

# WIVENHOE MANAGEMENT GROUP

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## **Protecting the Rear Perimeter of a Troubled Hi-Rise Property with a New Advanced Surveillance Deterrent System A Case Study**

### **Introduction:**

With low income Hi-rise developments, there are typically many security problems, both inside and outside the property. Perhaps one of the most difficult areas to control is that of the rear perimeter of such properties.

This is a brief overview of how one property management company improved perimeter security at a troubled, low income housing complex in an area of high crime, and where there was a history of criminal incidents. These incidents included drive-by shootings, home invasion, assault, theft, and an alleged gang rape.

For security reasons, the name of the particular building and the exact location has been withheld but all other factors are entirely as they happened and reflect accurately the nature and detail of the initial findings of a Vulnerability Assessment (VA), the recommendations for rear perimeter security and the successful implementation of an advanced surveillance deterrent system.

### **Background Data:**

The property comprises a 15 story high rise building built in 1971 comprising some 196 low income residential apartments, and is located in Trenton, New Jersey. The building also includes a basement area that currently houses the laundry area and part of the maintenance area. The basement area and one section of the ground floor exit on to the rear and side of the building

As will be seen from the photo on the next page, the property stands sideways to the main road and the front entrance shown in the picture is not used as the main entrance. The main entrance for tenants is at the end of the front driveway. The rear area includes a dumpster unit, a children playground, basketball area, and is adjacent to a number of private residences, as well as empty derelict housing.

There is also a parking garage for tenants across from the rear area of the building.

## Background Data (Continued):



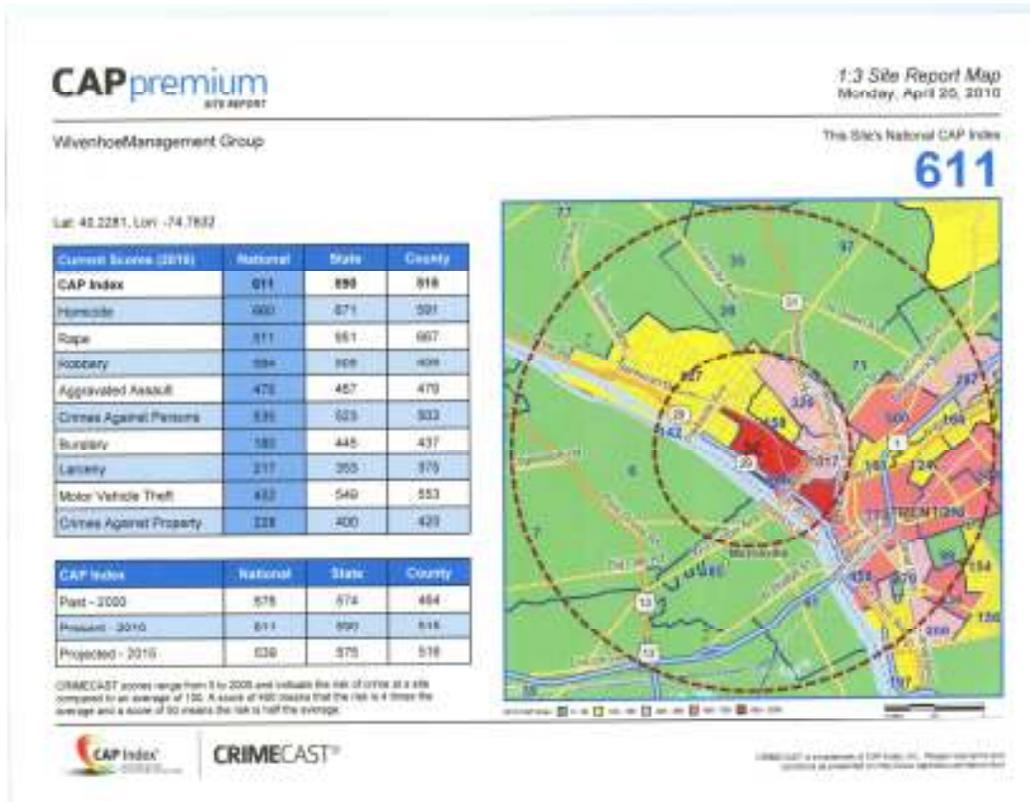
As was already mentioned, the building location is in a high crime area in Trenton, New Jersey. A CAP Index Report (based on FBI crime statistics) included the two diagrams identified as **CAP Index A** and **CAP Index B** below.

In the first diagram, the areas shown in **RED**, or variations of **RED** indicate high crime sections. The **GREEN** sections indicate low crime rate areas. Unfortunately, Trenton has one of the highest crime rates in New Jersey. In comparison to the National Crime rate, the area where the property resides has an overall crime rate that is 6.11 times the National rate. CAP Index A also shows types of crime in comparison to the National average. In many cases such as Homicide and Robbery, etc., the CAP Index score is significantly higher than the National average.

Also shown following the CAP Index diagrams are example photos of the rear of the building and adjacent infrastructure providing a grim background picture to the rear perimeter. Prior to implementing the new advanced surveillance deterrent system, the rear area was home to general loitering, tenant children throwing stones and other objects that broke windows in the adjoining private residences, attempted break-ins to the building, the breaking of rear and side windows to the property, and suspected drug dealing.

**Following implementation of the new surveillance deterrent system, that is no longer the case.**

**Background Data (Continued):**



**CAP Index A**

In CAP Index B, the diagram shows past crime rate scores by crime category, the current scores, and the projected scores by crime category for the Building location.

It is believed that the projected scores have been revised to reflect the economy police layoffs that were recently found necessary and where more than one third of police officers were cut from the Trenton police department.

As a result, crime rates have continued at the same or greater score illustrated in the CAP Index report.

## Background Data (Continued):



1:3 Site Report Scores  
Monday, April 26, 2010

WivenhoeManagement Group

This Site's National CAP Index

# 611

Current Scores (2010)	National	State	County
CAP Index	611	590	515
Homicide	660	671	591
Rape	511	951	667
Robbery	554	505	459
Aggravated Assault	475	467	479
Crimes Against Persons	535	523	503
Burglary	180	445	437
Larceny	217	353	375
Motor Vehicle Theft	432	549	553
Crimes Against Property	225	400	420

Past Scores (2000)	National	State	County
CAP Index	676	574	464
Homicide	670	652	522
Rape	682	1009	646
Robbery	628	484	410
Aggravated Assault	544	470	469
Crimes Against Persons	595	511	468
Burglary	258	513	490
Larceny	316	367	398
Motor Vehicle Theft	550	610	567
Crimes Against Property	330	425	449

CAP Index	National	State	County
Past - 2000	676	574	464
Present - 2010	611	590	515
Projected - 2015	539	575	516

Future Scores (2015)	National	State	County
CAP Index	539	575	516
Homicide	603	662	610
Rape	410	858	644
Robbery	532	504	465
Aggravated Assault	420	454	475
Crimes Against Persons	471	509	503
Burglary	141	383	387
Larceny	166	313	333
Motor Vehicle Theft	343	493	526
Crimes Against Property	173	348	370

CRIMECAST scores range from 0 to 2000 and indicate the risk of crime at a site compared to an average of 100. A score of 400 means that the risk is 4 times the average and a score of 50 means the risk is half the average.

**Notes:**

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**Background Data (Continued):**



**Derelict Building at Rear**



**Rear Side of Building**

## Background Data (Continued):



**Dumpster & Part of Basketball Court**

### What To Do?

The property management company required a solution that would integrate with a new integrated security system for the property, went beyond simply recording what happened, that would be virtually automated in detecting and deterring security incidents at the rear perimeter, and would also be cost/effective as available funds were at a premium.

The security consultant team recommended a new Surveillance Deterrent system known as Future Sentry ([www.futuresentry.com](http://www.futuresentry.com)). The system comprises three main elements.

### The Future Sentry Solution:

The first element is an **automated tracking platform** which includes, in this case, a Panasonic IP 1.3 Megapixel camera (WV-502 Series), and a dual set of high intensity LED light units. The platform has the capability to revolve 360 degrees, but in the building rear area situation, 180 degrees was adequate.

## The Future Sentry Solution (Continued):



**Manufacturer's Photo of Typical Tracking Platform Equipped with Non-Panasonic Analog Camera**

The automated tracking platform is shown above and it should be noted that the platform has its own IP Address. The platform unit is weatherproof.

The second element that allows the **automated tracking platform** to track intruders entering the perimeter is a series of **Wireless, Solar Powered PIR Sensors**. The sensor is shown below:

## **The Future Sentry Solution (Continued):**



### **Future Sentry Solar Powered Wireless PIR Sensor**

The wireless sensor can be mounted virtually anywhere provided there is reasonable access to sunlight for minimal periods. It has been proven that exposing the wireless sensor unit to six hours of sunlight, will allow the solar charged battery to operate the unit for a minimum period of 80 days.

In the case of the Trenton Hi-Rise Building, only six sensors were required mounted on the wall of the building, and even on a tree.

The third element is the ability of the IP camera to be integrated with the new security system, such that the camera view is part of one or more of the video monitors being utilized in the security booth within the building.

## **Method of Operation:**

The operation of the Future Sentry system is transparent to the security guard personnel in that the wireless sensors detect an intruder crossing the PIR beam (there are three types of PIR lens supplied with the sensor), which in turn trigger the automated tracking platform.

The platform, when triggered by a sensor reacts in the following manner:

1. The high intensity LED light units will immediately flash several times before reverting to a solid illumination that can be seen almost half a mile away.
2. The platform will move to the location of the sensor where the intruder is, moving a little to the left and a little to the right of the intruder position, just as a security guard would do operating a PTZ camera.
3. The camera records the intruder incident subject to actual light conditions. The use of the Panasonic 502 series camera has been singularly successful in operating in low light conditions.
4. The consultant team devised a method where an alarm move by the automated tracking platform would be seen by a fixed exterior perimeter camera, thus triggering a priority alarm condition for the security guard in the security booth.
5. The light units and camera will continue to focus on the intruder, or follow the intruder as he triggers additional wireless sensors in the rear perimeter area.
6. In most cases, the intruder does not stay to see what happens, but as soon as the platform comes to life and the light units begin flashing, the individual or group of individuals realize that they have been discovered along the perimeter and immediately run away from the scene.
7. It is this **Deterrent** capability that has been particularly successful in reducing the previously high level of incidents taking place at the rear and side of the property to virtually none.

## **Result Summary:**

In almost six months of operation, there has not been a single incident at the rear and rear side of the property. The Future Sentry equipment has performed flawlessly and completely in keeping with its original intent.

The security guards and building management have been able to monitor the system as part of their overall camera monitor coverage and are exceptionally pleased with results to date.

It should also be noted that where there was concern that the automated tracking platform would be quickly vandalized and put out of operation, there has been no attempt to carry out such actions.

Loitering at the rear has effectively disappeared; there have been no stone throwing incidents, and attempts to smash windows at the rear and side of the building have effectively stopped.

The consultant team at Wivenhoe Management Group have now recommended and specified the **New Advanced Surveillance Deterrent System** for other projects, not only in the hi-rise property management field, but in many other industries including chemical, industrial, water and waste water, and education to name a few.

For additional information, please contact the following:

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