



## Streetline Smart Parking Proposal

City of Lafayette

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393 Vintage Park Drive  
Suite 140  
Foster City, CA 94404  
(650) 242-3400  
[www.streetline.com](http://www.streetline.com)

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## Executive Summary

Streetline is at the forefront of Smart Parking. With the rapid evolution of sensing equipment, software, and information services, Streetline is able to offer proven technology and creative information systems allowing cities to better serve their communities – providing improved service to merchants, residents and visitors while optimizing city workforce and revenue.

### Overview

Smart Parking involves a fully integrated parking ecosystem that benefits residents, visitors, merchants, and the City. In order to accomplish this, it is critical that parking is viewed holistically to include on street metered and non-metered spaces, city-owned off-street parking, as well as private parking supply that is available to the public. Lafayette has all of this plus Bart, a major contributor to parking issues in the City. Streetline provides the tools necessary to change motorist behavior that helps to optimize the utilization of parking inventory and productivity of enforcement operations. Cities that have selected the Streetline solution enjoy reduced congestion, better space utilization, and increased commerce for merchants, resulting in increased sales tax revenue for the City.

Most cities have sufficient parking inventory and based on the studies conducted for the City, Lafayette is no different. The issue is changing behavior of motorists so that they are able to find and use the parking inventory efficiently. Streetline applications provide the tools necessary for the city to optimize existing parking inventory and as a result, the city can realize the following key benefits:

- Increase commerce and sales tax revenue by drawing motorists to a city where parking can be more easily located and found more quickly
- Increase meter revenue by changing the behavior of motorists
- Improve compliance with parking policies
- Avoid the expense of constructing new parking structures

### Integration

The Streetline system has been designed to seamlessly integrate with single space credit card meters of all brands, including the IPS meters used in Lafayette today. Additionally, the Streetline system supports integration of existing Duncan Eagle coin operated single space meters, making them “smart meters” so that the City can extend the life of these meters, deferring replacement costs. Streetline sensors can also be deployed in un-metered, time-enforced spaces and the guided enforcement application eliminates the need to chalk tires. This application can also be used to automatically detect and direct officers to expired meter violations. Streetline sensors can be used in parking restricted spaces and parking prohibited spaces for comprehensive data analysis, enforcement and policy management. All public and private off-Street surface lots can publish location, prices, and policy on our mobile application - Parker. For drivers, this means they can

find a place to park, whatever their preference. For the city, this means they have the capability to understand parking dynamics in any part of the city using Streetline's applications and analytics, and make the most effective policy and pricing decisions based on highly accurate, real time data. For the merchant community, this means optimal availability and turnover so their customers can enjoy all that downtown has to offer without the frustration and time-consuming task of looking for parking.

## Products & Solutions

The comprehensive Streetline solution includes sensors, networking equipment and a suite of hosted web and mobile applications, analytics and reporting. Many elements of the system are modular, and may be combined or integrated with products from other vendors such as dynamic message signs, or third party applications. Streetline owns, installs, operates and maintains the network and cloud-based smart parking applications and takes full responsibility for their continuous operation.

As *the* premier Smart Parking solution provider, Streetline offers the most comprehensive portfolio of products and services, as well as the deepest expertise in the industry.

Streetline provides services covering a broad spectrum of Smart Parking systems including:

- **Parker™**, the motorist guidance platform, that guides residents and visitors to on-street and off-street parking and allows them to pay for the transaction (if mobile payments are implemented) by phone in a single easy-to-use app
- **ParkerMap™**, the web-based guidance map which can be embedded into any web-site (retailer, city, etc.)
- **ParkSight Analytics™** provides graphical reporting about parking usage, meter usage and officer actions 24 hours a day 365 days per year
- **ParkEdge™**, the off-street parking inventory system, that directs motorists to off-street parking owned by the city and private off-street providers
- **ParkSight Guided Enforcement™** directs officers to potential violations, increasing productivity while reducing patrol hours, often increasing enforcement effectiveness by approximately 200% - substantially increasing revenue in the process.
- **Meter Monitor™** is a retrofit for existing Duncan Eagle meters to integrate them into the system

Benefits:

- Support and help stimulate commercial and retail business by enabling the city to manage parking availability at levels of approximately 85% per block, thereby reducing congestion and insuring availability for merchant's customers.
- Monitor and manage on-street parking in commercial, retail areas. Provide real-time and historical information regarding occupancy, revenue and enforcement actions.

- Easy-to-use, web-based and smartphone-enabled navigation system so residents and visitors can locate convenient affordable parking in real time, thereby reducing traffic congestion. Studies have shown that 30% of traffic in cities is a result of motorists circling the block looking for parking.
- Manage payment rates and time based on supply and demand resulting in fair and equitable pricing of valuable parking real estate. This promotes convenient, easy, safe, competitively priced parking experiences and is the cornerstone that helps normalize availability so that merchants can enjoy availability on street for their customers.
- Direct officers to potential violations, reduce patrol hours, improve workforce productivity, and improve revenue, while increasing fairness in citation issuance.

Smart Parking includes not only sensors, but also and more importantly a change in the way parking is understood, managed, and interacts with stakeholders. It gathers real-time data about parking occupancy and payment status. Analytics use these new sources of data to empower city leaders to improve policy and pricing based on real information about supply and demand and enforce that policy more effectively. A Smart Parking system communicates real time information to drivers so that they can make better decisions, locate parking quickly, and pay using modern technology, improving compliance and optimizing the utilization of parking assets.

#### **A Complete Picture for the Best User Experience**

A major advantage of Streetline’s technology is that it is an integrated platform that was designed for optimal user experience. By integrating data from various sources, Parker has the capability to display the most complete picture of parking availability and policy to drivers. This includes:

- On-street metered spaces (Duncan Eagle, IPS and most other brands)
- On-street non-metered spaces
- Off-street surface lots

#### **Proposal Scope**

This proposal is focused on City owned parking assets including on-street metered and time-enforced spaces and one city owned lot. As part of this proposal Streetline will add static data for all private off-street lots including the Bart lots and those of merchants that allow public parking. Static information includes name, location, capacity, hours of operation, rate (if any), time limit and number of special use spaces such as ADA spaces and EV charging stations.

Streetline can also collect occupancy data from private lots through the installation of sensors, third party loop counters or cameras. Pricing in this proposal does not include any real time data collection from private lots; however the system is designed to easily add this in the future.

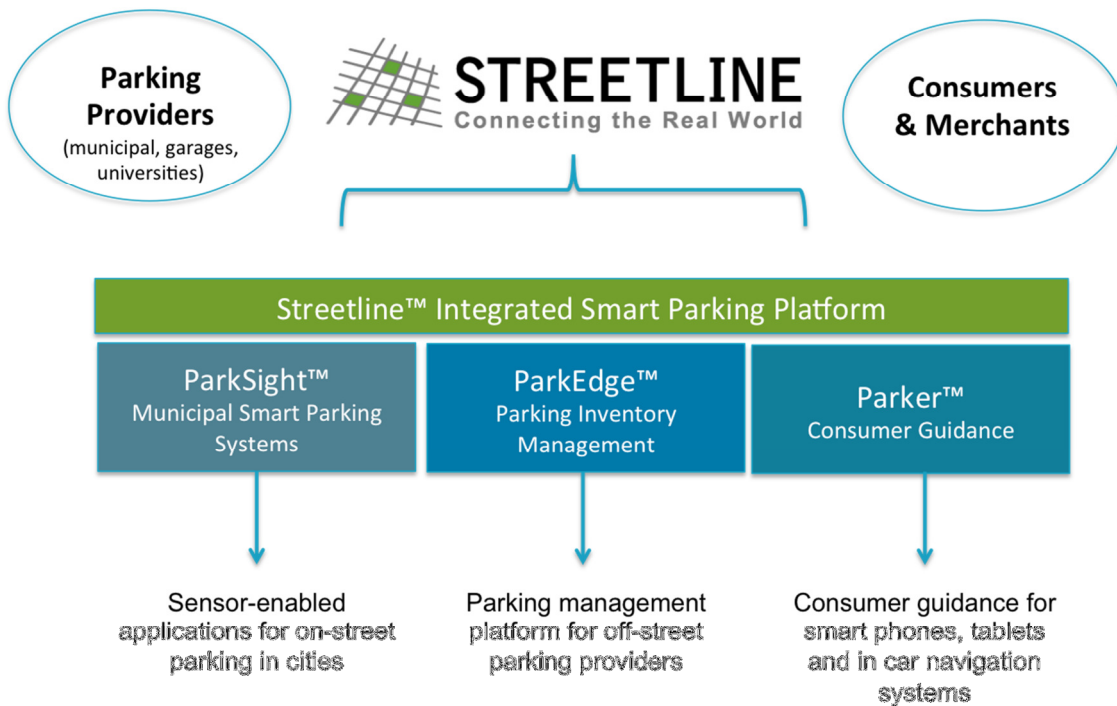
## Streetline Products and Services Overview

### Streetline Company Overview

Streetline is *the* premier industry leader, offering the most comprehensive portfolio of Smart Parking products and services, as well as deepest expertise in the industry.

### Products & Solution Structure

The Streetline solution is complete and includes installed sensors, networking equipment and a suite of hosted web and mobile applications, analytics and reporting. Many elements of the system are modular, and may be combined or integrated with products from other vendors. The following graphic illustrates the interrelated structure of Streetline's parking solutions, and how they integrate into one solution platform, providing valuable benefits to all parking stakeholders.



### Expertise

Streetline draws on the depth and knowledge of a team of highly committed employees who are experts in parking detection, information technology, and project management. With deployments in many US cities and Europe, Streetline employees bring valuable practical experience gained in the industry and specialize in transferring that knowledge to users through broad product and services offerings. Streetline operates a 10,000+ square foot facility in Foster City, CA, which encompasses an R&D lab where the detection, networking and meter interface technology is designed. All manufacturing is currently done in Silicon Valley and focuses on high levels of quality assurance.

## Vehicle Sensing

The Streetline Sensing system provides reliable vehicle detection at parallel, diagonal, and perpendicular parking spaces, at a low total cost of ownership. Each sensor monitors a single marked parking space.

Embedded Parking Sensors are designed for rapid, high quality installation, completely flush with the roadway surface. The low profile of the sensor (only 1.25" deep) allows for installation without breaking the pavement surface course, this is critical to avoid water penetration and subsequent destruction of the pavement that can be experienced when drilling deeper.

There are no moving parts, and no openings or removable elements on the sensor. Batteries sufficient for four years of operation are sealed inside the unit. When



batteries are exhausted, sensors may be removed and replaced, re-using the same hole created for the initial install.

## Meter Monitor: Meter Retrofit



**Meter with Streetline Meter Monitor Installed.**

The Streetline Meter Monitor enables Duncan Eagle single-space meters to be fully integrated into the Streetline sensing system. The Streetline Meter monitor can send real-time information about coin payments and inform the meter shop when repairs are needed. Streetline meter monitors easily fit into single-space meter heads without changing the look or requiring an upgrade to expensive new meters. This is an extremely cost-effective way to modernize legacy infrastructure without large investments in new hardware or installation projects.

## Parker™: Parking Guidance Mobile Application

Parker™, Streetline’s mobile parking platform, provides city residents and visitors, with “a complete parking assistant in the palm their hand.”



With Parker™, Streetline offers a fast, low cost way for customers to find parking close to their destinations and understand parking policies and prices. Motorists spend less time in traffic, save money, and park closer to their destinations. Parker™ also contributes to policy compliance by providing drivers with improved information on rules, more ways to pay for parking, and reminders when time limits and paid time are about to expire. When on-street and off-street spaces are instrumented with sensing technology, Parker may be used as a full featured real-time motorist navigation app guiding motorists to available parking throughout the city. Parker™ runs on iPhone and Android smartphones, as well as iOS and Android tablets.

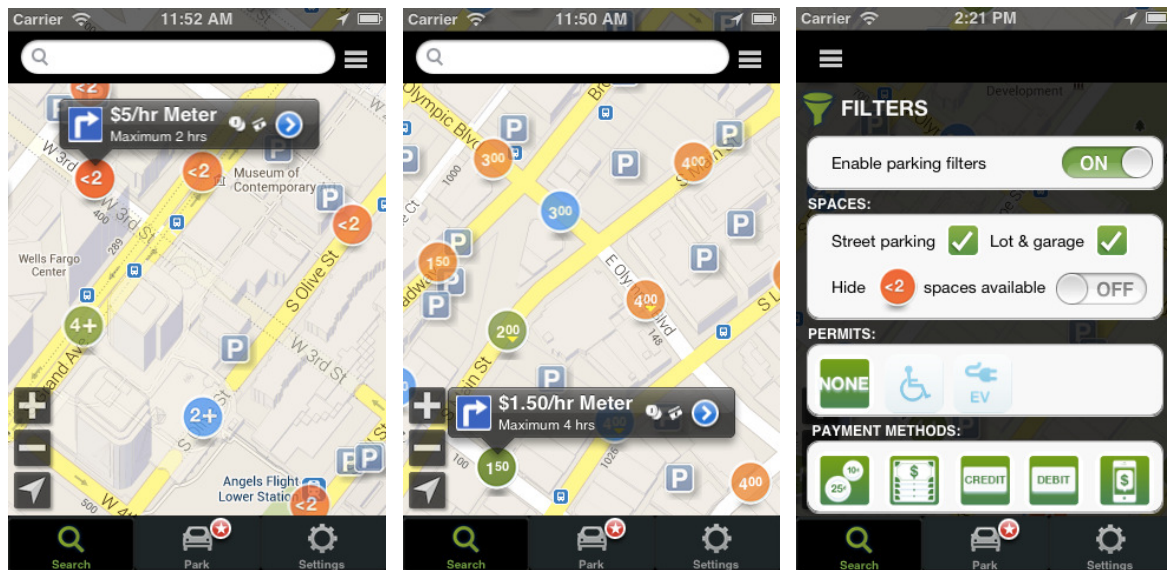
### Finding the Right Spot

Parker allows the driver to search for spaces based on location, price, or distance from a destination. Voice guidance guides them to open spaces, while a line indicates the route to the best parking location (based on search criteria or distance), which is updated as the driver moves. Using the search filters and guidance features of Parker, drivers are sure to find the perfect parking spot.



## User Experience

The user experience of Parker is intuitive and helpful for the complete journey. Motorists using Parker can see their *current location* or a selected destination in the familiar Google Maps interface, with indicators on each surrounding block to show how many parking spaces are currently open and available. In the next version of Parker, as the motorist zooms in, they also see availability by blockface. Off-street parking is also displayed to provide a complete menu of choices for the motorist looking to park.

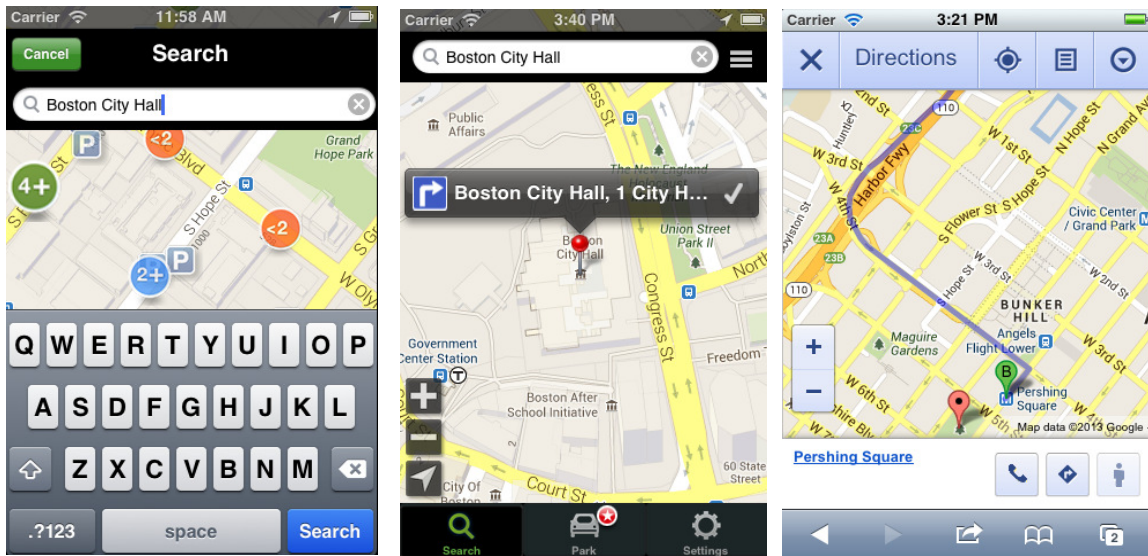


## Parking Information and Guidance

Parker provides motorists with detailed maps of on- and off-street parking, including information on capacity, availability, policies, and pricing. Motorists can refine their results to find parking that meets their needs, including facility type, payment method, handicapped parking and EV charging locations. Voice guidance features improve the user experience and driver safety – guiding drivers to a space using voice directions, making Parker a true hands-free application. Motorists are also guided back to their vehicle when they wish to return.

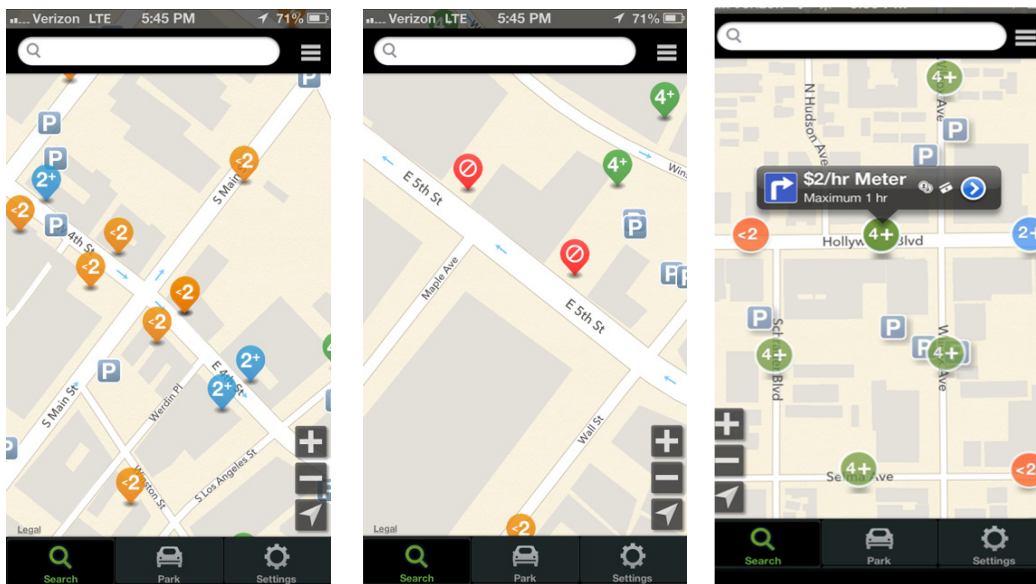
## Capacity and Availability

Parker is the first commercially available smartphone app to use live information from on-street parking sensors to guide motorists to open parking spaces. Motorists using Parker today can see their current location or a selected destination in the familiar Map interface, with indicators on each surrounding block to show how many parking spaces are currently open and available. Locations of garages and parking lots are also displayed, to provide a complete menu of choices for the motorist looking to park.



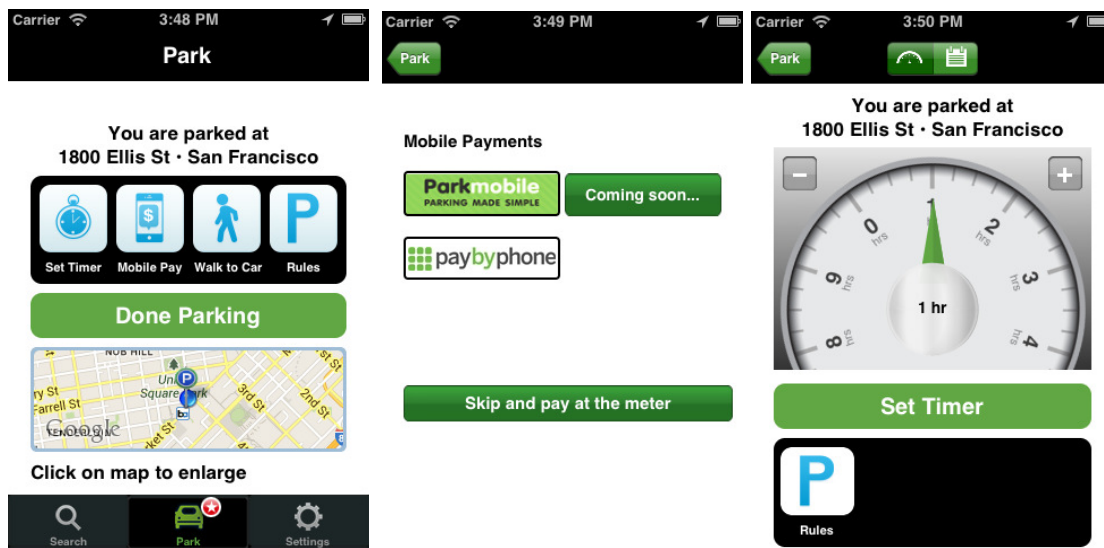
## Policy, Pricing and Payment Options

The same policy database also allows Parker to provide motorists with current rates, time limits and metered hours of operation, and times when no parking is allowed. Users may search using filters to show only parking stalls where the meters take credit cards, or find the least expensive options for parking near a chosen destination. During hours when parking is restricted, Parker shows a "No Parking" icon.



## Payment and Compliance Support

Once parked at a metered space, Parker provides mobile payment options, in partnership with the city and select mobile payment providers. Payments can be made within the Parker app, without the motorist having to launch a separate app. Streetline is partnered with both Parkmobile and PayByPhone, the premier providers of mobile parking payments, to offer integrated mobile payments on Parker. In the event that a city wished to integrate this technology into their meters using one of these vendors, mobile payments would be readily available on Parker. Motorists may also set timers to remind them of meter and time limit expirations. Where complete policy information is available, they may also be sent reminders of policy change times.

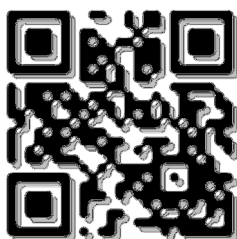


## Parker's Footprint

Parker's on-street capabilities have been adopted in more than 30 cities. Off-street locations cover *65 cities and over 20,000 facilities*. Performance of the Streetline sensing system has been exceptional and unparalleled in the Smart Parking industry. Parker was the winner of the prestigious Global Mobile Awards, winning Best Mobile Innovation for Smart Cities at the 2013 Mobile World Congress in Barcelona.

Parker is free to download and use on iPhone or Android devices via the link or by scanning the QR code below.

<http://www.streetline.com/find-parking/parker-mobile/>



## ParkerMap™ – Online Parking Guidance

Parking guidance can be achieved and/or supplemented with guidance using web applications. A ParkerMap web widget for parking guidance is available from Streetline that can be embedded in a website simply by pasting an embed code into the website HTML. This can assist customers in finding or reserving parking ahead of time so that they can streamline the parking process, leaving more time for enjoying what downtown has to offer.

The ParkerMap displays all the same parking availability and policy data that Parker does, but online. A map can easily be created online, which generates HTML code for embedding in websites. Using ParkerMap, city departments' or merchants' services web pages could display available parking nearby, and let a visitor know where they should park before driving to the building. This map is free to use and is already being used by corporate campuses, cities, merchants, and universities to publish parking online.

With information on more than 25,000 parking locations in Streetline's database, as well as real-time parking availability data for more than 30 cities globally, the ParkerMap can help merchants or anyone with a website show nearby on- and off-street parking options.

The diagram illustrates the workflow of ParkerMap. On the left, a 'Get Started!' form from Streetline guides the user through three steps: 1. 'Enter your address below to get started!' with input fields for 'Enter the name of your location' and 'Enter the address of your location'. 2. 'Choose Map Size' with a grid of map size options (e.g., 300x300, 600x300, 900x300, 1200x300, 1500x300, 1800x300) and a 'Custom Size' field. 3. 'Adjust Zoom Level on Map (optional)' with a zoom control interface. Below the form is a text area for 'Paste this code onto your site'. On the right, a blue arrow points to a 'Welcome to Parking' page for the City of Fort Lauderdale. This page includes a navigation menu, a list of services provided by the Parking Division (e.g., addressing questions, providing permit information, selling permits), and an 'Announcing the New Parker Map' section. The announcement text states: 'The Parker Map is simple widget that allows a merchants, restaurants, offices, and universities to add parking data to their website. It will display parking information for a particular area, optimized for any website. The City of Fort Lauderdale is currently involved in a demonstration of this application at 87 metered spaces around the City Park Garage. The app will detail those spaces as well as all lots and garages throughout the City. The following map shows what it looks like for 150 SE 2nd Street (City Park Garage)'. Below the text is a map showing the City Park Garage area with various parking icons and a red location pin.

Using ParkerMap a user enters a location name and address, and a real-time parking map HTML code is generated that can be easily embedded in any website for free.

## ParkEdge – Off-street Publishing to Parker

Using ParkEdge, City-owned and private lots can publish locations on Parker, along with occupancy, policy and pricing information. ParkEdge offers two principal benefits – it exposes lots to the public and, by pushing the information to Parker, provides for a complete motorist user experience. ParkEdge takes the hassle out of managing parking data, it serves as a database for all off-street parking options, both private and public. ParkEdge provides the City a communication channel to drivers to convey a variety of important and differentiating information through an easy, intuitive user interface.

Using a secure account on ParkEdge, Streetline’s Parking Management Portal, the city and private lot owners can:

- Claim lot ownership
- Update and change Basic Listings information
- Publish availability, hours, and pricing on Parker
- Publish promotions on Parker

Name	Type	Address	Phone	Spaces
Broadway Garage	Public Garage	1300 Broadway St	925-926-6185	422
North Locust Garage	Public Garage	1625 Locust	925-926-6185	642
Chancellor Library Garage	Public Garage	1644 N Broadway		151
Mc Diablo & Main Lot	Outdoor Lot	Mc Diablo Blvd & S Main St		16
South Locust Garage	Public Garage	1300 Locust St		230
Locust Lot	Outdoor Lot	1530 Locust St		22
Lincoln Lot	Outdoor Lot	1308 Lincoln Ave		12

**Tracking Method**  
Currently published data  
Garage state/Plenty

**Update publishing data**  
Select the method you want to use to update your parking availability. If you don't want to display any availability select "Untracked". Selecting any other option will allow you either update your availability manually or in Real Time via the ParkEdge API.

Untracked  Real Time  Manual Estimate  Manual Count  Auto Estimate

**Manual Estimate**  
Manual Estimate allows you to select which color and availability message your garage will display. Availability message will read Plenty, Some or 0 spaces available depending on which you select.

None (Full)  Some  Plenty

**Publish**

Streetline does not charge for ParkEdge basic, this is a version that displays static information such the name and address of the lot along with the capacity, number of ADA and EV spaces, hours of operation and other policy information. ParkEdge Basic can and should be used by all parking stakeholders in the city.

ParkEdge Premium is able to display real time occupancy in private lots, the data can come from a variety of sources including Streetline sensors, cameras, loop detectors, gate counters or a combination to create a hybrid solution.

### **Streetline Parking Management System**

The Streetline parking management system (ParkSight Portal) is for internal use by city staff to aid in the collection and analysis of parking data. This parking management system will act as a 'dashboard' and includes the capacity to view, in real-time, the entire parking operation at a glance and show the status of each parking space (vacant, occupied and paid, occupied and unpaid). The parking management system is capable of generating reports including (a) occupancy, (b) turnover (arrivals and departures), (c) compliance (potential violations & enforcement), and (d) demand index by the hour (hourly occupancy). The parking management system is also be capable of generating custom reports, tailored by date range, block, area, and officer.

### **ParkSight Portal**

In a complex transit system with multiple sources of demand ranging from commuters headed to work to motorists traveling into the area for shopping, restaurants, and nightlife, parking managers need to compare current dynamics with historic trends in order to understand the impact that policy & pricing changes are having on parking availability, revenue, and compliance. This also helps provide information to engage with local merchants and residents around parking issues.

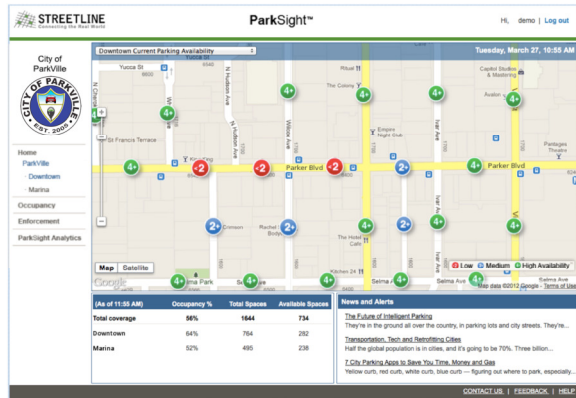
### ***Real Time Data***

ParkSight Portal Home, Occupancy, and Enforcement are delivered in near real-time, meaning that they are updated frequently with changes in status. This provides the city with true real-time information about current parking conditions in areas of the city that have deployed Streetline's sensors and networks. Analytics, however, collect historical information daily that can be viewed by different user-selected specifications such as area, date range, time range, and days of the week.

## Real-Time Applications

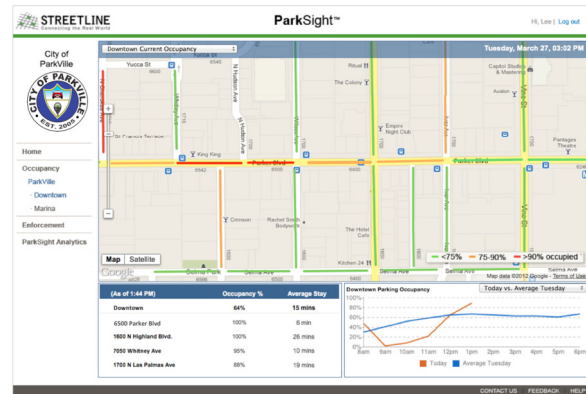
### Home

- Total spaces available
- Current Occupancy
- Average Stay
- Spaces Available by Block
- Recent News and Alerts



### Occupancy

- Current Occupancy by Block
- Occupancy Hotspots
- Compare Day's Occupancy to Historic Trends
- Spaces Available and Total Spaces by Block



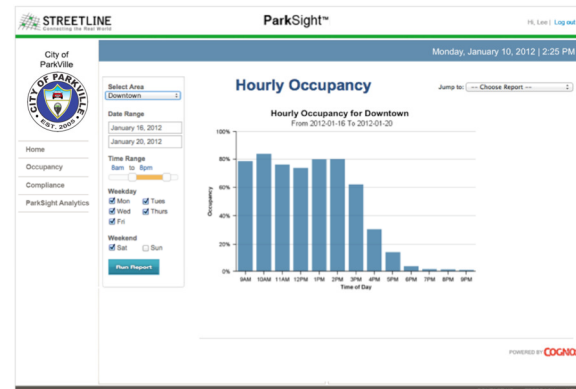
### Enforcement

- Total Potential Violations by Blockface
- Violation Hotspot Blocks
- Today's Actual vs. Potential Revenue by Hour



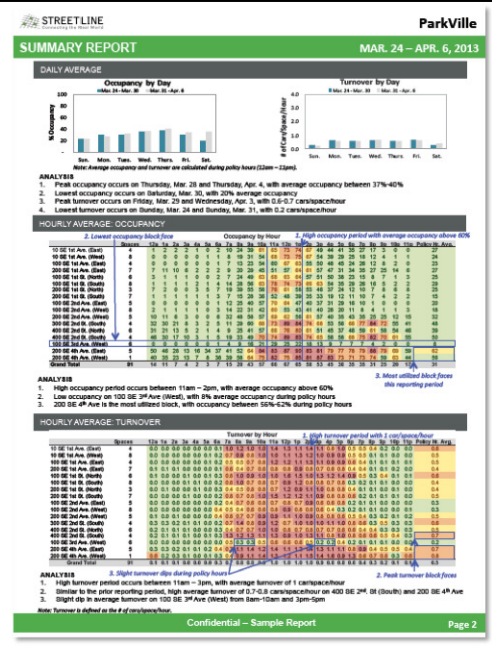
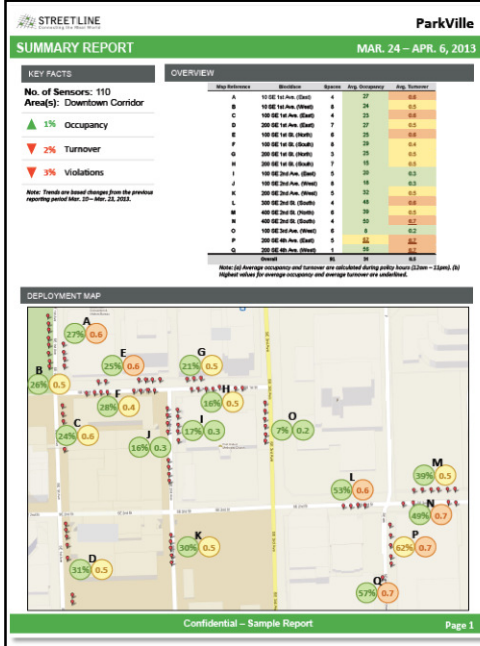
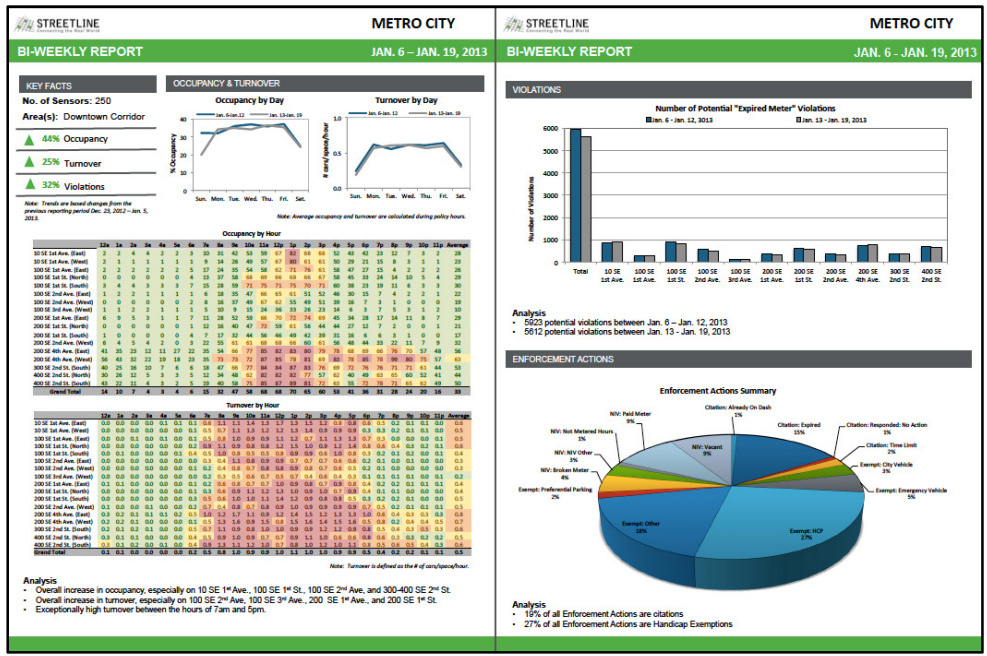
### Historical Analytics

- Tailor reports by:
  - Area
  - Date Range
  - Time Range
  - Days of the Week



# Advanced Analytics Reporting

Streetline's Client Services Team consists of parking & transportation experts skilled at providing tailored reports across areas in which customers wish to have more detailed information & metrics for deeper analysis. These areas include occupancy, turnover, and enforcement analytics, if the city chooses to pursue Guided Enforcement technology. In addition, real time reporting and historical analytics is provided by Streetline's ParkSight Portal application. Reports present information in an intuitive format and include analysis of patterns and observations (see samples below). Client Services reports also offer valuable insights into parking activity as well as benchmarking against comparable cities that provide critical decision support for city managers and planners.

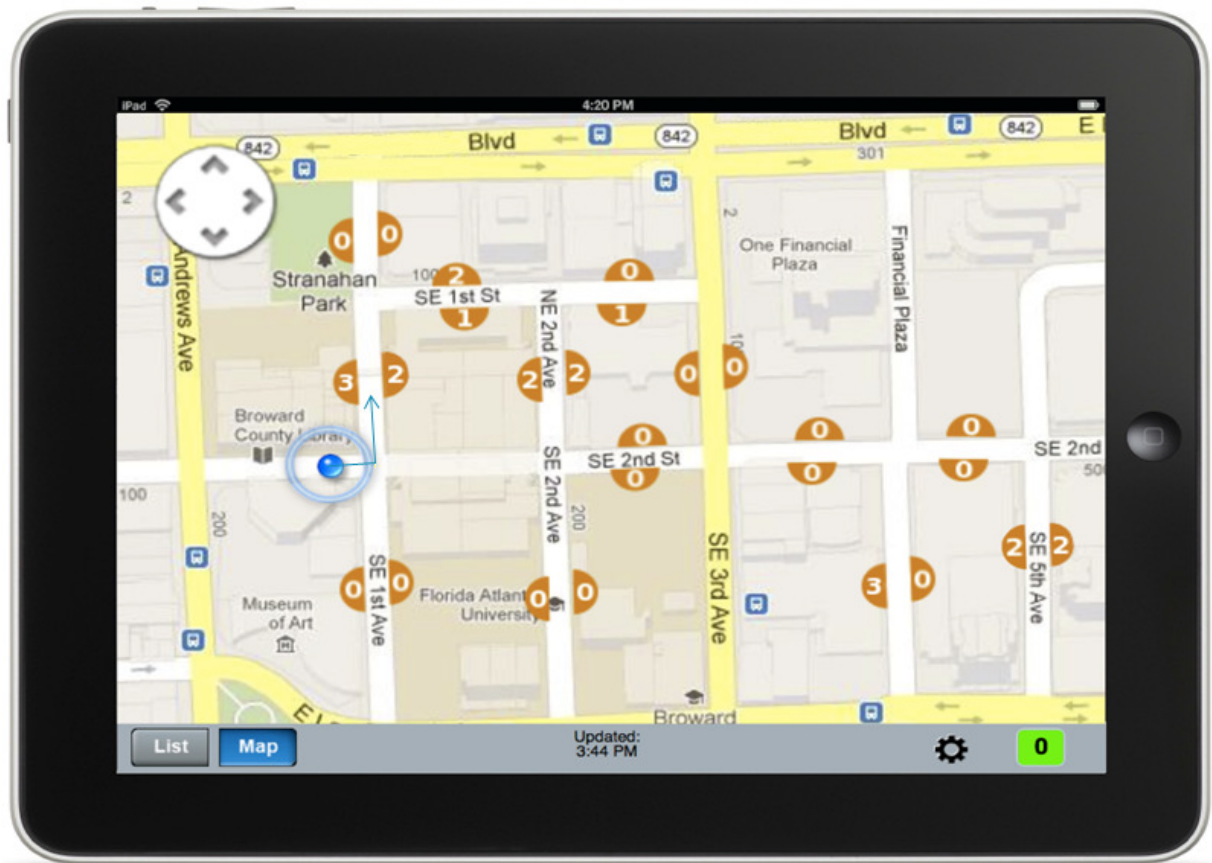




## Streetline Guided Enforcement

Guided Enforcement is a navigation and data collection system designed to optimize workforce productivity. Streetline has the largest and most utilized deployment of Guided Enforcement in the United States. Streetline's Guided Enforcement offers a map view of real time data from sensors and meter status data to guide officers to vehicles parked and unpaid (potential expired meter violations), as well as parked over time limit (potential over limit violations).

Thousands of officer hours have been assisted by Guided Enforcement, resulting in substantial increases in revenue for cities, as well as field user feedback that has been integrated into the application, making it easier to use and more effective for the officers who use it in the field every day. The combination of dedication to user-centered design and the most extensive field deployment in the world make Streetline's Guided Enforcement simply the best system in the global market today.



As an officer approaches a decision point, such as an intersection, Guided Enforcement provides real-time information, including locations of potential violations, empowering the officer to make optimal routing decisions.

### Example of the Application in Normal Use

- An Officer using the application initially sees a street map with a marker showing the Officers own location and markers on each surrounding showing the current

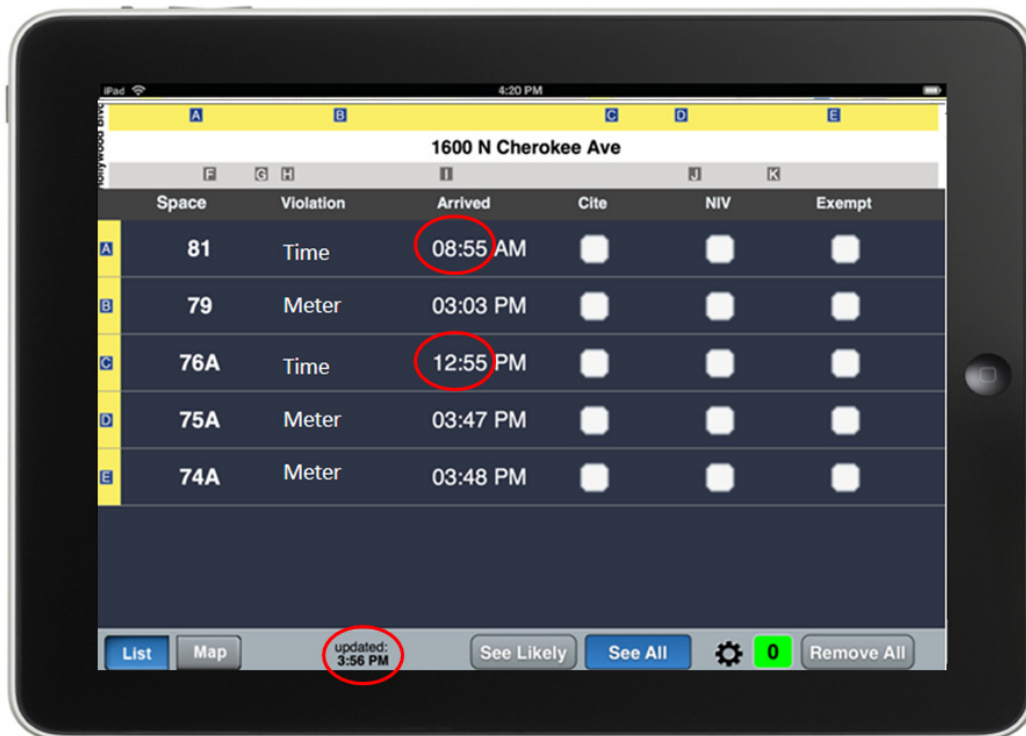
number of unhandled exceptions at that location. Based on this bird's eye view of available workload, the Officer selects the next stop on their patrol.

- When the Officer arrives at the target block, the List View is selected presenting a table showing the relative location of each exception on the block, and a selection of high-level actions the Officer can take for each exception. High-level actions include Ticket, Exempt, and NIV (Not in Violation).
- When the Officer sees that there is a disabled placard displayed, the Officer records the placard in the app. The exception is marked as 'handled' and is no longer visible to Officers using the application, until the vehicle departs and a new vehicle arrives.

### Timed Enforcement

Timed Enforcement™ eliminates the need for chalking on time-limited parking spaces and for meter over limit parking. Developed with and for enforcement officers, Guided Enforcement identifies and directs officers to parking violations in real time, while providing parking management personnel with essential information to design an effective enforcement model and enhance officer productivity.

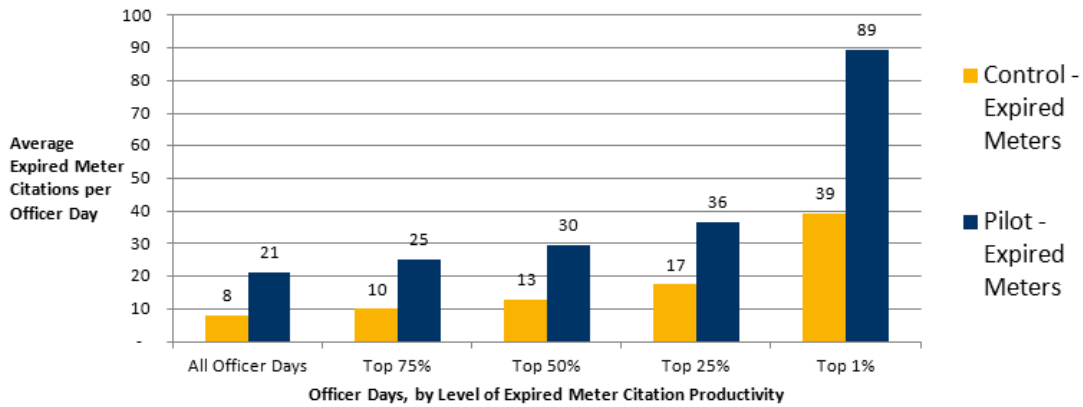
By tapping data from Streetline's real-time sensor network, the timed enforcement feature captures arrival times and digitally tracks overstays, eliminating the need for chalking. The app also includes support for disabled placard enforcement and exemptions. With a click of a button, potential exemptions such as disabled placards – are filtered out, guiding officers to blocks with the highest probability of finding a violation.



### Powerful Results

In a controlled pilot, citations per officer day were tracked for a group of officers using Guided Enforcement and a group following standard enforcement practices. An improvement of over 150% was seen for all officer days for the group using Guided Enforcement. Meanwhile, Officers interviewed for the report gave Guided Enforcement very positive reviews as a useful tool for their daily work. The following table and chart display the results of this pilot, which demonstrate the proven effectiveness of Streetline’s system.

	Control - Expired Meters			Pilot - Expired Meters			Pilot vs Control
	Officer Days	Citations	Citations / Officer Day	Officer Days	Citations	Citations / Officer Day	
All Officer Days	11,711	93,264	8	567	11,999	21	266%
Top 75%	8,956	89,311	10	431	10,789	25	251%
Top 50%	6,080	78,030	13	288	8,510	30	230%
Top 25%	3,165	55,332	17	147	5,358	36	208%
Top 1%	120	4,722	39	7	626	89	227%



## ROI and Price

Based on the assumptions in the table on page 21, the City would be expected to generate incremental revenue from expired meter and over-limit citations of approximately \$142,000 annually after Streetline fees. Approximately 70% of the initial investment can be returned in the first year and the entire investment can be returned in approximately 17 months.

Annual results - metered spaces	Current	Streetline	Improvement
Expired meter citations per space / per year	20.16	30.23	10.08
Citation fine	45.00	45.00	-
Revenue per space	907.01	1,360.52	453.51
Quantity of spaces	308	308	-
<b>Subtotal Expired meter revenue</b>	<b>279,360</b>	<b>419,040</b>	<b>139,680</b>

Annual results - time enforced over limit	Current	Streetline	Improvement
Over Limit citations per space	2.14	10.68	8.55
Citation fine (average)	45.00	45.00	-
Revenue per space	96.14	480.70	384.56
Quantity of spaces	469	469	-
<b>Subtotal over limit citation revenue</b>	<b>45,090</b>	<b>225,450</b>	<b>180,360</b>

Annual results - expired meter and over limit	Current	Streetline	Improvement
Expired meter citation revenue	279,360	419,040	139,680
Over time limit citation revenue	45,090	225,450	180,360
<b>Total citation revenue</b>	<b>324,450</b>	<b>644,490</b>	<b>320,040</b>
Annual System Fee	n.a.	177,552	177,552
<b>Net annual citation revenue improvement</b>	<b>324,450</b>	<b>466,938</b>	<b>142,488</b>

Return on Investment	Amount
Total Investment	\$ 203,010
Return on Investment	<b>70%</b>
Payback after implementation (months)	17.1

Citation rate per space for expired meter enforcement is in line with what Streetline has observed other cities at 20 citations per space per year. While it is not possible to calculate your actual capture rate without having space level occupancy data, we typically see a 7-9% baseline capture rate using manual methods increasing to 16-20% (increase of 80%-170%) with guided enforcement, the table on page 19 shows an example of a city achieving a 150% increase. For the purposes of estimating the Lafayette ROI above, we used a 75% improvement to calculate the results. Streetline fees are based on a quantity of 777 instrumented spaces.

Capture rate for overstays in Lafayette appears to be low at just over 2 per space per year. This may be a result of not enforcing over limits at paid metered spaces. For the

purpose of the ROI analysis we did **not** assume you would change your policy on this, however this is an area where you can expect a high level of increase in productivity and the proposed technology provides a way to do this easily, without chalking. We have not calculated workforce productivity improvements as part of this proposal. Guided enforcement enables the city to stretch its workforce so that your 2.5 FTE’s can do the work of more officers.

We have included all costs including installing a Streetline meter monitor in each of your Duncan Eagle meters, so to the degree you continue to replace these with networked meters where the Streetline system communicates directly with the server from your meter vendor, the cost can be reduced by \$5.00 per month per space (this is the monthly fee for the Streetline meter monitor for Duncan eagle meters).

The ROI analysis does not include some of the softer returns, for example with the Streetline meter monitor for your Duncan meters we can alert you when a meter is down including the reason (coin jam etc.) allowing your meter shop to repair faster and start re-generating meter revenue faster.

We have also not included the ROI for congestion reduction through the use of parker and parker map for merchants; this will increase commerce resulting in higher sales tax revenue for the city.

**ASSUMPTIONS (Provided by City)**

<b>Assumptions</b>	
<b>METERED SPACES</b>	
Meter violation fine	\$ 45.00
Meter violations written per year	6,208
Annual expired meter violation revenue	\$ 279,360
Divided by number of spaces (146 IPS + 162 Duncan)	\$ 308
Average violations per space per year	20.16

<b>ON STREET TIME ENFORCED OVERSTAYS</b>	
Overstay fine	\$ 45.00
Overstay violations written per year	1,002
Annual overstay violation revenue	\$ 45,090
Divided by number of spaces (418 street+ 51 lot)	469
<b>Average violations per space per year</b>	<b>2.14</b>

**Notes**

Quantities and assumptions made are based on information collected and stated in the assumptions; improved productivity may differ based on the policy and adaptation of

the city. The numbers presented in this ROI analysis are for modeling purposes only and not a guarantee of results.

Pricing and ROI assumes a total of 777 spaces to be instrumented with Streetline sensors made as follows:

- 469 non-metered time-enforced spaces
- 146 metered spaces using IPS meters integrated with the Streetline system
- 158 metered spaces using Duncan Eagle meters with a Streetline meter monitor installed
- Assumes a contract term of 36 months.

With Streetline there are never additional fees such as communications, data, batteries, maintenance etc. Streetline fees are all inclusive.

## Streetline: Additional Information

### Industry Experience

Streetline has recorded more than 190 million parking sessions from its real-time smart parking deployments across the U.S., (California, Delaware, Florida, Indiana, Maryland, Massachusetts, Michigan, Nevada, New Jersey, New York, Oregon, South Carolina, Virginia, Washington, DC.), and Europe (in the UK, Germany, and France). Streetline is the leader in parking sensing equipment and applications.

### Customer Feedback



"The reports we are getting from the Client Services team at Streetline **are invaluable**. We get to see what's happening in our city in terms of parking, **in real-time, and compare that to historical data**. That is the way **informed and educated decisions** are made to improve the city"

- Lisa Costa Sanders, City Planner for City of San Carlos



"[Streetline and Cisco's smart parking platform] is consistent with San Mateo's strong technology industry and is an example of the City's commitment to **efficiently managing parking to support our downtown.**"

- City of San Mateo, California



"...the system has paid for itself in spades. **'The merchants I'm talking with are thrilled...because the system has freed up prime spaces and eased the city's perceived parking crunch.'** "

- Ken Ulman, County Executive, Howard County, MD  
from *Parking Revolution – American City and County Magazine*



“At Oregon State we value diversity [...] the purpose of this project is to **facilitate access** for people with disabilities, but this technology will also **benefit all commuters to campus.**”

- *Oregon State University*



"We have exceptional experience with [Streetline's] performance, and **we trust them as a service provider.** The user interface, both for consumers, as well as parking enforcement officers, is exceptional.”

- *Jaime De La Vega, General Manager, LADOT*



“**We are constantly looking for ways to make life easier for visitors, commuters and residents while lessening our carbon footprint...with Streetline's smart parking platform, we achieve both of these goals and more.**”

-*Mitchell Karon, Executive Director of New Brunswick Parking Association*



“We're seeing **improving parking conditions already,** and we've received calls from **residents thanking us for the parking app** in those locations... We're seeing more revenue because it's efficient. People have the ability to find spaces instead of getting frustrated and driving off. They can find city parking locations quickly and very efficiently.”

- *Brian McKelligett, Parking Services Manager, City of Fort Lauderdale*



## Awards and Recognition



As featured in the Wall Street Journal, USA Today, Wired, Forbes, Reuters, Bloomberg News, and on CNN, Fox, NBC, and CBS, among many others, Streetline is making parking simpler for drivers and more financially sustainable for cities. The company was named one of Fast Company's 10 Most Innovative Companies in Transportation, as well as IBM Global Entrepreneur of the Year. In October 2012, Streetline was named a finalist for the prestigious 2012 World Technology Awards. Recognized as one of today's most innovative companies by the following organizations:

**June 19, 2013**

[Frost & Sullivan 2013 North American Intelligent Parking Solutions Competitive Strategy Leadership Award](#)



Frost & Sullivan, a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies, awarded Streetline with the 2013 North American Competitive Strategy Leadership Award in Intelligent Parking Solutions.

**February 26, 2013**

[Parker Named Best Mobile Innovation for Smart Cities at 2013 Mobile World Congress](#)

The Global Mobile Awards recognize excellence and innovation within the mobile communications industry. To select the winners for the 2013 awards, more than 160 independent analysts, journalists, academics and subject matter experts throughout the world participated in the judging process. Parker™ by Streetline was revealed at Best Mobile Innovation for Smart Cities at the 2013 GSMA Mobile World Congress in Barcelona.

**October 20, 2012**

[Streetline Named Top 20 for appAttack Awards at GMIC SV 2012](#)



The appAttack Awards, a global competition for the latest and greatest mobile apps, selected Streetline in the Top 20 apps at the Global Mobile Internet Conference Silicon Valley.

**October 17, 2011**

[Winners of the 2011 Wall Street Journal Innovation Awards](#)



From computing systems to wireless, the most innovative technologies by category. The Innovation Awards judges chose winners in 16 categories this year.

**June 23, 2011**

[Cool Vendors in Automotive, 2011](#)



Coolness in 2011 often involves delivering and consuming services to result in stronger business outcomes. The increased focus on service delivery and consumption is part of a consumer-driven desire for technology to take a back seat in favor of good service. This behavior is a continuation of trends we outlined in the 2010 Cool Vendors' reports — namely a focus on enabling people to deliver better business results through consumption of both services and technology.

**May 2, 2011**

[TechAmerica Foundation Names Streetline a 2011 American Technology Awards Finalists](#)



TechAmerica Foundation today unveiled the finalists for the American Technology Awards, which bestows the only national "Best Of" awards that recognize all technology products and services across the technology industry. Nominations for the American Technology Award's "Terman" awards were vetted by industry experts and technology companies. These awards were named after Frederick Terman, who is widely credited as being the father of Silicon Valley.

**April 18, 2011**

[Streetline, Inc. Named 2011 TIE50 Finalist](#)



Silicon Valley's premier annual awards program contested by technology startups worldwide. Other participant privileges include significant investor exposure, online virtual showcasing and technology and business partnering/networking.

**March 14, 2011**

[The 10 Most Innovative Companies in Transportation](#)



Streetline – For smart-parking and traffic-control technology. Streetline has spread to seven cities, including New York and Los Angeles. The aim is to have 15 percent of all parking spots open at any given time.

**November 18, 2010**

[Streetline Named IBM Global Entrepreneur of the Year](#)



IBM today named Streetline the IBM Global Entrepreneur of the Year and winner of the 2010 SmartCamp World Finals in Dublin, where the company announced plans to expand its Global Entrepreneur initiative and future SmartCamps in emerging markets including Brazil, China, Mexico, Poland and Turkey. Streetline, which uses sensors that allow citizens to find inexpensive parking fast while helping cities manage their parking resources more efficiently, was selected from more than 600 SmartCamp entries worldwide based on its outstanding technology, innovative business plan, and alignment with IBM's Smarter Planet strategy.

## Recent Press

Streetline is regularly covered by the press for its ongoing innovation and developments. Recent articles include:

**May 23, 2013**

[Parking Tech: An Accelerator to the Connected City...the Human City](#)



After years of imagining, the Internet of Things (IoT) is finally here. The Internet is no longer limited to your laptop or smartphone. It's connected to your body, regular household items, car and so forth. Wish you could turn on your lights remotely? Wouldn't it be great to warm up your house on your way home?

**April 9, 2013**

[Video: Mayor Bloomberg Unveils Finding & Paying for Parking in NYC](#)



Watch as New York City Mayor Bloomberg and Transportation Commissioner Sadik-Khan unveil a new program to find parking, as well as pay for parking meters remotely via smartphone apps PayByPhone and Parker.

**April 1, 2013**

[Use an app to find parking](#)



Learn how Streetline works with cities to place sensors in parking spaces and uses data to help drivers find an open spot with our app, Parker™, alongside our CEO, Zia Yusuf.

**March 31, 2013**

[Listen up and you'll find that elusive parking spot](#)



If you have driven into a town centre on a Saturday afternoon, you know the drill: head to your favourite back street looking for a parking space; then, when you discover the bays are full, join the holding pattern of other cars as they circle, waiting for someone to move. Unless you pay a premium for a multistorey car park, or steer clear of town centres altogether, joining a convoy of cars patrolling jam-packed streets in the hunt for a free space is all but inevitable. But this inconvenience could soon become a thing of the past, banished, with other driving annoyances such as wind-up windows, by technology.

**December 4, 2012**


[App aims to make search for parking easier](#)



Watch ABC 7 News go on site with Streetline in the City of San Mateo for the joint Cisco smart parking launch in the cities of San Mateo and San Carlos, California.


**December 4, 2012**

[Streetline Partners With Cisco To Bring Real-Time Parking Info To Cities](#)

 Finding parking is always a chore, but there are new tools and companies coming to make finding a place to leave your vehicle easier than ever. One startup focused on this problem, Streetline, is getting a big boost for its real-time parking data through a partnership with Cisco that could help get its parking sensors deployed in more cities around the country.


**September 11, 2012**

[New Program for Midtown Parking](#)

 There's a parking lot in front of Junkees Clothing Store, and the owner says she's lucky. Too often, she says, other business owners in the area complain the two-hour parking limit in the neighborhood isn't being enforced, and they are missing out on additional customers. "On a business to make it, you've got to turn it and burn it. So the 2-hour parking is perfect to get a sandwich, a coffee, or to go into a dress shop," says Jessica Schneider of Junkees.


**May 21, 2012**

[Video: New Mobile App Locates LA Parking, Prices](#)

 A new program unveiled Monday is poised to change the way Los Angeles drivers find and pay for parking, according to the mayor. The LA Express Park pilot program pairs real-time data from 6,000 parking spaces to a mobile application that lets users find, reserve and even pay for parking through their phones.


**April 18, 2012**

[Boston to get eco-friendly park and charge facility](#)

 Electric vehicle owners will have a new place to charge and park their cars in Boston. Boston real estate developer Dinosaur Capital Partners LLC said Wednesday it will revamp an old gas station in Boston's Bulfinch Triangle and turn it into Green Park & Charge.

**April 10, 2012**

[The Daily Start-Up: Citigroup, Streetline Want To Help You Find That Parking Spot](#)

 Citigroup said it has extended a \$25 million credit facility to Streetline in collaboration with IBM to fund new parking technology for cities around the world. Streetline's platform detects the presence of cars in parking spaces through a network of low-power wireless sensors. This information is then made available to municipal authorities as well as consumers, via the company's Parker application.