



PUBLIC

Defenders

PROTECTING AMERICA'S CITIES, PORTS, BORDERS AND AIRPORTS REQUIRES NEW TECHNOLOGY AND NEW TACTICS. HERE'S A LOOK AT WHO'S DOING IT RIGHT.

No one sees them coming. There are no flashing lights, no sirens. The black Suburban simply glides out of Fifth Avenue traffic and pulls into a no-parking zone in front of the Empire State Building.

Moments later, four men spill out in combat helmets and heavy body armor: Two carry submachine guns; the others, snub-nosed shotguns.

Camera-toting tourists stop jabbering and stare at this intimidating new presence, their faces a mixture of curiosity and fear. Even jaded New Yorkers, many of whom work inside the midtown Manhattan landmark, look impressed.

A stone's throw down the sidewalk, Abad Nieves watches the scene unfold. Nieves is a detective with the Intelligence Division of the New York Police Department (NYPD).



A heavily armed Hercules team makes a show of force outside a midtown Manhattan office building.

BY BRAD REAGAN
PHOTOGRAPHS BY ALEX MAJOLI

Casually clad in slacks and a black leather jacket, he monitors the response of people loitering in the area. Is anyone making notes or videotaping? Does anyone seem especially startled by the out-of-the-blue appearance of a heavily armed NYPD squad?

On this day, Nieves doesn't see anything overly suspicious, but he is pleased that the deployment created a strong impression. Known as a Hercules team, it makes multiple appearances around the city each day. The locations are chosen either in response to specific intelligence or simply to provide a show of force at high-profile sites.

"The response we usually get is, 'Holy s---!'" Nieves says. "That's the reaction we want. We are in the business of scaring people—we just want to scare the right people."

The people the NYPD hopes to scare are the ideological brothers of the Islamic extremists who have successfully attacked New York City twice in the past 13 years. To stop these terrorists, the department fundamentally changed the way it protects the city after 9/11.

At 51,000 strong, the NYPD employs more than 1.5 times as many people as the FBI, and its anti-terrorism initiative is a synchronized effort between the department's Intelligence Division and the Counter Terrorism Bureau. The Intelligence Division coordinates the Hercules teams, which are composed of specialist cops rotated in from throughout the force. The Counter Terrorism Bureau takes on a more focused role, functioning as the department's think tank on terrorism prevention and overseeing various subdepartments such as the NYPD/FBI Joint Terrorist Task Force. The effort even stretches far from New York, with nine liaisons assigned to such overseas hot spots as Tel Aviv, Israel; Amman, Jordan; and London.

New York has become a testing ground for urban terrorism prevention in a major city, integrating new thinking and sophisticated technology into every level of the force. And, the lessons learned are beginning to influence police forces in other cities. In 2004, Los Angeles launched Operation Archangel to identify possible targets and to develop protection plans for them, and the Chicago Police Department earlier this year began providing five days of terrorism training to all of its 13,500 officers. Several big cities, including Washington, D.C., Las Vegas, Los Angeles and Chicago, even formed a network to gather and share intelligence—an interagency version of what New York built in-house. The NYPD provides valuable consultation to many other local police departments and even state and federal agencies, from the Department of Defense to the Illinois State Police. In fact, international police forces from the Netherlands, Singapore and other countries have sent representatives to the NYPD to learn its tactics.

"Clearly, New York is way in front on this," says Brian Michael Jenkins, a terrorism expert with the Rand Corp. "As the threat gets more diffused, we are going to have less of the kind of intelligence that can be picked up by the feds. We are dealing now with threats that are deliberately operating under the radar. Therefore, we have to aim the radar lower, to the local level."

Although there have been no attacks in New York since 9/11, police officials work under the assumption that Al Qaeda and its sympathizers are constantly plotting against the city. As an example, they point to a 2002 plan by an Ohio truck driver named Lyman Faris to bring down the Brooklyn Bridge by cutting its cables. Hercules teams are frequently stationed on the bridge, and the department keeps a boat in the waters beneath it at all times. Faris, who later pleaded guilty to aiding Al Qaeda, ultimately called off the operation with a coded message reading: "The weather is too hot."

THE DEPARTMENT'S COUNTERTERRORISM CENTER LIES IN AN INDUSTRIAL BROOKLYN NEIGHBORHOOD MILES FROM MANHATTAN. BUT THE ONE-STORY, RED-BRICK BUILDING BETRAYS NO sign that this is a police facility. The cars parked behind the building are unmarked and the only access is through a remote-control door monitored by closed-circuit cameras. (POPULAR MECHANICS visited on the condition that we would not photograph the outside of the building or give exact details of its location.)

The vibe here is more 24 than *NYPD Blue*: Plainclothes detectives with the Terrorist Threat Analysis Group sit in front of computer screens, poring through classified intelligence briefings. In the adjacent Global Intelligence Room, specialists in Farsi, Arabic and Pashto, among dozens of other languages, monitor jihadist chat rooms and translate mountains of audio recordings.

"The concept of a place like this did not exist before 9/11," says Lt. Patrick Devlin, a threat and risk assessment specialist with the Counter Terrorism Bureau.

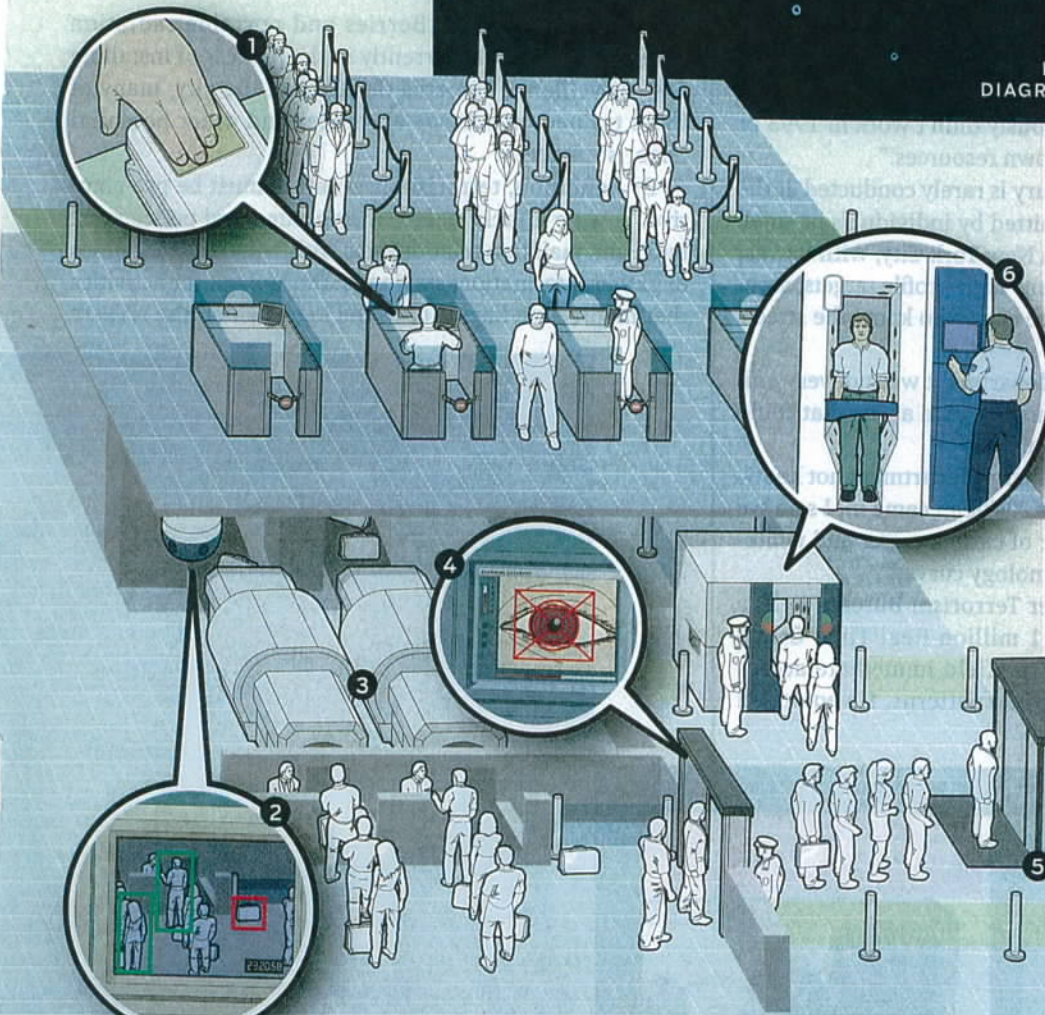
New York's terrorism initiative is the brainchild of Police Commissioner Raymond W. Kelly, who assumed the department's top job for the second time (he also held the post in the early 1990s) a few months after 9/11. He previously worked for Interpol and served as undersecretary for enforcement of the Treasury Department, but he is known within the NYPD as a cop's cop. Kelly is the only commissioner in the department's history to have worked his way up from cadet.

"There is clearly a consensus in the intelligence commu-

>>> **"WE ARE DEALING NOW WITH THREATS THAT ARE DELIBERATELY OPERATING UNDER THE RADAR," SAYS RAND CORP. EXPERT BRIAN JENKINS. "THEREFORE, WE HAVE TO AIM THE RADAR LOWER, TO THE LOCAL LEVEL."**

Airports

REPORTED BY BRAD REAGAN
DIAGRAMS BY FLYING-CHILLI.COM



Sept. 11 presented an unavoidable imperative to overhaul airport security. The process has hardly been troublefree, but technology that's emerging from these efforts has tremendous potential to make airline travel safer and more convenient. Randy Null, head of the Transportation Security Administration's (TSA) technology lab, acknowledges that "there is no such thing as a technological silver bullet with 100 percent detection and no false alarms." But he envisions that one day many of the devices shown here may merge into a single portal that identifies bad guys and detects weapons and explosives without intrusive body checks. The rest of us will stroll through without even slowing down.

1 Fingerprint scan: The US-VISIT program runs fingerprint data and photographs of incoming foreign travelers against an FBI database. The program currently scans only two fingers but TSA is researching options like Identix's four-finger "slap" scan (shown), which should improve the accuracy of background checks.

2 Surveillance cameras: "Intelligent video" software can monitor hundreds of video feeds at once and alert airport officials to potential problems, such as unattended baggage or security breaches. Software developed by ObjectVideo with funding from DARPA is used at 17 commercial U.S. airports.

3 Luggage scan: Sixteen airports so far have shifted to automated in-line scanners, which can process three to four times more bags per hour than most current systems—and don't require passengers to lug heavy bags across airport lobbies.

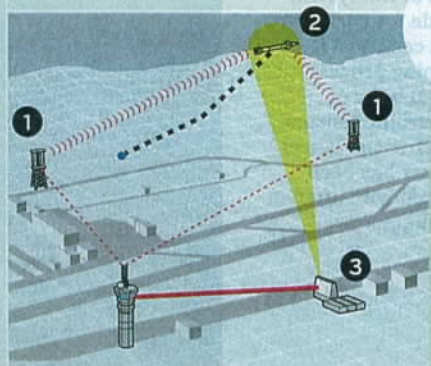
4 Iris scan: Sarnoff is developing the Iris on the Move System that can scan eyes as passengers walk toward it at a normal pace. It could one day identify

preregistered frequent travelers and let them skip to the front of checkpoint lines.

5 X-ray: Backscatter machines (so called because their X-rays "scatter back" to the sensor), such as the one made by Rapiscan Systems, see through clothes and highlight items of unusual density, including plastic explosives, guns and other metal items. TSA considers the machines promising but has not yet deployed them

in airports, in part because of concerns about the anatomical detail they reveal.

6 Explosive detection: Walk-through "puffer" machines like Smiths Detection's Ionscan Sentinel II spray passengers with puffs of air that dislodge tiny particles from clothes, hair and shoes. Those particles are then tested for traces of explosives or narcotics. The TSA approved them last year for use in all U.S. airports.



Missile Detection

As described in PM's September 2005 Tech Watch, Raytheon's Vigilant Eagle system uses infrared trackers (1) to detect exhaust from shoulder-fired missiles (2), then blasts them with microwaves (3) to disorient their guidance systems. Vigilant Eagle costs about \$25 million per airport, far less than the \$11 billion it could cost to equip all commercial airplanes with missile defense systems.

nity that New York is the most desired target," Kelly says. "My thinking was that it would not make sense to sit on the sidelines and let the federal government have the sole role in protecting the city. It obviously didn't work in 1993 or 2001, so I wanted to use our own resources."

Terrorism in the 21st century is rarely conducted at the nation-state level. It is committed by individuals or small groups. Kelly realized that in New York City, with its vast immigrant population and many high-profile targets, security can be handled best by the cops who know the streets and neighborhoods.

Kelly also recognized the department was not very efficient at leveraging its local knowledge in a way that could be applied to counterterrorism.

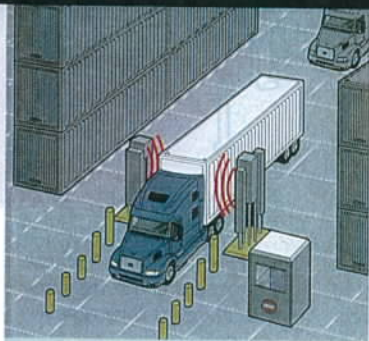
"We were a classic case of a large department not knowing what it knows," Kelly says. "When I came in, I said we were the world's biggest user of carbon paper and white-out. We were behind the technology curve."

In addition to the Counter Terrorism Bureau, Kelly's department has built an \$11 million Real Time Crime Center, giving detectives in the field immediate access to data about suspects and crime patterns. He equipped

street cops with BlackBerries and portable radiation detectors. The city is currently in the process of installing 500 surveillance cameras throughout the city, many of them trained on subway entrances and other potential terrorist targets.

By definition, terrorism prevention must be pre-emptive. To stop attacks before they occur, local police must build and maintain relationships within their communities to gather information, staying on the lookout for activities that might raise flags. That's the logic behind the NYPD's

PROTECTING AMERICA



Ports



Scanners provide a density image (above) of shipping containers.

Of the 11.3 million

containers that enter the country's ports each year, only 6 percent are inspected by U.S. Customs upon arrival.

Simply mandating more inspections could slow commerce and cripple the global economy, says Alane Kochems, a national security expert with The Heritage Foundation. It makes more sense to improve information sharing with foreign ports to identify high-risk containers before they embark. That's the logic of the Container Security Initiative, a voluntary program launched in 2002, which allows customs officials to observe inspections on outgoing containers at 43 international ports.

But high-tech scanners can

find things physical inspectors can't. San Diego-based Science Applications International makes the scanners used by many American ports. The machines detect radioactive material and provide a digital image of a container's contents. In a pilot program last year in Hong Kong, the world's second busiest port, the company launched a more advanced version of the system that records a code for each container so officials can track it through the shipping process.

As an additional layer of security, new electronic sensors from General Electric can detect whether a container has been opened or tampered with after being sealed for shipping.



New York keeps constant watch on its bridges, which are known to be terrorist targets. An Al Qaeda operative pleaded guilty in 2003 to plotting to bring down the Brooklyn Bridge.

Operation Nexus, implemented in late 2002. Nexus reaches out to businesses to collect intelligence and raise awareness about terrorist tactics. The 9/11 hijackers attended flight schools, for example, and now cops have identified 80 other categories of business—everything from martial arts studios to scuba shops—that terrorists might use to acquire training or materials.

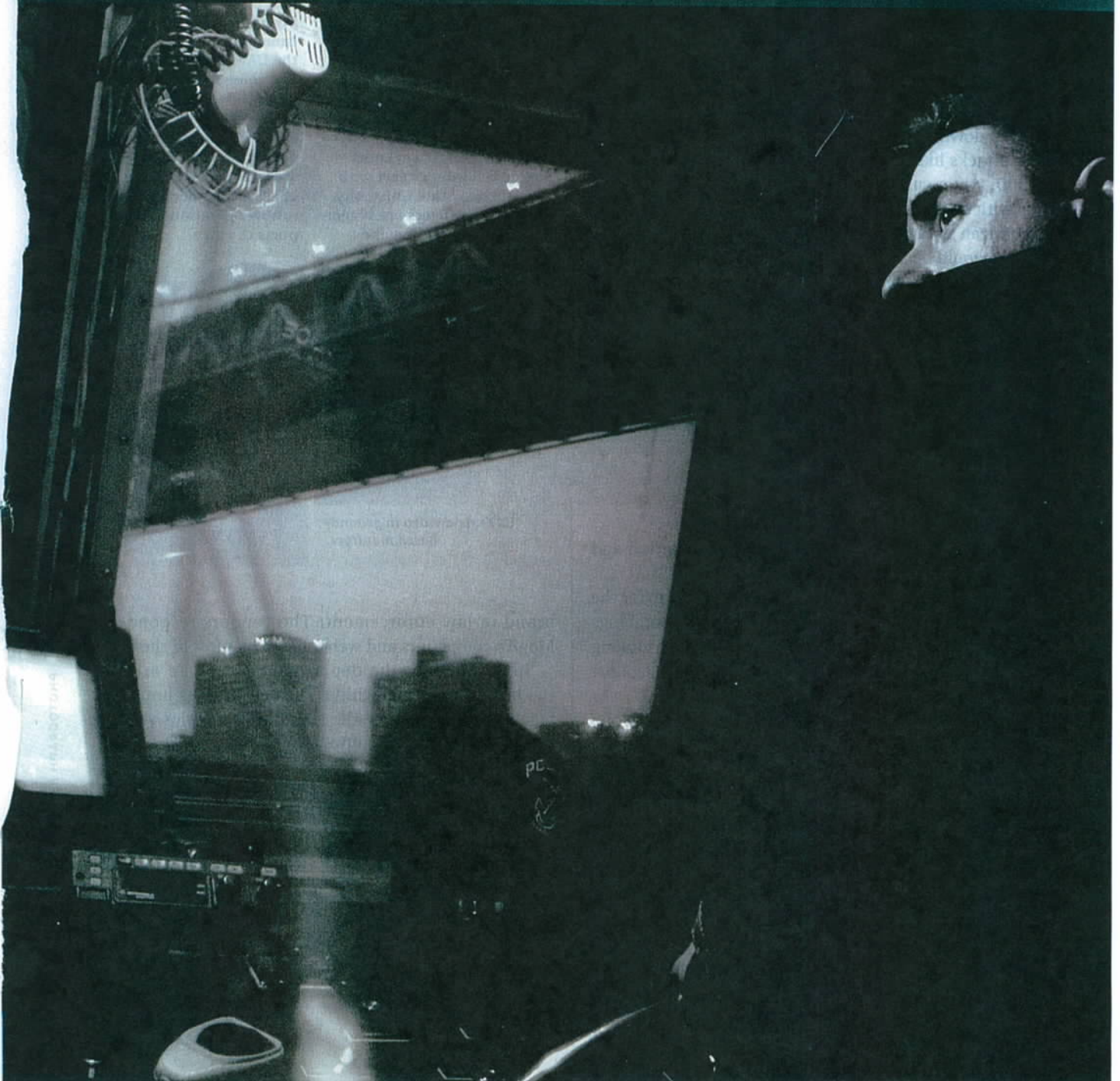
“In order for us to do our job, we have to think creatively and acknowledge that our enemies are also tactically creative and resourceful,” says Lt. Christopher Higgins, who

oversees both Nexus and Hercules. “We have to constantly think: ‘How can this be used against us?’”

Nexus has logged more than 25,000 outreach visits since its inception, and all are detailed in its database. “We know where every castor bean is in the city,” Higgins says, referring to a plant used to make the poison ricin.

Information from operatives abroad is combined with intelligence-gathering efforts within the city. After the London bus and subway bombings in 2005, an NYPD detective was the first foreign law enforcement official on the scene.

>>> **NEW YORK HAS BECOME A TESTING GROUND FOR NEW IDEAS AND TECHNOLOGY IN TERRORISM PREVENTION.**



He reported that the bombs appeared to have been made with hexamine, a compound often used as fuel for camping stoves. Within hours, Nexus detectives had visited every business in New York that sold hexamine fuel tablets.

EVEN THE DEPARTMENT'S AIR AND WATER UNITS PLAY A PART IN THE NYPD'S HERCULES STRATEGY. ONE AFTERNOON, I HOPPED A RIDE ON ONE OF THE HARBOR

Patrol's 55-ft. boats. In addition to its regular duties—"floaters and jumpers, stuff like that," says officer Artie Davis—the boat's crew patrols a daunting number of high-profile targets along the water: the Statue of Liberty, the Brooklyn Bridge, the United Nations, and the vents for the Holland and Lincoln tunnels. After 9/11, the NYPD's 24 harbor boats were equipped with heavy weapons and radiation detectors.

We escort a cruise ship with more than 2700 people on board down the Hudson River, keeping alert for waterborne attacks like the one launched against the *USS Cole* in 2000, when suicide bombers in Yemen drove a boat laden with explosives into the side of the destroyer, killing 17 American sailors.

"That would be a great hit for [terrorists]," Davis says matter-of-factly as we circle the cruise ship.

For the Aviation Unit's airborne patrol, the department last year purchased a helicopter equipped with a high-powered camera that can read a license plate from 2000 ft. Unlike the unit's other six choppers, which are emblazoned with the NYPD logo, this one is unmarked. It regularly monitors crowds at high-profile events, such as the Republican National Convention and New Year's Eve in Times Square.

The NYPD often functions as a real-world test lab for the latest terrorism prevention technology. After the bombings in the London Underground, New York police were looking for new ways to protect their city's subway system against potential bombings.

Sgt. Arthur Mogil, an explosives specialist with the Counter Terrorism Bureau, looked at a range of options, including nonstinging wasps trained to smell explosives. He ultimately recommended portable bomb-sniffing machines that use ion-mobility spectrometry. But they had never been tested in an environment as harsh as the New York City subway system. Some machines proved fragile, while others didn't perform well in cold temperatures. "We're basically doing the field test for everyone else," Mogil says.

It helps that the NYPD is arguably the most valuable

Borders

The Department of Homeland Security (DHS) recently launched a high-tech initiative to improve security along the nation's 6000 miles of international land borders.

But history is not encouraging: A network of cameras and sensors installed in the 1990s was riddled with problems, according to a report by the General Services Administration. Likewise, radar balloons, which monitor movement on the Mexican border, have been criticized for poor performance in bad weather.

"The border is just as porous as it was 25 years ago, if not more so," says Louis Sadler, a border expert with New Mexico State University.

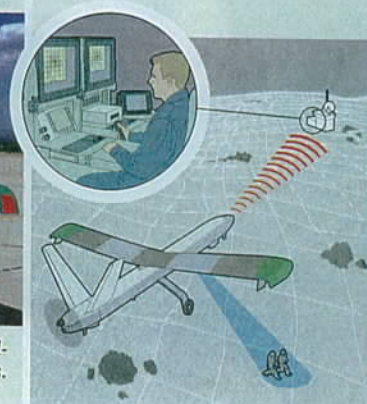
Today's dangers are bigger than drug smuggling and

illegal immigration. In 1999, for example, Algerian national Ahmed Ressay was arrested trying to enter at Port Angeles, Wash., with nitroglycerine and four timing devices in the trunk of his rental car. He was ultimately convicted of plotting to bomb Los Angeles International Airport.

However, there is reason for optimism: An unmanned aerial vehicle proved so effective in a pilot program along the Arizona border that DHS is currently building a fleet of them. With cameras and night vision, the UAV (below) sends a live video feed of activity in unpatrolled areas to ground stations. In addition, the US-VISIT program, which uses biometric fingerprint scans and photographs to check for suspected terrorists, is now operational at 296 ports of entry.



UAVs send video to ground-based monitors.

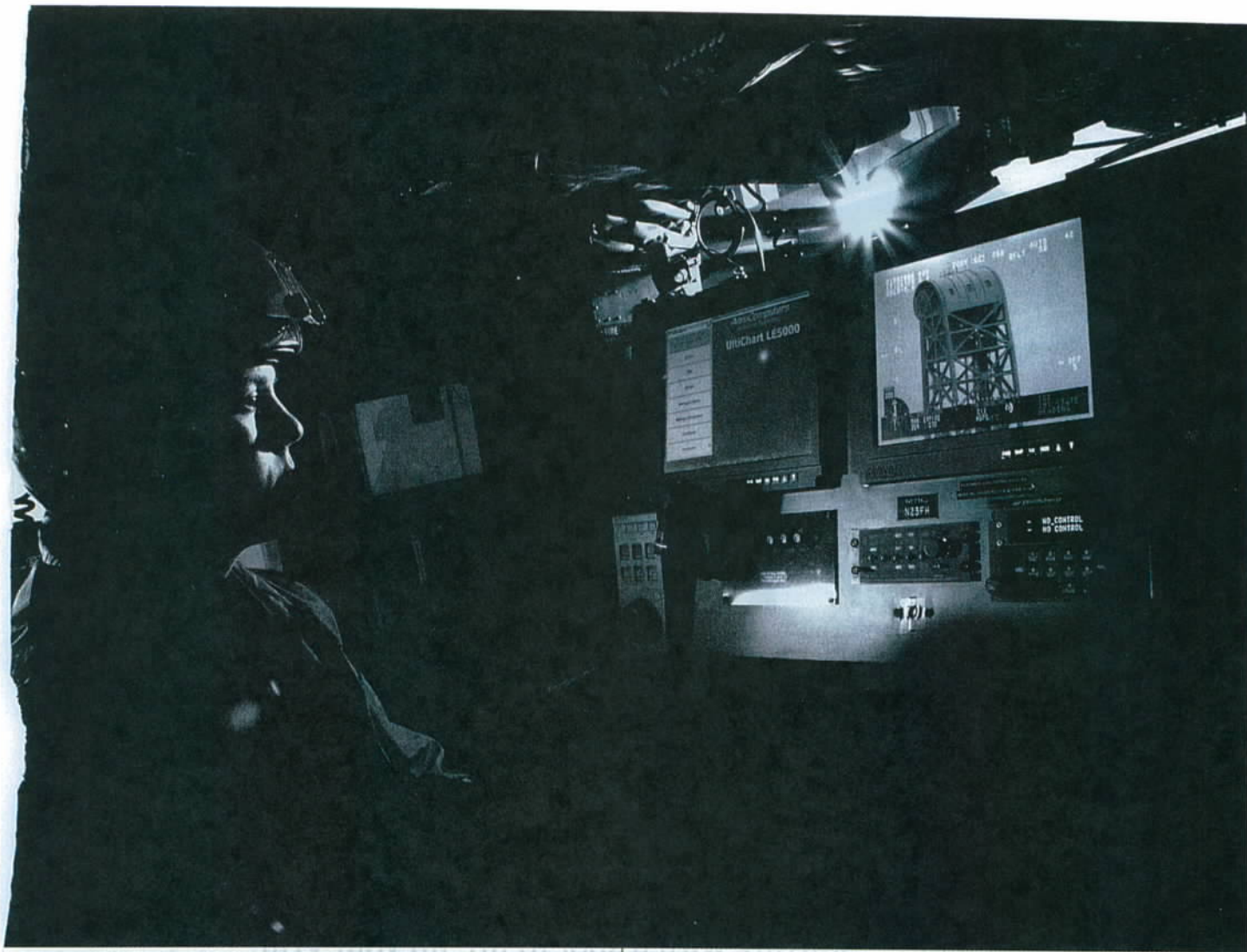


brand in law enforcement: The vendors responded to Mogil's complaints and were able to fix most of the bugs.

In April 2005, the department placed an order for the bomb-sniffing machines. If they work as hoped, the machines may become the standard for explosive detection in mass-transit facilities around the country.

AT 2 PM ON THE DAY AFTER THE HERCULES DEPLOYMENT AT THE EMPIRE STATE BUILDING, 76 PATROL CARS—ONE FROM EACH CITY PRECINCT—DESCEND ON the streets surrounding Lincoln Center for a critical response drill. The Hercules units park trunk to curb in so-called combat parking and wait for orders from their commanders, who step into a mobile command center

PHOTOGRAPH BY JOHN MILLER/AP (UAV)



to meet with inspector Kevin Walsh, a 40-year veteran of the department. As they enter the vehicle, the men acknowledge each other with the standard NYPD greeting: "How you doin'?"

Walsh hands each commander a packet with the day's intelligence briefing. There is no immediate threat to Lincoln Center, he says, but the officers need to be aware of several new developments: First, the controversy over cartoons of the prophet Muhammad inflamed sentiments in some Muslim communities; second, a bomb in Puerto Rico recently was concealed in a heavy flashlight.

"If you see [a heavy flashlight], we need to treat it as a suspicious package," Walsh says.

The operation is designed, in part, to keep patrol cops in tune with counterterrorism concerns. It is also a valuable intelligence-gathering exercise, as the 76 patrol cars will fan out over the city this afternoon to check in with businesses, subway employees, street vendors and others. The officers will ask if anyone has noticed anything suspicious and report their findings to the Intelligence Division.

The exercise also ensures a coordinated response to a terrorist incident. In such an event, the brass wouldn't need to call in off-duty officers or relocate on-duty staff—Hercu-

The NYPD's unmarked surveillance helicopter has a GPS system and high-powered camera.

les units are designated to respond.

The commanders step out of the mobile command center and convene brief meetings with their troops. Then, the 76 cars head down Seventh Avenue to their assigned locations. Lights flashing, they constitute an impressive police presence in the middle of an otherwise peaceful afternoon.

As Walsh watches the cars depart, I ask him how effective the drills are. "When you are talking about prevention, you never know," he says. "It just takes one."

That's the reality of the NYPD strategy. It seems to be working, but it just takes one. And, because most of them lost friends and colleagues on 9/11, NYPD officers know this better than most.

Walsh checks with his commanders over the radio to see if there are any questions. When he is done, a woman in a navy blue overcoat and knit cap approaches.

"What's going on?" she asks, clearly alarmed.

"It's a counterterrorism exercise, ma'am," Walsh says.

"Nothing's wrong."

The woman's face slackens with relief. "Nothing's wrong? Great!"

PM