TOUR REVEALS 'SECRET' CITY
DOWNTOWN HISTORY FOCUS OF PROGRAM

Barbara A. Burch The Commercial Appeal

Most Memphis area residents have visited downtown, but how many people slow down enough to really look at it?
The Tennessee Department of Conservation is offering Memphians and out-of-town visitors an opportunity to do just that.
Ann Martin, a naturalist at T. O. Fuller State Park, is leading twice-weekly downtown hikes that highlight Memphis history and the architectural characteristics of many downtown buildings.
The hikes began in June and the next will be held at 10:30 a.m. Wednesday. Other tours will be at 10:30 a.m. July 14, 18, 21, 25 and 28.
The hikes start at the Magevney House at 198 Adams and end at the A. Schwab dry goods store at 163 Beale. The walking tour takes about two hours and meanders through about two miles of downtown.
Miss Martin, who has worked as a naturalist at Fuller for two years, said park officials have not decided if they will continue the hikes in August because the weather may be too hot.
She has put together an interesting mix of history, architecture and local folklore that she shares with hikers. She said she had a lot of help from local historians, including Eda Fain of the Mallory-Neely House and staff from Memphis Heritage and the Magevney House.
The tour shows many things that the casual downtown visitor - and probably some who work there daily - might not know.
For example:
--St. Peter's Church, a good example of Gothic revival architecture and the oldest Catholic church in West Tennessee, has nails across the outside sills of its upper windows to keep pigeons from roosting there.
"I didn't notice that until last week," Miss Martin told a tour group June 27. "You learn something new every trip."
--Memphis' first fire engine was nicknamed 'Little Vigor' when the city bought it in 1930.
--The Lincoln American Tower on the northwest corner of Court Square, built in 1924 as the Columbian Mutual Life Insurance Building, bears an architectural likeness to the Woolworth Building in Chicago.
--The Dr. D. T. Porter Building on Court Square, erected in 1895 as the Continental Bank Building, was Memphis' first skyscraper. The builders had difficulty getting a permit for the building, because city officials were convinced that a building that tall would blow over in the win.
--There is a marker in front of the U.S. Post Office on Front Street from which the distance between Memphis and everywhere else is measured for maps and mileage markers.
--A close look at the Commercial Title Building on Mid-America Mall shows it is made of two different types of stone, resulting in the north and south portions of the building being different colors. The builders decided to increase the size of the building and were unable to get the same color stone when they ordered the additional materials.

"Most people look straight ahead or down at the ground," Miss Martin said. "They miss so much because they never look up."

--If you look up at the Kress Building, built in 1927, you see ornate stonework known as multicolor terra cotta ornamentation. If you look closer, you see the brightly painted heads of bald eagles that punctuate the molding around the building's roof.

--At the top of the Farnsworth Building, Union and Mid-America Mall, is a colorful mosaic star pattern. The building is one of the few examples of art deco architecture in downtown Memphis.

Of the 14 people who took the hike last week, three were from Memphis and the rest were from out of town.

Rose Jacqueline Hopkins, a former Memphian, moved to Tuscon in 1963. She was back in Memphis visiting her daughter, Kate Horne.

The two went on the hike and it brought back many memories of what downtown was like when she was growing up.

"It's changed a lot," Mrs. Hopkins said. "There are still a lot of memories there."

She said she was saddened to learn when she arrived for her visit that the downtown Goldsmith's store - where she, her mother and her aunts worked - had closed. She said her mother-in-law had worked at Schwab for many years.

Mrs. Hopkins said her mother, as a child, used to sit at the feet of W. C. Handy when he would play music while sitting on a cotton bale on Front Street.

"All the children would gather around him and listen," she said.

Bernice and Irving Burkoff of Boynton Beach, Fla., vacationing in Memphis last week, didn't plan to take the hike.

"We went to the Magevney House and just stumbled on it," Mrs. Burkoff said. "We lucked out. It was terrific."

Last week's tour group was the largest Miss Martin has had. Other hikers were from Illinois and Michigan. Several were in town for the 38th National Square Dance Convention, which was in Memphis last week.

Miss Martin, who graduated from Christian Brothers University in May with a psychology degree, said leading the tour has never been dull.

"I meet all kinds of people," she said. "I've met people from all over Europe, all over the United States."

Miss Martin said she learns a lot each time she conducts the hike, especially if there is a native Memphian along.

"People tell me things along the way," she said. "Usually people tell me more than I tell them - that's what makes it so fun."

Miss Martin said special group tours can also be arranged by calling T. O. Fuller State Park at 543-7770 or 543-7581.
Dr. Iben Browning says the attention that he has received for suggesting that the ground will tremble has been "approximately as welcome as a case of measles."

"For a guy who's trying to make a living, this just uses up time like it's going out of style," he said during a recent telephone interview. "If I were not talking to you right now, I'd be on my computer" - no doubt seeking another discovery in the science of the complex, which Browning explains is his field of study.

Browning has found himself besieged by reporters since it was learned that he predicted within a day the earthquake in San Francisco last year. His prediction ("projection," he calls it) for a quake on or about Dec. 3 along the New Madrid fault has kept the interest going.

"I can't conceive of ever wanting this kind of attention. I want people to know that they should prepare for the earthquake, but I don't want the attention," he said. "The earthquake should get their attention, not me."

However, Browning won't turn down the chance to make a little money on all that attention. A mass-marketing campaign is under way to sell an "exclusive video interview" with Browning, in which the 72-year-old scientist discusses his earthquake projection.

Climate and the Affairs of Man is a videotape of an interview with Browning made Feb. 16 by Eric Watson, president and chief executive officer of Environmental Engineering Concepts.

The 100-minute video, which includes Browning's thoughts and projections on the world climate and economy, is sold for $99. The video is being marketed in Memphis by Research Publications of Phoenix, Ariz., and is being sold by other companies and investment newsletters. A 30-minute video edited to focus on Browning's projections for a quake along the New Madrid fault is being sold for $49.

Watson said the videos are intended to encourage people to prepare.

As popular as Browning's Dec. 3 prediction has become, he has made no friends among geologists who have spent their careers studying earthquakes. They quickly point out that by predicting earthquakes Browning is working far from his specialty.

Usually referred to as a climatologist, Browning describes himself as a scientist of complex relationships, a field that could encompass just about anything.

"I am trained formally as a biologist, and I deal primarily in things that are complex. So there is something that is known in the literature as the science of complexity. I deal with the science of complexity and it has all the common tools - soft mathematical tools, biological tools and so forth. So that's the theme that runs through all of my stuff."
He edits The Browning Newsletter, which offers advice to investors by making predictions of how climate will affect the market. He said he recently registered his 67th patent, for the technology to develop a type of high-definition television that he is attempting to market in Japan. He also is marketing the technology for an invention that compresses speech so that a single long-distance telephone line could carry as many as 10 channels.

"He is quite an inventor," said longtime friend Don Isenberg, chief scientist for Microbics Inc. "He has an imaginative mind. I have never come across a subject about which he is not well-versed and informed. He is certainly the brightest man I've ever met in my life.

"He always has a real understanding of what he's dealing with, no matter what the problems are," Isenberg said. "Sometimes his conclusions seem absurd ... (but) he has always been right on, ahead of everyone else."

"If you look at lots of famous people who have invented something in life, they often did not have official credentials in that specific area of expertise," said Watson.

Watson is master of ceremonies for the annual Blanchard Investment Conference, at which Browning has been a regular speaker. Browning, now in poor health, has given that privilege this year to his daughter, Evelyn Browning Garriss, who will address the conference Oct. 31-Nov. 4 in New Orleans.

"He has just got an incredible mind. He solves problems because he takes a different approach," said Watson.

That approach is referred to by some as "contrarian," meaning it often swims against the current of scientific thinking.

Among his views are that people are too insignificant to affect the world environment; that the Earth is cooling, not warming; and that the ozone layer, which environmentalists believe is being destroyed by pollution, is repairing itself.

However, it is Browning’s work as a climatologist that has earned him a favorable reputation with companies such as PaineWebber, where he worked as a consultant and was reportedly popular with clients.

Judith Seime, a research assistant who worked with the company's consulting program, found Browning's projections to be 80-85 percent accurate.

"What we have been saying (about the Dec. 3 projection) is we aren't going to bet the house on it, but he does have a record of saying things are there and to watch for them," she said. "It isn't that he has this magic crystal ball."

For instance, Browning has taken events such as Gulf Coast tornadoes and used their occurrence to project Farm Belt drought, something he did in 1988.

Tidal forces (a gravitational effect of the moon and sun on oceans and land masses of the Earth) have been an important part of many Browning forecasts.

He says that tidal forces trigger volcanoes, which spew great amounts of dust into the air, causing acid rain and drastic changes in temperature.

Browning believes that the ash produced by the Redoubt volcano in Alaska, which erupted last winter, will combine with increased sunspot activity in the tropical latitudes to cause wild variations in temperatures that will reverse normal weather conditions during the next few years.

He also believes that high tidal forces will cause volcanic activity at around 20 degrees north latitude (about as far north as Mexico City) in 1992. That might produce the El Nino, a phenomenon in which warm ocean currents overrun colder coastal currents, causing loss of fish harvests and preventing fish from spawning.

The overall effect of these conditions will be drought in some areas, creating Dust Bowl conditions, crop failures, famine and general economic depression.

Browning calls himself an "escaped South Texas cotton farmer."
Born in 1918 in Vanderbilt, Texas, he said in the preface of his book, Climate and the Affairs of Man, which he wrote with Nels Winkless III, that he graduated from college at age 18. He holds doctorate degrees in physiology, genetics and biology from the University of Texas, where he once taught, and specializes in climatology and biochemistry. Browning has worked in a variety of disciplines, including a 1941-45 stint in the Army Air Corps as a test pilot and as the Air Corps representative to Disney Studios, which was making Air Corps training films. He also has worked to develop optical systems, robotics, aircraft navigation systems and packaging for atomic weapons, for firms such as American Optical Co. and Bell AirCraft Corp. and for Sandia National Laboratories.

Much of his work has been as a consultant. Since 1977, he has edited The Browning Newsletter, in which they identify climatic trends that may affect investment markets. His daughter now helps with the newsletter. He and Mrs. Garriss have written Robots on Your Doorstep and Past and Future History: A Planner's Guide. He also has written a book about AIDS, which he calls the "Black Death of the 21st Century," comparing AIDS to the plagues that ravaged Europe in the later Middle Ages.

Now that his health is failing, Mrs. Garriss is making the speaking appearances. She appeared with him on the videotape made in February. He said the pressure of publicity because of his earthquake projections hasn't helped his health. He has diabetes and has had cancer.

"I am in extremely ill health. This has been the most difficult year of my life. I am utterly astonished that I'm still alive," he said recently. "I have had surgery and appear to be in a recovery mode at this time. I might get back into the saddle again. It was a bad time to have everybody on the telephone."

Illustration: photo

Dr. Iben Browning

Keywords: PROFILE

AGE

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It's child's play, really.
Playing right with your baby in the first three years of life can have a profound influence on the kind of child and adult he or she becomes.
Here's why.
Human brains are born with a set number of neurons, or brain cells, but nobody really knows how many connections, called synapses, a brain can make, given the proper environment.
Science does know, however, that the synapses are where a baby's brain stores information. The more connections that are made and retained at critical times in the first three years of life, the greater opportunity for an emotionally, socially and intellectually successful baby.
Of course, genetics plays a part in how babies turn out. But more and more evidence suggests it's the balance between genetics and environment - nature and nurture - that determines what kind of people we become.
What can parents and others do to help a baby's brain make those all-important connections at critical times? Here is a guide:
Baby interaction basics
-- Babies benefit from being held, cuddled and massaged. A front carrier or sling, often called a Snuggly, allows hands to remain free while keeping the baby close and promoting bonding (for Dad, too).
-- Every baby's different. Find ways to support your baby's unique personality. An active infant needs lots of opportunities to play. A cautious baby needs extra time to get used to new situations and people.
-- Teach by playing. Babies need to experience all their senses to learn. When a parent mimics his faces and babble, it enhances a baby's self-esteem. A baby learns about gravity when he drops food off his high chair. Bouncing and swinging help with balance. Peekaboo teaches that things and people go away, but they can also come back.
-- Routines and repetition help a baby develop a sense of security. Keep feeding, bathing and diaper changing times consistent and relaxed.
-- Allow your child opportunities to explore within safe boundaries.
-- The TV is no substitute for interaction with a caregiver.
-- Talk to your baby. Despite how silly it might sound, research has shown that infants respond better to parentese, that higher-pitched sing-songy way adults talk to children. Children who hear a lot of words, especially positive ones, develop larger vocabularies.
-- Share floor time. Play games your child wants at his level.
-- Take snuggle breaks when your child begins to get frustrated to maintain a good connection.
-- Let your child win competitive games most of the time at first. This helps him or her feel a sense of accomplishment. Then gradually increase your effort so he or she can get a sense of his or her own abilities.
-- Give your child undivided attention rather than keeping one eye on dinner or playing and working at the same time.
-- When your child giggles, go with it. Figure out what's making him giggle and do it over and over again.
-- Play dress-up, but let your child be the director. Let him or her assign you a role in the play and then ham it up.
-- Set aside silly time in the morning. Just 10 minutes of playing with your child will provide an outlet for some of her playtime energy and save you from fussing and nagging at her to get ready.
-- Be aware that exuberant play can switch instantly to tears and tantrums. That happens sometimes when children feel so safe and so well loved that they let out all the feelings they've been holding in. Just listen to them until they're done and then get back to playing.
-- When two children fight over a toy, grab it and run, saying: "I never get to play with this toy! You two will never be able to get it away from me!" Then the two have to become a team and work together instead of taking it out on one another.

Getting ready to read

Read early and often to your child. Experts say they can't emphasize it enough: A child needs to have exposure to reading before he or she enters school. Children learn these skills when you read aloud to them:
-- Knowledge of printed letters and words and the relationship between sound and print.
-- Listening skills.
-- How to ask and answer questions, participate in discussions and follow rules of polite conversation.
-- How to speak at an appropriate volume and speed, and use language to express their feelings and ideas.

Here are some ideas for bringing books into the life of your baby or toddler:
-- Schedule reading times every day. Talk about it ahead of time to build anticipation for reading times.
-- Pick a comfortable, secure-feeling place for reading. Use different voices for the characters and be expressive as you read. Talk or sing about the pictures in a picture book.
-- Don't expect to finish the book in one sitting. Children have short attention spans. They will be able to sit longer as they get older.
-- Let them hold the book and turn the pages, as they get old enough to. (It's OK to skip pages.)
-- Explain what the story's about, and show children the words as you read.
-- Personalize a story by inserting comments and asking questions about your own family, pets or community as you read.
-- Ask questions about the story and let the children ask questions as well. Point out things in the illustrations and name them.
-- Choose a variety of books to help children learn about different things. Alphabet books teach letters and how each letter sounds; counting books introduce them to numbers; poetry or rhyming books teach phonological awareness (understanding the relationship between sounds and language); big books are good for pointing out letters, words and other features of print; books about friendship and teamwork help reinforce social skills; books about different cultures or those that explain how things work help them understand the world around them; picture books can be used to encourage children to expand their imaginations by making up stories about the pictures.
-- Reread your children's favorite books. The repetition helps them recognize repeated sound patterns, and figure out the meaning of unfamiliar words. If letters and words are pointed out during each reading, the child will start to pick up specific words and letter-sound relationships.
-- Try to keep outside interference to a minimum when you read. A child has trouble paying attention to more than one thing at a time.
Sources: Dr. Elise Eliot, Chicago Medical School; The Magic of Everyday Moments; ZERO TO THREE, www.zerotothree.org/brainwonders; The Kentucky Guide for Families; 'Teaching Our Youngest, U.S. Department of Education; www.iamyourchild.org; Dr. Lawrence Cohen, www.parentsoup.com; Dr. Jane Healy, an educational psychologist from Vail, Colo.

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The Global Supply Chain

Maritime trade poses urgent security challenge

The recent purchase by Dubai Ports World of a British shipping company would have given the United Arab Emirates-owned company control over the terminal operations in six major U.S. Ports (New York, Miami, Newark-Port Elizabeth, Philadelphia, New Orleans and Baltimore).

News of the deal created an outcry and opposition in Congress and among the public, which eventually led to the company agreeing to give up its stake in U.S. Ports. This incident has stirred a renewed interest in port and maritime security and drawn attention to its troubling weaknesses.

This issue of The Lipman Report examines the current state of maritime security and what needs to be done to make the global supply chain more secure.

Maritime trade

Maritime trade is vital to the United States economy. Approximately 95 percent by volume of the nation’s overseas cargo moves through ports and $1.3 billion worth of goods moves in and out of U.S. ports every day. In addition, more than half of America’s population lives within 50 miles of the coasts, and many major urban areas and critical infrastructure are near to or accessible by U.S. ports and waterways.

Over the next two decades maritime commerce likely will become an even larger and more important part of the global economy. To improve efficiency and lower their costs, maritime shippers increasingly concentrate their traffic through a smaller number of major cargo hubs. In the United States, 50 ports account for approximately 90 percent of all cargo tonnage. Their specialized equipment is essential for the loading and unloading of container ships, which constitute a growing segment of maritime commerce.

In 2005, U.S. seaports unloaded approximately 11 million containers, which was nearly 25 percent more than in 2000. Industry experts forecast that this volume will more than double within 20 years. The explosive growth in containerized shipping has dramatically lowered the costs and improved the reliability of the global supply chains that virtually all companies rely upon.

The economic, physical and psychological damage that would result from a significant terrorist attack targeting maritime commerce or taking advantage of the United States’ potential vulnerability to sea attacks is difficult to estimate but the consequences would likely be enormous. A significant interruption of the maritime transport system would send shockwaves through the world economy. A large attack could potentially stop the global trade system as nations struggle to recover. In the wake of such an attack, governments are likely to adopt drastic and inefficient security measures that would significantly disrupt port operations due to cargo checks at both originating and destination ports.

One scenario for a terrorist attack

A container of athletic foot wear for a name brand company is loaded at a manufacturing plant overseas. The container doors are shut and a mechanical seal is put on it. These designer sneakers are destined for retail stores in malls across America. The container and seal numbers are recorded at the factory. A local truck driver, sympathetic to al Qaeda picks up the container. On the way to the port, he turns into an alleyway and backs up the truck at a nondescript warehouse where a small team of operatives pry loose one of the door hinges to open the container so that they can gain access to the shipment. Some of the sneakers are removed and in their place, the operatives load a “dirty bomb” wrapped in lead shielding, and they then refasten the door.

The driver takes the container, now loaded with a “dirty bomb,” to the local port where it is loaded on a coastal feeder ship carrying about 300 containers for its voyage. Later, the container is transferred to another ship which typically carries 1200-1500 containers to another port. In this case, the container is loaded on a super-container ship that carries 5000-8000 containers for a trans-Pacific voyage.

The container is then off-loaded in North America. Because it originates from a trusted-name brand company that has joined the volun-
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tary government-business initiative to strengthen the global supply chain, Customs-Trade Partnership Against Terrorism (C-TPAT), the shipment is never identified for inspection by the Container Security Initiative team.

Consequently, the container is loaded directly from the ship to a railcar where it is shipped to a rail yard in an American city. Because the “dirty bomb” is shielded in lead, radiation portals do not detect it. When the container reaches a distribution center, a triggering device attached to the door sets the bomb off.

Devastating consequences

There would be four immediate consequences associated with such an attack. First, there would be the local deaths and injuries associated with the blast of the conventional explosives. Second, there would be the environmental damage done by the spread of industrial-grade radioactive material. Third, there would be no way to determine where the compromise to security took place so the entire supply chain and all the transportation nodes and providers must be presumed to present a risk of a potential follow-on attack. Fourth—and perhaps most importantly—all the current container and port security initiatives would be compromised by the incident.

Nature of the threat

The previous scenario illustrates the complex nature of the maritime security challenge. First, the threat is not so much tied to seaports and U.S. borders as it is to global supply chains that now largely operate on an honor system because standards are so nominal. Second, no transportation provider, port operator, or border inspector really knows what is in the containers that pass through their facilities and the radiation portal technology currently being deployed at U.S. borders can be evaded by placing light shielding around a weapon. Third, private companies must be a part of the solution since they have huge investments at stake. Fourth, the challenge of securing global supply chains can involve both port security and border security measures simultaneously when containers are shipped overseas and then cross national borders.

The opportunities for terrorists to target legitimate global supply chains remain plentiful and the motivation for doing so is only growing as terrorists gravitate towards economic disruption as a major tactic in their war with the United States and the West. Against this strategic backdrop, there remains too little appreciation within the U.S. government that global supply chains and the transportation system that supports them remain very vulnerable to mass disruption. Instead, U.S. border agencies and the national security community have been looking at supply chains as one of a variety of smuggling venues. For the foreseeable future, the material to make a dirty bomb will likely be available throughout the international community despite stepped-up counter-proliferation and the threat to the global supply chain will remain urgent.

Current state of the global supply chain

The vast number of U.S. government initiatives since 9/11 suggests that substantial progress is being made in securing the global trade and transportation system. Unfortunately, the approach to date has been a piecemeal one, with each agency pursuing its signature program or programs with little regard for the other initiatives. There are also vast disparities in the resources that the agencies have been allocated. But more problematic are some of the questionable assumptions about the nature of the terrorist threat that underpin these programs.

New “risk management” programs advanced by the Customs and Border Protection Agency (CBP) are especially vulnerable to being discredited should terrorists succeed at detonating a “dirty bomb” smuggled into the country in a shipping container. Customs inspectors rely primarily on their past experience in identifying criminal or regulatory misconduct to determine if a containerized shipment might potentially be compromised. The GAO has documented glaring weaknesses with the methodology, underlying assumptions, and execu-
tion of Customs’ practices in targeting containers. Prior to 9/11, the cornerstone of the risk assessment framework used by customs inspectors was to identify “known shippers” that had an established track record of being engaged in legitimate commercial activity and playing by the rules. Since 9/11, the agency has built on that model by extracting a commitment from shippers to follow the supply chain security practices outlined in the Customs-Trade Partnership Against Terrorism. As long as there is not specific intelligence to tell inspectors otherwise, shipments from C-TPAT companies are viewed as presenting little risk.

The problem with this approach is that what may have made sense for combating crime does not automatically translate to combating determined terrorists.

Terrorists are likely to find it particularly attractive to target a legitimate company with a well-known name precisely because they can count on these shipments entering the United States with a only a cursory look or no inspection at all. It is well known which companies are viewed by U.S. customs inspectors as “trusted” shippers.

Many companies who have enlisted in C-TPAT have advertised their participation. In public speeches, senior U.S. Customs officials have singled out several large companies by name as model participants in the program. So all a terrorist need do is to find a single weak link within a “trusted” shipper’s complex supply chain, such as a poorly paid truck driver taking a container from a remote factory to a loading port.

In all likelihood, when the next terrorist attack occurs on U.S. soil and it involves a maritime container it will have come in contact with most or even all the security protocols. As a consequence, when the attack happens, the entire security regime will be implicated generating tremendous political pressure to abandon it.

Security improvements

With relatively modest investments and a bit of ingenuity, the international system and global supply chains can have credible security while simultaneously improving their efficiency and reliability.

What is required are a series of measures that collectively enhance visibility and accountability within global supply chains. As a starting point, the United States should work with the Association of Southeast Asian Nations (ASEAN) and the European Union (EU) in authorizing third parties to conduct validation audits of the security protocols contained in the International Ship and Port Facility Security Code and the World Customs Organization’s new framework for security and trade facilitation.

To minimize the risk that containers will be targeted by terrorist organizations between the factory and a loading port, the next step must be for governments to create incentives for the speedy adoption of technical standards developed by the International Standards Organization for tracking a container and monitoring its integrity. The Radio Frequency Identification (RFID) technologies now being used by the U.S. Department of Defense for the global movement of military goods can provide a model for such a regime.

Washington should next embrace and actively promote the widespread adoption of a novel container security project being sponsored by the Container Terminal Operators Association (CTOA) of Hong Kong.

Starting in late 2004, every container arriving in the two main truck gates of two of the busiest marine terminals in the world have been passing through a gamma ray machine to scan its contents, a radiation portal to record the levels of radioactivity found within the container, and optical character recognition cameras which photograph the number painted on the top, back, and two sides of the container. These scanned images, radiation profiles, and digital photos are then stored in a database for customs authorities to access if and when they want.
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This low-cost system of inspection is being carried out without impeding the operations of these very busy marine terminals. It could be put in place in every major container port in the world at an estimated cost of $1.5 billion or approximately $10-$25 per container, depending on the volume of containers moving through the terminal. The system could be paid for by authorizing ports to collect user fees that cover the costs associated with purchasing the equipment, maintaining its upkeep, and investing in upgrades when appropriate. Once such a system is operating globally, each nation would be in a position to monitor its exports and to spot-check their imports against the images first collected at the loading port.

From the standpoint of U.S. security, the biggest value of this system should it be widely deployed are twofold. It provides a powerful deterrent to discourage terrorists from exploiting global supply chains as a conduit for a weapon of mass destruction and aids counterproliferation measures as well.

Also, it creates a powerful deterrent to discourage terrorists from targeting the global supply chains with a “dirty bomb” since the inspection system will make the system far more resilient in managing a breach of security without a wholesale shutdown of the trade system.

The total cost of third party compliance inspections, deploying “smart” containers, and operating a cargo scanning system such as the one being piloted in Hong Kong may reach $50 to $100 per container depending on the number of containers an importer has and the complexity of its supply chain. Such an investment would allow container security to quickly move to a much more secure system.

Even if there were no terrorist threat, there are ample reasons for individual governments, and other international organizations to place port, border, and transportation security at the top of the multilateral agenda. Enhancing controls within the global trade lanes will help all countries reduce theft; stop the smuggling of drugs, humans, and counterfeit goods; crack down on tariff evasion; and improve export controls and security in general.

At the end of the day, confronting the nuclear smuggling threat requires that we take the post-9/11 security framework the U.S. government has been developing haphazardly over the past four years, and quickly move it to the next generation of initiatives that build on the original framework.

The three key elements for getting from where we are to where we must be are: (1) to recognize that it is a global network that we are trying to secure; (2) that much of that network is owned and operated by private entities, many who have foreign ownership so the U.S. government must be willing and able to work with those companies as well as their host governments so as to advance appropriate safeguards, and (3) both Congress and the White House should embrace a framework of "trust but verify," based on real global standards and meaningful international oversight.

The size of the maritime domain makes the security challenge difficult and complex. In this security environment, responding to unpredictable and international threats requires cooperation and a continuing sense of vigilance. Shared steps for ensuring the security of containers at all points along the global supply chain should be developed, along with plans for maintaining continuity in the event of possible trade disruptions. The private and public sectors must adopt a more aggressive and innovative approach to maritime security, working together to create and enforce policies that enhance security.

The Lipman Report Editors
Avian influenza

Sense of urgency required to minimize effects of potential pandemic

When the National Hurricane Center warns coastal communities that a tropical storm is approaching, governments designate shelters and residents rush to purchase supplies. Upgrade the threat sufficiently, and evacuations will be ordered. As television and newspaper images of highways packed with fleeing residents testify, few choose to “ride out the storm.”

Since time began, human beings have learned to heed warning signs they are given and to prepare for emergencies. The projected threat may not materialize, but comfort is taken in knowing one is ready for whatever may happen.

However, such preparations are not being made in response to a major threat looming in the near future. The skies have been darkening since 1997, and very few people are heeding the signs of the gathering storm: H5N1, a strain of avian influenza that many experts consider the biggest health threat facing the world today.

This edition of The Lipman Report takes a look at recent developments in research regarding H5N1, the threat it poses and what steps are needed to mitigate the threat.

‘A Trojan horse’

Since it first surfaced in 1997 in China, the H5N1 virus that causes avian influenza has been found only in Asia, where it has resulted in the death or slaughter of hundreds of millions of birds and has killed at least 55 people in Vietnam, Thailand, Cambodia and Indonesia. Usually, human infection comes from contact with infected poultry such as chickens, but there have been three documented clusters of human-to-human transmission, including one that did not involve any contact with chickens. It is the possibility – some say inevitability – that H5N1 will mutate and become easily transmitted person-to-person that has scientists concerned about a global pandemic.

Avian influenza viruses are known for mutating. They reproduce rapidly, changing form, building resistance to drugs and infecting a broad range of species. That is why influenza is impossible to eradicate. Each year, the annual influenza vaccine is developed and administered based on which flu viruses experts view most likely to be prevalent.

According to Laurie Garrett, Senior Fellow for Global Health at the Council on Foreign Relations and an award-winning journalist who covers medical issues, the fact that initial tests suggest an experimental human vaccine may be effective against avian influenza cannot be met with a sigh of relief and a belief that the threat of a global pandemic will be averted. Unfortunately, favorable test results occurred only in volunteers who received the highest vaccine doses, meaning that limited supplies could not be diluted for use in a large number of people. History shows no indication that the world could mass-produce the millions of vaccine doses required in a timely manner. In addition, the strain of H5N1 for which the vaccine was created may not resemble the form of virus that ultimately becomes transmitted from person-to-person, thereby rendering it ineffective. As a result, it is necessary to continue monitoring the virus for genetic changes and to modify treatment and vaccine preparations accordingly. Proactive planning must also address how to effectively distribute vaccine supplies to those in need, taking into consideration the fact that the vaccine would be prohibitively expensive to many countries.

Another effort by three pharmaceutical companies focuses on developing a “universal” vaccine that targets M2e, a protein found in all type A influenza viruses. If successful, this vaccine would eliminate the need for a new and different flu vaccine every year. However, this concept is only in the development stage and if successful, still faces several years of research, testing and regulatory approval.

H5N1 has mutated several times and has become resistant to amantadine, one of two classes of antiviral medications that appear to lessen its severity. In June 2005, researchers concluded that at least part of the reason that drug is no longer effective is because Chinese farmers had for years been using it to suppress avian flu outbreaks among chickens, even though the drug was intended for humans. That leaves only one other

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antiviral medication that is effective against the virus: oseltamivir, or Tamiflu®. Many countries are stockpiling the drug, but the length of time required to manufacture it and the cost involved mean that national stores will never come close to what is needed to manage a global pandemic.

Chinese authorities in late April 2005 reported that more than 6,000 waterfowl at a nature reserve in the remote western province of Qinghai were infected. In May 2005, two more outbreaks were reported in Xinjiang among domestic geese and ducks.

The outbreaks are regarded as alarming and unusual because waterfowl have been generally unaffected by avian flu viruses unless they came into contact with infected domesticated birds. Avian flu spreads via migratory birds, which have already begun circulating on routes that extend from South Asia to India, Australia and Europe.

China has been slow to provide information on these outbreaks, which may be due in part to an internal dispute regarding whether the virus is widespread and what risk it poses to humans. One Chinese scientist published evidence in the journal Nature that contradicted the Chinese government by suggesting that avian flu did not originate outside China as the government has stated. The Chinese government issued an edict to scientists that nothing can be published or reported regarding avian influenza research without approval from a central clearinghouse. It is not clear if this move is to reduce the risk of panic over the potential for a pandemic or an example of China’s reluctance to share information.

Late last month, Russian officials reported H5N1 had been identified as the virus that killed large numbers of ducks, geese, chickens and turkeys in the Novosibirsk region of Siberia, where migrating birds stop at the lakes. More recent research bolsters experts’ suspicions that the virus is on the verge of breaking out of Asia. In July 2005, a team of researchers in the United States reported that mutations have made the virus less deadly to ducks, which means these migratory birds can host the virus without getting sick and then pass it on to other birds and people.

“These results suggest that the duck has become the Trojan horse of Asian H5N1 influenza viruses,” stated the team’s report, published in the journal Proceedings of the National Academy of Sciences.

The virus has already shown an ability to jump species, going from birds to pigs, tigers, cats and other mammals. The virus absorbs genetic material from each species it circulates through, but the point at which it can become easily transmissible among humans is not known.

Frequent comparisons are made between the threat posed by H5N1 and the 1918 Spanish flu pandemic, which killed millions worldwide. During that pandemic, influenza circulated between the United States and Europe via the movement of troops fighting in World War I.

There was far less commercial travel then. In today’s global economy, the spread of disease will happen much more quickly. Consider the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS). SARS was spread from China to 26 other countries virtually overnight. Scientists were able to isolate the virus and develop a treatment, but not before more than 8,000 people were infected and 774 died.

Another frightening aspect of the H5N1 virus is that it has a reported 55 percent mortality rate among humans. A virus of the H5N1 combination has never circulated among humans. When it comes to the H5N1 virus, no one has immunity. If the virus becomes transmissible between humans, it will lose some of its potency, but even with a 5 percent mortality rate, it will still be the most lethal flu the world has seen.

Economic impact of a pandemic

In the United States, the garden-variety seasonal influenza costs the national economy more than
$10 billion a year in lost productivity and direct medical expenses. More than 200,000 people are hospitalized, and 36,000 to 40,000 people die. Studies cited by the U.S. Centers for Disease Control and Prevention (CDC) indicate that a “medium-level” pandemic would cause 89,000 to 207,000 deaths in the United States, 314,000 to 734,000 hospitalizations, 18 million to 42 million outpatient visits and another 20 million to 27 million people sick. About one third of the U.S. population could be affected. Estimates of the economic impact of such a pandemic are between $71.3 billion and $166.5 billion.

Already, avian influenza has cost regions in Asia some $8 billion to $12 billion, mainly in lost revenues from poultry and related industries.

The last pandemic occurred in 1968-1969, when the “Hong Kong flu” killed about 34,000 in the United States. Experts believe that the H5N1 virus is far more severe than the 1968 virus and would result in far more hospitalizations.

The CDC notes that a pandemic is different from other health threats for which the public health system prepares. A pandemic will last longer than other emergency events and may include waves of influenza activity. But, there is no clear way to predict how the virus will behave.

The number of health-care workers and first responders available to work could be reduced because they are at high risk of illness from exposure in health-care settings. The widespread nature of an influenza pandemic will cause resources to be spread thin in most locations.

The interdependent nature of the world economy means the effect on the United States would be felt immediately, regardless of where the pandemic first developed. Supply shortages in the health-care system would result from international shipping restrictions. To lessen the spread of the virus, limits on travel and public events would be imposed.

Some countries would certainly enforce quarantines or border closings that would further disrupt travel, trade and productivity. Developing nations with uncertain political and economic environments would be further destabilized. The extent to which states and nations enforce border restrictions could result in lingering diplomatic and political fallout.

The WHO predicts that an H5N1 flu pandemic would affect about 25 percent of countries’ populations. CDC projections for the United States put that number at nearly 67 million individuals. As of May 2005, the United States had stockpiled 2.3 million courses of the antiviral medication Tamiflu® and was planning on ordering 3 million more. At that level, the U.S. stockpile would only contain enough to treat 5.3 million people, leaving 61.5 million Americans likely to be infected but unable to receive antiviral medication.

Even if increased supplies were ordered, with the present production capacity, additional doses of Tamiflu® would not be available until 2007. And since air travel would likely be restricted in the event of a pandemic, transporting Tamiflu® from the only factory that makes it, located in Switzerland, would be extremely difficult.

If a pandemic were to occur, the countries that can afford to stockpile the vaccine will want to keep it for their own citizens, regardless of where it could be best put to use. Of the 19 largest cities with populations greater than 10 million, only four are in the developed world.

Laurie Garrett noted that it is difficult to convince the nation to build up stockpiles of medications and supplies because everyone assumes health organizations will be able to identify a pandemic when it starts. “We don’t know how this virus, if it does make a jump, will behave,” she said.

Any vaccine, if developed, will be of little help if other countries are devastated by the pandemic

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and the world economy shuts down. The impact of a pandemic will be global, and it needs to be planned for accordingly.

Preparation is vital

“Clearly these are problems that have not been adequately addressed or considered,” said Garrett, author of Betrayal of Trust: The Collapse of Global Public Health and The Coming Plague: Newly Emerging Diseases in a World Out of Balance. While the WHO and many nations have been planning for a pandemic, not nearly enough has been done. Most scientists say the coming pandemic – whether this year, next year or years from now – cannot be avoided. They do say, however, that its impact can be lessened.

Leaders on the global, national and local level must realize the importance of investing in preparation. World leaders must pressure all countries for cooperation in sharing information and research about this disease and outbreaks that are affecting their countries. The speed with which a virus can travel today makes timely dissemination of information vitally important.

Private and public sectors should work together to develop emergency plans to maintain critical domestic supply chains as well as manufacturing and distribution. Communities will need to identify the commodities and services they need to survive 12 to 36 months. There will be an increased need for medical equipment and supplies, rendering some items unattainable. For example, only two companies in the world manufacture respiratory protection masks. Neither may be able to meet the demand caused by a pandemic, and even if they did, if all major transport systems shut down, they will have no way to ship them. Stockpiles of key materials need to be warehoused in strategic locations where they can be easily distributed even if most methods of transport are unavailable.

Companies need to develop a plan for protecting employees and ensuring business continuity. Experts recommend that individuals receive flu vaccinations to protect against the more common strains of the virus. Companies should consider providing employees with information on the benefits of vaccination, as well as information on proper methods of hand washing – a key means of preventing the spread of disease. Businesses also need to rethink human resources policies to contend with a pandemic. In particular, executives need to evaluate the tendency of some employees to try to “tough it out” and come to work when ill. If a pandemic is raging, it may not be in a business’ best interest financially to have employees, either ill and contagious themselves or carrying a virus passed to them by a sick family member, come to work and infect the rest of the work force. Companies also should develop emergency response plans for a pandemic that include access control management.

A worst-case scenario has the avian flu virus beginning its global spread in October or November 2005. A best-case scenario is that the virus never makes that jump between animals and humans that would lead to a pandemic.

The U.S. Secretary of Health and Human Services may have summarized it best in his remarks before a Ministerial Meeting on Avian Influenza held during the World Health Organization’s annual World Health Assembly in Geneva, Switzerland, on May 16, 2005:

“There is a time in the life of every problem when it is big enough to see and small enough to solve. For flu preparedness, that time is now.”

The Lipman Report Editors
Interdependency

Security vulnerabilities in private sector require urgent response by business leaders

The terrorist attacks of September 11, 2001, represent a tragic milestone in U.S. history. Despite the lack of an attack on U.S. soil since that time, the terrorist threat remains. The recent bombings of subway cars and a bus in London, England, serve as a stark reminder that terrorists are still willing and able to inflict murder and mayhem. At the same time, security analysts continue to issue dire warnings about the possibility of a terrorist attack against components of the U.S. critical infrastructure and the potentially disastrous consequences of such an incident. In April of this year, the U.S. Congress heard expert testimony from the Council on Foreign Relations that another terrorist attack on the United States was inevitable within five years. Unfortunately, a lack of security regulations governing many critical industries within the country have left some potentially devastating vulnerabilities unresolved. Ports and other transportation systems, utilities, food and water supplies, financial institutions – any one of these could present an attractive target to terrorist groups.

In addition to a lack of government security standards, economic pressures have negatively impacted business decisions regarding security in many industries. Immediately after the 9/11 catastrophe, a heightened awareness of security concerns could be seen throughout much of the United States, particularly within New York and the surrounding areas. Soon, however, a sense of complacency prevailed as the nation shifted its focus from security to company bottom lines. Adopting an attitude of “it won’t happen here,” many organizations have opted to reduce security spending in an effort to increase their competitive edge. This disturbing trend, a phenomenon that experts call “interdependency,” poses a significant threat to the nation’s protection from future acts of terrorism.

For example, a person concerned about the risk of fire decides to install sprinklers in his or her apartment. The individual assumes that such an investment will not only improve the safety and security of his or her life and property, but also result in a cost savings on property insurance. Upon consulting with the insurance company, however, the person learns that he or she will not be eligible for a discount from the installation of sprinklers because the surrounding neighbors in the building do not have sprinklers. Regardless of the actions that an individual might take to reduce the risk of fire, the inaction of others could mean that he or she would still be at risk. Therefore, the individual might decide not to spend the money installing sprinklers, since his or her neighbors had not taken such precautions.

Interdependency reduces incentives for investing in preventive measures and can undermine an entire industry’s ability to protect against future security threats. When a catastrophic risk faced by one organization is dependent in part on the behavior of other organizations, the behavior of those other organizations affects the motivation of the first organization to take action to reduce risk. This type of situation generally requires government intervention to set standards to which the organizations must adhere, or else face the consequences.

Interdependencies do not only apply to neighboring facilities, but also to organizations within a common industry or at different points along a shared supply chain—or even to completely unrelated companies.
Interdependency

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organizations, if a security breach at one location contributes to business interruption at another. In the case of September 11, security lapses at an airport in Boston led to the destruction of the World Trade Center in New York and damage to the Pentagon in Washington, D.C. In addition, numerous cities suffered economically due to business interruption caused by cancelled flights while the U.S. government assessed the unfolding events.

Airline security offers an example of the potential dangers related to interdependency. An airline considering the use of x-ray and explosive detection equipment to screen passengers and baggage will weigh the expense of installing and operating the screening system against the benefit of reducing the risk of a bomb being smuggled onto an airplane. If one airline elects to make such an investment, but other airlines do not, the first airline could still suffer an attack due to the laxity of another airline’s security. In the case of Pan Am flight 103, which exploded over Scotland in 1988, a bag containing a bomb was initially checked on another airline and then transferred to Pan Am. This demonstrates how companies must work together to ensure that effective security measures are in place across interdependent systems.

Refusing to take action to improve security because other organizations have yet to do so represents a serious threat to public safety as well as to business continuation. To overcome the challenges created by interdependency, leaders must demonstrate courage and initiative to resolve security risks before they result in catastrophes. Failure to act courageously and decisively could contribute to future tragedies: An unchecked shipping container laden with explosives could result in a massive backlog of shipments and disastrous delays in the nation’s supply chain; a truck bomb taking advantage of a lack of physical security measures at a financial institution could produce widespread economic disruption.

If individual organizations decide to forgo or eliminate security measures because nearby organizations are not making the same investment, the entire community is put at greater risk. Just as there are those people who do not put money in parking meters that are not closely monitored, there are those companies that do not follow sound security guidelines because such measures are not enforced by law or industry regulations. As a result, the organizations that cut corners with regard to the protection of their facilities compromise the security of other companies in the community, in the industry and in the business world as a whole.

Existing vulnerabilities

Some smaller, less conspicuous organizations may not consider themselves a likely target of terrorists and, as a result, choose not to invest in a comprehensive security program. However, if other, high profile organizations have adequate security in place, terrorists may turn their attention to “soft targets” in the area. Experts know that the more you do, the safer you are. Companies must recognize that vulnerabilities exist, identify the key factors to business continuity and take steps to reduce the risk of a terrorist attack or criminal act threatening the very survival of the organization.

Terrorists will identify and attack the most vulnerable targets. A security failure within the weakest link of interdependent organizations could have a devastating impact on all parts of the system. As the fates of many companies become intertwined, it becomes imperative that each company take the necessary precautions to reduce risk for the protection of that company and the entire industry, community or business world.

The threat of potential liability has moved some organizations to act, but the decision to
implement effective security programs should stem from a proactive focus on protecting people, property and business continuation. With the passage of the Sarbanes-Oxley Act of 2002, CEOs became liable not only for the integrity of public companies’ financial statements, but also for the adequacy of internal controls, including policies and procedures that have a material effect on the financial statement. This measure has also prompted more companies to purchase terrorism insurance rather than risk being sued for negligence should they become a target of terrorist acts and suffer irreparable damages.

Insured losses from the September 11 attacks were the most costly in history, currently estimated at $32.5 billion. The massive claims paid by insurers for commercial property, business interruption, workers’ compensation, life and general liability insurance lines led many insurance companies to drop terrorism coverage from their commercial policies. In response, the U.S. Congress established a temporary national insurance program that provides up to $100 billion commercial coverage against terrorism losses perpetrated by foreign interests on U.S. soil. Under the law, terrorism insurance only covers losses from direct attacks; it will not recoup losses from the potential domino effect of business interruption experienced by other companies. The three-year term for the program is scheduled to end in December 2005. It remains undecided whether the law will be renewed, whether an alternative program with government involvement will be created or whether terrorism insurance coverage will be left entirely to the private sector.

If the program is not renewed and terrorism insurance premiums rise significantly, many companies will not continue to purchase coverage, which could result in devastating losses should an attack occur. At the current cost, terrorism insurance will continue to be purchased by those who believe that a serious risk of future terrorist attacks exists. Regardless of how terrorism insurance is offered in the coming years, those companies that have coverage should not think that such policies absolve their responsibility to enact safety and security precautions. Steps must be taken to help reduce the risk of ever needing to rely upon terrorism insurance proceeds.

In the aftermath of September 11, 2001, the United States immediately implemented new security procedures to reduce the risk of a future terrorist attack involving the nation’s airlines, and many other countries joined the effort to prevent a similar incident. As a result, terrorists are seeking softer targets, and may find them among buses and trains, as they did in London and in Madrid, Spain. The U.S. Department of Homeland Security has spent billions of dollars to secure aviation in recent years, yet only a fraction of that expense – $250 million – has been provided to state and local governments and owners of transit security systems. Forward-thinking leaders across all industries must take steps to reduce their risks rather than relying on the government to initiate action.

Taking action

The private sector shares responsibility for protecting U.S. businesses from security failures that could threaten public safety and economic stability. Individuals also have an important stake in this effort and should demand action from government officials and business leaders alike. One company or a group of companies that holds a strategic position in the industry can induce others to follow its lead and manage risk more carefully by implementing better security practices.

The following recommendations can help organizations reduce the risk of becoming a target of terrorist attack.

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Collaborative action should be encouraged to support government regulations and industry guidelines. After September 11th, legislation was enacted to develop a program for screening baggage for bombs and for other airline security measures. In many other aspects of the nation’s critical infrastructure, however, no government regulations exist to ensure minimum standards. Such measures are essential to developing consistent security procedures across sensitive industries.

In addition to, or in the absence of, government regulations, existing industry guidelines should be followed. If not already in place, industry organizations should stipulate that members adopt certain security measures. However, enforcement of these regulations must accompany these policies in order to be effective. Voluntary compliance alone is not sufficient to induce change. While government regulations would bolster security efforts more effectively than voluntary industry compliance, people — not laws or technology — ultimately provide security.

Identify vulnerabilities. Companies must recognize their security vulnerabilities, based on their industry, geographic location, size and other considerations. Having a risk assessment survey conducted by an outside professional team can help to identify potential problems that those who work at the facility on a daily basis may not consider. Once an assessment has been conducted, the resulting recommendations for enhancing security should be enacted.

Implement security programs to help ensure business continuity. Each facility must take the necessary steps to reduce security risks and enhance the safety of their employees and their business continuation. If companies let the fear of increased operating costs prevent them from investing in security, they may find that the costs of responding to and rebuilding after a security failure far exceed the initial cost of setting up effective programs. The use of skilled, professional security officers and physical security measures represents a key component in strengthening a facility’s defenses against terrorism.

Monitor evolving security needs. Once a security program has been developed and implemented, an organization cannot neglect to maintain a focus on security. Security requirements continuously evolve with the company’s growth and changes in the global climate. As a result, companies should regularly evaluate and review security procedures and policies to ensure that they provide the most innovative, efficient solutions to current security needs.

The safety of the United States requires a public/private cooperative effort. The U.S. government alone cannot ensure the protection of the nation’s critical infrastructure. Each business and individual must contribute to the ongoing effort to reduce risks.

If no one takes the initiative to implement effective security and motivates others to do the same, the nation will languish in a state of complacency that will eventually be seized upon by those seeking to disrupt the U.S. society and economy. Taking action often requires courage, and courageous acts can change the course of history. Consider the chain of events during World War II that resulted from U.S. forces taking Omaha Beach or the U.S. government and private sector collaborating to undertake the Manhattan Project. Without leaders to take the necessary steps toward enhancing security within the United States, terrorists will again exploit existing vulnerabilities and wreak havoc on the nation’s social and economic continuity.

The Lipman Report Editors