	0	0	0	0	0	0%

The significant reduction in parking meter appeals can be attributed to a combination of increased compliance associated with the credit card payment option and improved reliability evidenced by the reduction in necessary repairs.

OTHER ISSUES

Sensors

During the pilot, the vendor also provided hockey-puck style wireless sensors which were installed at one of the downtown pilot locations. The sensors detect when a vehicle enters or leaves a parking stall and communicate with the meters and the web-based management system via a vendor provided mesh network. This functionality was not a key component of this pilot and the evaluation of this technology is incomplete at this time.

CONCLUSION

The new high-tech meter technology performed well over the duration of the initial pilot period and in the ensuing months. While initial procurement and monthly communication and maintenance costs are higher than existing single-head meters, these additional costs are easily offset over time by significantly lower coin collection and data gathering costs coupled with resulting parking meter revenue increases. In addition, the technology is significantly less expensive than multi-space technology but provides nearly all the same benefits. This combined with the fact that the technology is proving to be highly reliable makes it a cost effective alternative for locations which may not have sufficient volume to justify the cost of a multi-space meter.

The flexibility to accept payment by credit card and impose different rates for different hours and days are essential tools to maximize the effectiveness and leverage the use of varied rates and time restriction.

Overall, feedback and customer acceptance was highly favorable. Users readily adapted to the high-tech meters with minimal complaints. The solar-powered meters are more environmentally friendly as well and reduce the need for battery replacement and disposal.

This new technology is both a reliable and cost effective alternative for metered parking zones. The technology provides a variety of significant benefits over existing single-space parking meter equipment with minimal challenges and is better suited to support both current and future needs related to the effective management of the City's parking resources.

Respectfully Submitted,

Meredith Dibden Brown
Office of Small Business Manager

Beth Murray
Deputy Director, Economic Development

Attachments: Pilot Evaluation Criteria
Pilot meter locations

EVALUATION FOR IPS ENHANCED SINGLE-SPACE PARKING METER MECHANISMS
January 19, 2009

This data we will be collecting during the pilot and compared to baseline data from existing parking meters during prior periods.

COST: (Baseline data will be determined by Parking Meter Operations): Maintenance and collection. We will compare the cost of maintaining and collecting the new mechanisms versus conventional single head mechanisms

Factors Method
Cost per single space meter (One time cost)
Monthly Cost of meter maintenance and support)
Monthly collection cost including coin and credit card costs

ENFORCEMENT: (Parking Administration witl determine baseline data) Log issues related to meter enforcement associated with the new devices for post pilot consideration and evaluation.

Factors Method
Number of citations issued and citation revenue (Pilot period)
Number of appeals filed (Pilot period)

OPERATIONS: (Parking Meter Operations will determine baseline) Time/resources for repairs and collections and revenues from the different type of payment method separated (coins, cards, credit cards, etc.)

Factors Method
Collection time per meter (average based on pilot period)
Number of malfunctions (average based on pilot period)
Pilot area meter revenue (Pilot period)

PUBLIC ACCEPTANCE: We will track the number of meter service requests/complaints. We will need anecdotal information from businesses and users of on street parking in pilot areas.

Factors Method
Number of Complaints (Pilot period)
Review of comments from users/stakeholders

IPS Group Inc.

Single Space Parking Meter Management System

City: San Diego

Meter Locations

Zone: Hillcrest

Area: 4th Ave btw University and Robinson

IPS Group Inc.

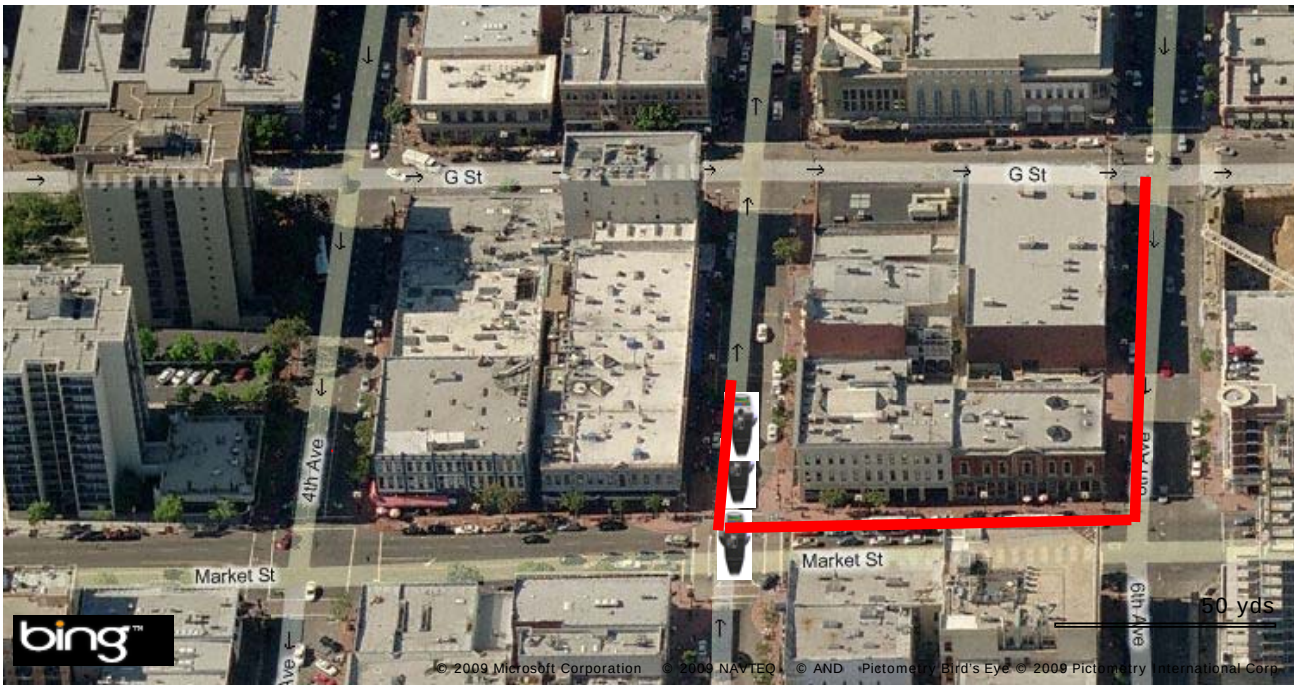
Single Space Parking Meter Management System

City: San Diego User: mvogl

Meter Locations

Zone: CBD

Area: 5th Ave between G St and Market



IPS Group Inc.

Single Space Parking Meter Management System

City: San Diego User: mvogl

Meter Locations

Zone: Marina

Area: West G btw India and Kettner