

Sternberg Smart City Solutions

Security
Engagement
Energy Management

**SMART
CITY**

A tall, black, ornate street lamp stands in the foreground. At the top, a green light is illuminated. A black, bell-shaped lamp hangs from a curved arm. A digital display is mounted on the pole, showing the words 'SMART CITY' in pink and blue letters above a stylized cityscape with glowing buildings. The background features a city skyline with various skyscrapers under a blue sky with wispy clouds.



Smart Thinking

At Sternberg, our planners are harvesting advancements in sensor miniaturization and wireless control systems, utilizing smart city options and combining them within our solid state lighting. Whereas a light pole in the past was just that — a means to simply support and energize a light fixture — we now recognize it as a far more valuable asset. A singular structure that can include not only an energy efficient LED light fixture, capable of adaptive light levels and wireless internet-based control, but also to house a numerous smart city functions and accessories.

Sternberg's smart city options offer that technology and lighting in one package. Our poles can now house a concealed camera

capable of recording daytime images, video and proximity sensors, providing an easy, cost effective street level surveillance system.

Communication, environmental awareness, and safety are greatly enhanced when lighting controls are coupled with our advanced sensor technologies. Managers of public and private properties can use these features to create an environment, keep traffic and pedestrians safe and moving, offer music entertainment and timely messaging that creates a total experience for visitors.

The inclusion of optional digital banners and signage provides a potential revenue stream that contributes to making these solutions economically viable.

Features Overview



Integrating Smart Components

ECM integrated within Luminaire:

The ECM (Electronic Control Module) is integrated with into our series of select Sternberg luminaires, with our 910 Fitter at the pole level.



ECM Integrated into Pole



PTM Separate Housing

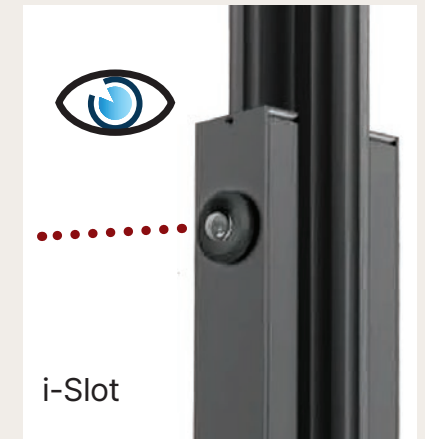
PTM attached to Luminaire:

The PTM (Post Top Module) is a separate housing that includes the same features but allows for controlling virtually any style of Sternberg LED luminaire without modification.

Street Level Surveillance

With an increase in security threats, our advanced camera technology provides a platform to assist institutions in protecting its citizens and critical infrastructure. Monitor snow, traffic, flooding, and crowds all through our self contained 4G camera solution.

- Record on motion
- 360-degree fixed view with digital zoom
- Can trigger the LED Banners and beacons
- Can trigger audio messages
- Cost Effective



i-Slot



PTM

Remote Control

Our easy to use interface system supports emergency management with instant stored and recalled messages. On-demand uploading of graphics and automated messages can be triggered from sensors like weather, water and air quality.

- Lighting Controls
- Digital Banner Control
- Scheduling on the Go
- Site Map
- Pole Status
- Real-time Emergency Management





RGB Notification Beacon

Our RGB indicator beacon contains 4 selectable colors, Red, Blue, Green, Amber, that can remain static, flash, and even strobe in sequence indicting traffic routing.

Indicator lights can alert motorists and pedestrians of water on roads, snow removal, accidents, and home security threats. Or can be used to highlights holidays like St. Patrick's Day, Christmas, and the 4th of July.



E. State Street in Cassopolis, Michigan displays alternating red and green beacons for the Christmas Holiday Season.

Visual Communication with Digital Graphics

Our digital LED banners are mounted on pole assemblies providing 2-sided custom graphics in still or video formats. Emergency messaging for weather, crime or road repair can be triggered wireless to appear on demand for critical situations.

- Community messages
- Local business advertising
- Safety & emergency alerts
- Sporting & concert events
- Holiday celebration
- Way finding signs
- Road closures & detours





9:00pm **100%** Brightness



2:00am **60%** Brightness

Cost Saving Lighting Controls

An important commodity for shopping mall parking lots, sports complexes and other venues is the ability lower light levels after off-peak hours. With that in mind, we designed our Smart City dimming system to provide significant energy savings by giving you the ability to lower the lumen output at your command.

With the on-demand light levels, you can adjust your lumen output from zero to 100%. Control and set dimming levels after hours, and control the on and off times with astronomical clock and/or photocell at dawn and dusk. With Aggregate Intelligence, our light sensors share data across many lights to determine on or off times. Our user interface will show you light locations, status, GPS location and energy usage.

360 Degree Audio Control

The ability to provide festive music accompaniment, and to communicate and alert is key to providing safety and security in today's world. Our concealed placement speaker (CPS) provides 360 degree sound with stunning clarity able to air a variety of music and alert notifications.

- Announcements for public safety
- Play list of audio tracks, commercials
- Community announcements
- Holiday parades and holiday celebrations
- Weather alerts



Stealth Wi-Fi

Our concealed Wi-Fi antennas, will provide Wi-Fi and a Wi-Fi Access Point in the pole base, taking public connectivity to the next level.

- Integrated Wi-Fi antennas
- Invisible on the pole
- Water tight housing



Air Quality Sensors

- Reports all dangerous particulates and gases
- Triggers LED banner to report quality in real time
- Triggers video, audio and light beacons
- Can report dangers by e-mail



Water & Weather Sensors

- Reports water over curb
- Counts lightning strikes (5 miles)
- Wind gusts create alerts and notifies public officials
- Triggers beacons, audio, and LED banners to warn motorists



Push Blue Emergency Call

Enable your Sternberg pole assembly into a security station that includes 2-way communication that provides up-to-the-second information to first responders. The fixture will brightly light up, the indicator light flashes, cameras are activated, while 911 emergency responders are alerted.

Info Button

The push button can also be configured into an information button. Providing information for attractions such as historical sites, outdoor museums and zoos.



Sternberg Applications

Cassopolis, MI
Omega™ 1527LED

- PMT
- Digital LED Banners
- On-Off Dim Control
- Wi-Fi
- Push Blue Buttons
- Gateways



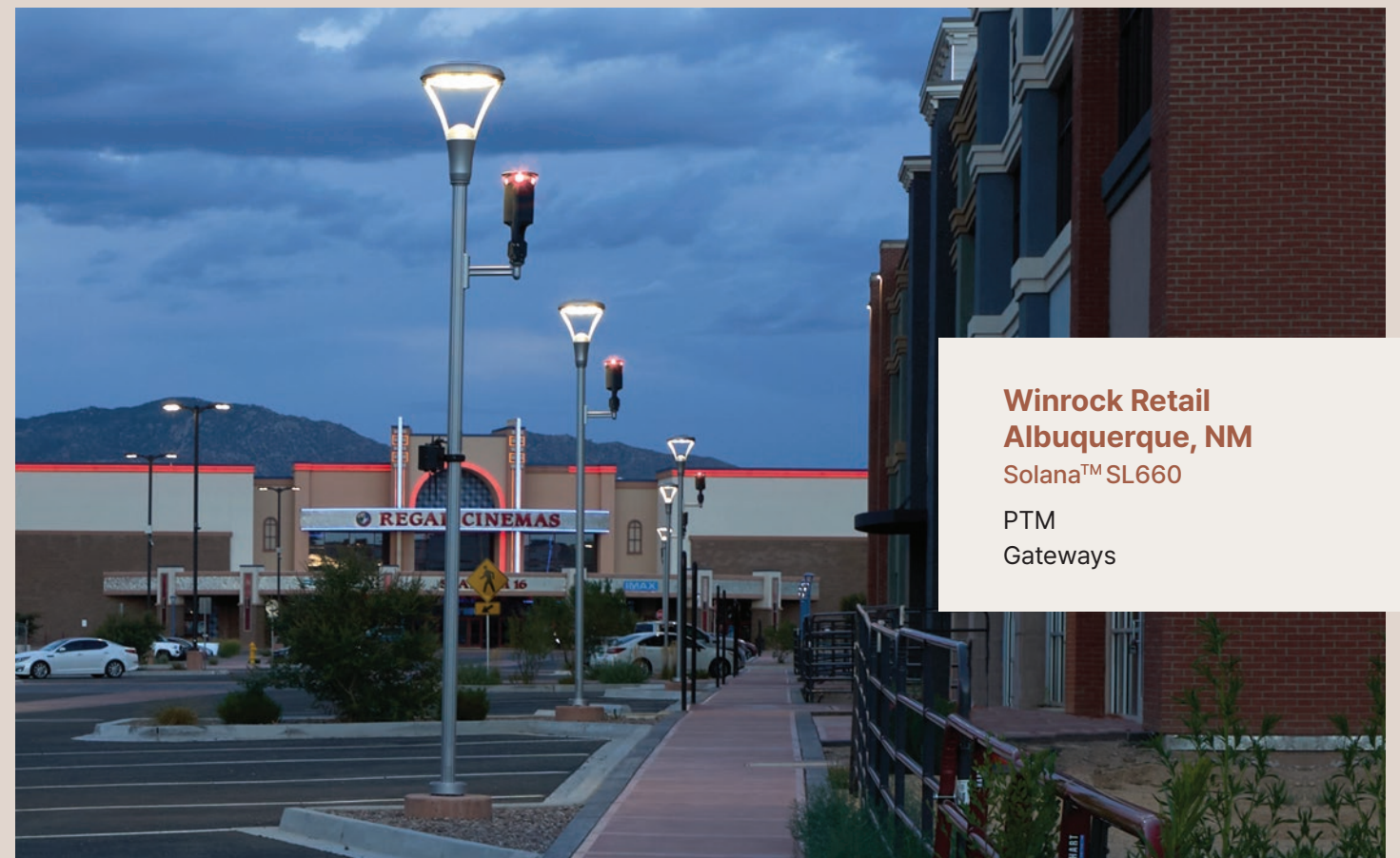
Gulfport, MS
Old Town A850SRLED

- ECM
- Facade Lighting
- Gateways



**Winrock Retail
Albuquerque, NM**
Solana™ SL660

- PTM
- Gateways



Herndon, VA
Yorktown A85LED

PMT
On-Off Dim Control
Wi-Fi
Gateways



Los Angeles, CA
Glenview 1940LED

PTM
Weather Station
Wi-Fi
Gateways



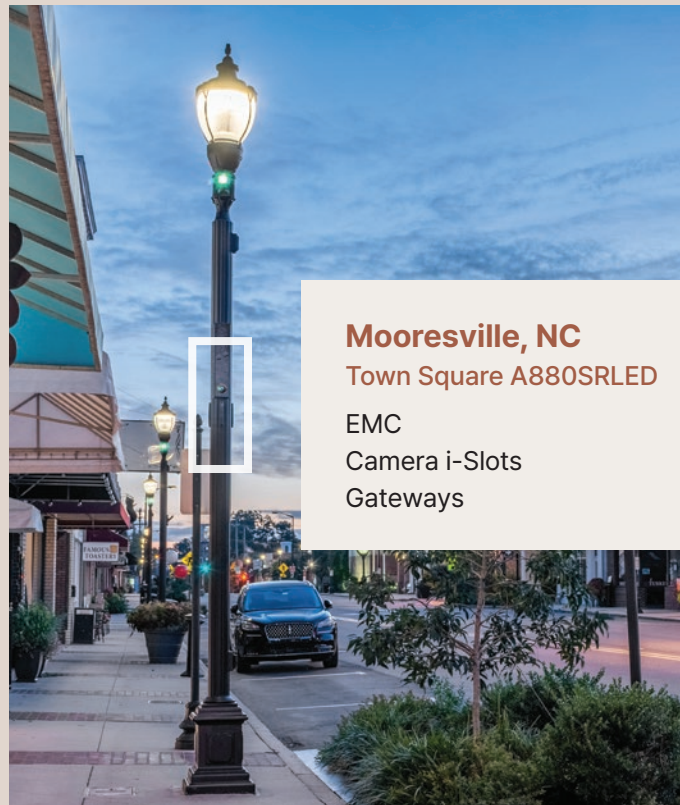
St. Cloud, MN
Town Square A880SRLED

ECM
Digital LED Banners
Gateways



Mooreville, NC
Town Square A880SRLED

EMC
Camera i-Slots
Gateways



Palmetto Bay, FL
Euro E420LED

PTM
On-Off Dim Control
Gateways





Smart City Solutions

Located in Roselle, Illinois
Engineered, Tested and Assembled in the USA!

Sternberg has created a legacy of old world craftsmanship that dates back to the company's inception in 1923. The work ethic and product innovations that made the early Sternberg company successful are still being practiced by our employees today. Our dedicated staff, attention to detail, and quality production processes are what make Sternberg a world class company.

Sternberg serves the municipal, landscape, higher education and commercial markets providing efficient and cost effective lighting solutions to the outdoor market.



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