

Threats to Cities: Large-Scale Disasters and September 11, 2001*

Robert A. Stallings

School of Policy, Planning, and Development
and
Department of Sociology
University of Southern California
Los Angeles, California 90089-0262

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Let me begin with an anecdote that will provide some context for discussing the issue of cities and security in light of September 11, 2001. If you had visited as I did last week New York City's official Web site, you would have found a box with the heading "Emergency Alert" in white letters against a yellow background. In this box were links to information on three current threats facing the city: summer heat, ozone, and West Nile virus. If you had gone to the city's Office of Emergency Management site, you would have found summer heat-related materials, including energy conservation tips, in English, Spanish, and Russian. You would also have found hurricane preparedness materials—in English, Spanish, Russian, Chinese (no specific dialect indicated), and Haitian Creole. If you had gone to the NYPD Web site, you would have found the picture of a suspect wanted by police, the picture of a missing teenager, and the picture of a smiling police officer in uniform below a recruiting advertisement. These Web pages identify two things to keep in mind about threats to cities: first, the threats are numerous and varied and include more than the risk of terrorism; and second, the organizations claiming responsibility for dealing with these threats are also numerous and varied in their characteristics.

To indicate what research on large-scale disasters has to say about the issue of cities and security, I will briefly compare four generic "activity clusters" or patterns of behavior related to disasters with events before, on, and following September 11. Afterward, several implications for the future security of cities will be evident. The four activity clusters are: preparedness, response, recovery, and mitigation.

Large Scale Disasters and September 11

Preparedness

Preparedness activities are directed at reducing the consequences of catastrophic events, not preventing them. *Planning* is one conventional clusters of preparedness activities. Research on large-scale disasters shows that disaster planning and disaster plans tend to be organizationally compartmentalized, that is, confined to the heads of the people who write them and to the shelves of their offices. Breathing life into them through exercises and drills—when everyone involved knows that they are merely exercises and drills—is less effective than having repeated experience with actual events similar in type and scope. Disaster planning also tends to be skewed to the most recent event experienced. (The cliché about generals always fighting the

previous war fits here.) Third, planning also tends to overemphasize “command and control” and disparage the importance of improvised, creative, but unplanned behavior. Finally, although it is not planning the strict sense, research has clearly shown the benefits of an effectively used emergency operations center (EOC). Interorganizational relationships are a major source of problems in disasters, and a frequently used EOC can go a long way toward reducing problems of interorganizational coordination.

Disaster planning in New York City before last September was influenced by three things. One was the bombing of the World Trade Center in February 1993 which served as a blueprint for emergency planning. Another was the mayor, Rudolph Giuliani. Giuliani has been praised for his leadership on September 11, 2001, and afterward, but his actions before that day were equally important. Among other things, he brought in and actually listened to a number of knowledgeable social science disaster researchers, pushed for creation of the city’s new emergency operations center, and, more importantly, insisted that his chiefs and department heads—not their deputies or staff underlings—personally participate in planning sessions, drills, and exercises conducted at the EOC. A third factor influencing New York City’s emergency preparedness before last year’s attack should not be overlooked: its extensive preparations for possible consequences of computer glitches accompanying Y2K. New York City therefore had the “advantage,” if you can call it that, of prior experience with some unconventional threats, with time to think about their implications, and with the leadership of a mayor who did more than “pay lip service” to emergency planning. (The attacks on the two World Trade Center towers took out the city’s new EOC, which was located on the twenty-third floor of 7 World Trade Center. This building caught fire and collapsed on the afternoon of September 11. A “semi-permanent” EOC was recreated within three days at Pier 92 on the Hudson River.)

Research on another cluster of preparedness activities, *warning* and *responses to warnings*, provides two findings that are relevant here: one is the importance of the perceived *credibility* of the warning, especially of its source; the other is the tendency of warning recipients to seek *confirmation* of the impending threat before acting. Disaster warnings are notorious for prompting inaction, not overreaction. One reason is that warnings are typically issued by government agencies and relayed by the news media, two types of organizations with dubious public reputations. Warning recipients typically seek more information before doing anything, and in some situations, such as in advance of tornadoes, hurricanes, and floods, they are able to “see for themselves” that the threat is real. In other situations (earthquakes, for example) they cannot.

In the case of September 11, many people have criticized the U.S. government for not being able to uncover the hijack plot and to warn of it in advance; a few have suggested that President Bush knew what was about to happen but refused to issue a warning. However, this situation looks more like other “intelligence failures” wherein there are too much data and too few data analysts, where the data look chaotic before the fact but show a clear pattern in hindsight. (Investigators at the German federal criminal office have been able to recreate the movements of members of the Hamburg cell that planned and carried out the hijackings in considerable detail but had no reason to focus on them before September of last year any more than on members of the Kurdish PKK, for example.) More fundamentally, intelligence agencies are not normally in the business of warning the public. They are—or should be—in the business of sharing intelligence reports with appropriate federal, state, and local agencies that are potential “first responders” in the event of security threats. Furthermore, public warnings of an impending attack would lack a key element necessary to prompt the desired public behavior—an

independent means by which people are able to confirm the reality and the probability of the threat.

The possibility of warning the public in advance of future terrorist acts seems most analogous to the nation's experience with earthquake predictions and forecasts. The U.S. government has largely given up on developing the capability for warning the public in advance of the precise time, location, and probability of future damaging earthquakes. Instead, earthquake "warnings" have become general forecasts based upon repetition cycles such as the current forecast in effect for southern California: ". . . over the next 30 years the probability of a major earthquake . . . [is] 60%," according to the U.S. Geological Survey; the probability is 85 percent, according to our colleagues at USC's Southern California Earthquake Center. Compare this with Governor Ridge's Homeland Security Advisory System, the color-coded, five-tier set of "threat conditions" describing three or four "protective measures" that should be applied at each level. If you check the homeland security Web site today, you will find that the "Current National Threat Level" is "Elevated," a yellow alert meaning a "Significant risk of terrorist attack." The suggested protective measures, in addition to those for the "low" (green) and "guarded" (blue) conditions, are:

- Increasing surveillance of critical locations;
- Coordinating emergency plans with nearby jurisdictions;
- Assessing further refinement of Protective Measures within the context of the current threat information; and
- Implementing, as appropriate, contingency and emergency response plans.

These are clearly measures to be taken by specific organizations, not by individual citizens. As to individuals, there is the advice to go about your normal affairs, but to be vigilant while doing so. Reading between the lines, one can infer the same fear held by disaster preparedness officials, especially regarding earthquake predictions, that a precise warning—if communicated to the public-at-large—could be more harmful than the event itself; hence, to avoid panic and other undesirable behavior (changes in consumer spending patterns, for example), the information should be shared only with professionals. This suggests that any "warning system" for terrorist attacks will be less like the national Weather Service's tornado watches and warnings that scroll across the bottom of the television screen and more like recent leaks to the news media of possible threats to the Golden Gate Bridge, California's nuclear power plants, and New England's banks. That is, there will be these vague color-coded public alerts while behind-the-scenes information will be given to appropriate agencies regarding possible local targets, some of which will trickle out into news reports. Short-term "warnings" would come only from personal awareness of increased security forces, restricted public access, or sudden evacuations.

Response

There is no other word to describe the initial reaction to the events unfolding on the morning of September 11—incomprehensible. In large-scale disasters, people's initial reaction is to try to make sense out of the sensory data they are processing. Where the sensory patterns are relatively frequently experienced and familiar, behaviors embedded in a "disaster subculture" are evident immediately. Where the sensory data do not fit a preexisting mental construct—an a priori, in Kant's term—immediate reactions can make it appear that people are stunned, passive, and in

need of strong leadership. Voices elevate several decibel levels, and emotions appear to be running high, but neither is an indicator of panic. A definition of the situation emerges—for example, “It must have been an earthquake”; “It sounded like an explosion”; “I thought it was a sonic boom”—and lines of activity followed, albeit not always ones that “experts” would recommend.

In the case of the events of September 11, it was not immediately clear which category—what a priori—should be applied. The first attack against the north tower could have been “a terrible accident.” The sight of a second airliner flying directly into the south tower eliminated this possibility. I had come back from my morning walk and was listening to the radio for the baseball scores while checking my e-mail when the sports talk radio program hosts began to describe the incomprehensible scenes that they were witnessing on their studio television monitors. For a while the hosts vacillated between their normal discussion of sports and their attempt to make sense of and to describe for their listeners what they were seeing on the monitors. After a while they were preempted by a live news broadcast from an affiliated radio news network.

Natural disasters, too, can fall into the inconceivable category, as when they occur in places where they are rare or unexpected. In the early spring of 1976, a series of late-afternoon thunderstorms with all the visible characteristics of Midwestern tornadoes struck this area, causing considerable property damage in northern Orange County. Spokespeople for the local office of the National Weather Service denied that tornadoes had been part of these storms, maintaining that tornadoes don’t happen in southern California. They persisted for the next twenty-four hours in denying that tornadoes had occurred until their colleagues from the National Severe Storms Forecast Center in Kansas City (now the Storm Prediction Center in Normal, Oklahoma), who had come out to inspect the damage and review the unusual weather data, finally were able to convince them otherwise. “Tornado” was not a category that southern California weather people were accustomed to using to make sense of what they saw on their radar screens.

The immediate postimpact response at the World Trade Center and at the Pentagon—*evacuation*—was not driven by the “big picture” nor inhibited by its incomprehensibility. Survivor descriptions of the evacuations in the twin towers show typical forms of improvised cooperation and organization, by both civilians and first responders. There were also the typical problems experienced by police, fire, and other emergency response organizations in large-scale disasters. Many of these are identified in the McKinsey&Company reports on the responses by NYPD and FDNY. One is what LAPD called the “John Wayne syndrome” after its shoot-out with the Symbionese Liberation Army (SLA) just down the street from here in 1974. This is the common tendency for all responding personnel arriving on scene to rush directly to “where the action is,” neglecting in the process to establish a security perimeter, a rear staging area, a field command post, and the like. Being on the firing line is more attractive to first responders than holding the reins of the horses in the rear.

Both victims and first responders in the field were too busy trying to escape the fires to worry about the big picture, but government officials were struggling to conceptualize the inconceivable. Videotape shown on the *NBC Nightly News* in late August 2002, for example, showed the Secretary of the Navy and his staff trying to make sense out of events at the Pentagon. It is still amazing that passengers on board United Airlines Flight 93 were able to piece together what they were confronting after only a few hurried cell phone conversations with telephone operators.

There is nothing more that can be added to another major type of response activity, *search and rescue*. This has been as extensively described by the media as any aspect of the events of September 11. I would make only one point, about the highly publicized exploits of several out-of-town search-and-rescue units that always seem to turn up at the scene of major calamities. At the crash site of United Airlines flight 93 and at the World Trade Center after the two towers has collapsed, there was nothing to rescue. These sites became crime scenes where the search for remains competed with the search for evidence. The “flying circuses” from places such as Dade County, Florida, and Arlington, Virginia, generate a great deal of free publicity for their home jurisdictions, probably increasing their departments’ budgets in the process, but they serve no useful purpose. In large-scale disasters, search and rescue typically is initiated by survivors—civilians—at the scene and is typically all but completed before professional search-and-rescue units arrive. (The year-long search for victims at the World Trade Center is exceptional.) Terrorist attacks such as in Oklahoma City and New York are more like aircraft crashes: the window for rescuing survivors closes very quickly if it is ever open at all, and all that remains is to locate and remove the dead.

The World Trade Center attacks were also different from large-scale disasters in the number of victims to be located, removed, and identified. One week less than a year after the attacks, the New York City Law Department had issued 2,729 death certificates, 1,379 to victims who had been positively identified and 1,350 to others declared dead by court actions based on evidence submitted by relatives. Only 78 probable victims were still listed as missing, of which it is expected that 50 soon would be removed from the list. The final death toll in New York is therefore approximately 2,750, far fewer than the initial estimate of over 6,700. Incidentally, this initial overestimation of the number of people killed is another similarity of these attacks with large-scale disasters, wherein the initial estimates of victims typically ranges from two to ten times greater than the later “final” numbers.

The parallels between large-scale disasters and terrorist incidents in terms of response activities such as evacuation and search and rescue are likely to diverge in future events in which the targets, types of weapons, and methods of delivery are qualitatively different from bombs and explosive devices. Explosions have by now passed over from the incomprehensible to the easily conceivable. (My neighbor came over excitedly a few weeks ago, convinced that the two sonic booms created by the space shuttle as it descended for a landing at Edwards Air Force Base had been explosions and wondered what targets terrorists might have struck in our area.) Repeated experience with incidents of the same type creates a knowledge base among civilians for dealing with them that can persist for long periods of time, as data from recently released surveys by the Israeli Defense Forces show. One only needs to compare the Oklahoma City bombing with the initial response to the discoveries of anthrax in late 2001 at NBC News in New York, the Senate Office Building in Washington, the U.S. Postal Service distribution center in Virginia, and the tabloid editorial offices in Florida to predict difficulty in comprehending the nature of future threats and the appropriate response to make. The possibility of initial incomprehensibility is compounded by false alarms and incorrect presumptions as the number of airport terminal evacuations caused by misidentification of innocuous objects during preflight screening increases (“You can never be too careful”); small-town police chiefs, for budgetary or status reasons, proclaim their need for more resources with which to confront “copy-cat” terrorist attacks sure to occur in their villages; etc. There will be initial confusion and later disagreement about whether an incident is an accident, the result of international terrorism, an act of personal revenge, an attempt to defraud an insurance company, and so forth. Applying the proper label to

a calamitous event as it unfolds is no mere “academic exercise.” It has life-and-death implications, as this brief look at postimpact evacuation and search-and-rescue activities shows. It also has both legal and organizational consequences. The former generate more news coverage, but the latter are equally important, for the socially defined nature of the event determines not only *what* responding organizations do but also *which* organizations respond and *what role* they play in the emergent interorganizational response.

Recovery

Patterns of recovery activity following large-scale disasters are customarily broken down into separate clusters of emergency, temporary, and permanent sheltering and housing; rehabilitation; and long-term recovery. These distinctions will be ignored here. Following large-scale disasters, there is overwhelming public sentiment for restoring damaged areas to their predisaster condition and functions. Efforts by urban planners to change land use patterns (e.g., from high to low density housing, or from rebuilding neighborhoods to laying down a limited access highway) have failed repeatedly in the aftermath of large-scale disasters. The situation at the World Trade Center site is somewhat different, with considerable pressure from victims’ relatives to leave the space open with some sort of memorial built. My guess is that market forces will prevail, that the value of land in this area of lower Manhattan will see the return of office space with some sort of memorial on a smaller scale. The former occupants now dispersed throughout the Tri-State Area and beyond will return or be replaced by new tenants, especially if the rebuilt structures are more modest and less inviting as targets for future acts of terror. The length of time that will have elapsed between impact and the completion of rebuilding will be longer than would be expected following a large-scale disaster, but this can be explained by the length of time required to retrieve the remains of victims, the fact that this is a crime scene and debris is also evidence, the historical meaning of the event, and the contentiousness of planning for the site.

Past research on recovery from large-scale disasters shows that cities are generally at least as well off if not better off after disaster than before. There are two exceptions to this empirical generalization. One exception is small cities where the location is sufficiently vulnerable to subsequent hazards that the availability of external aid is constrained; the other is cities (often single-industry towns) that were already in decline before impact (such as Coalinga, California). Both the size and the economic importance of New York City make its long-term prospects good, even without the possibility that various revenue-generating special events will be held there (e.g., future Olympic Games).

Two things are different about recovery in the aftermath of the September 11 attacks and that following large-scale disasters. One is a quantitative difference: the reach of the effects of the attacks has been much wider than is the case following disasters (although not that different from what would be expected in a truly catastrophic urban earthquake in the U.S. with heavy insurance losses and other major business failures). The other is a qualitative difference: recovery from the events of last September is likely to be prolonged by what I would call the “reaction to the reaction.” Unlike “natural” disasters which become things of the past when a hurricane moves out to sea or flood waters recede, the threat of further terrorist acts affects people’s decision-making in direct and, even more importantly, in indirect ways. For example, foreign vacation travel to U.S. cities was considerably below normal this past summer (a direct effect), negatively affecting cities such as San Francisco. Domestic travel within the U.S. has

also been below normal levels, negatively affecting nearly all domestic air carriers, less I would argue a result of fear of hijacking or an on-board explosion and more a byproduct of increased security measures (an indirect effect) such as “wanding,” “pat-downs,” hand inspection of luggage, long lines at check-in counters, the nearly weekly occurrence of airport terminal evacuations resulting in missed or cancelled flights, and so forth. Unlike earthquakes which people believe are over when the ground stops shaking (aftershocks seem to be afterthoughts for most people), the occurrence of one terrorist act causes the perceived probability of another future terrorist act to increase. (Advertisements for travel and tourism, especially by governments or featuring governmental leaders, are a good barometer of unhappiness with the pace of recovery in this economic sector. The mayor of Prague, for example, recently held a series of press conferences to urge tourists to visit his city, assuring them that the recent flooding of the Vltava River should not be a reason for staying away. Government advertising for tourism is also frequently used by countries with a public perception as risky places, the product of frequent news coverage of terrorist acts there. The government of Israel, without referring either directly or indirectly to terrorism and counterterrorism, typically advertises extensively its positive qualities as a tourist destination during the spring and early summer in U.S. media markets having large Jewish populations.) My guess is that when the next act of terror, of whatever type, affects an American city, the end of the recovery tunnel from the attacks of last September will appear to be farther away.

Patterns of donations to funds for the families and former organizations of victims of the New York attacks, including those of first responders, are similar to those following large-scale disasters, except in two respects. Again one difference is quantitative: the amount of giving to 9/11 relief funds is unprecedented. The second difference is qualitative: the extent to which giving has been targeted. By targeting I mean donations to funds for specific organizations that lost members, such as the Port Authority of New York, the New York Police Department, and the Fire Department of New York, and funds set up for individual precincts and engine houses within these organizations. I am also referring to giving to general disaster relief organizations such as the American Red Cross (ARC), with the general expectation—and in many cases, with specific instructions—that donations be earmarked for specific categories of recipients. In the case of the ARC, this contributed to the resignation/ouster of its president, Dr. Bernadine Healy. Two issues related to September 11 in particular generated public criticism of her leadership and further strained her relationships with the ARC board and with local chapter presidents: her handling of the \$500 million donated to the Red Cross’s Liberty Fund created for victims of the four hijackings, and her continuing of the campaign for blood donations even though many in the organization felt the limits of its capacity had already been reached. Both issues were contentious because a portion of the donated resources (money, blood) were being used as per normal ARC procedures for anticipated future disaster, not just in response to the terrorist attacks as many donors believed they should be. While these were not the only issues causing friction (Dr. Healy’s management style and a long-standing fight with the International Red Cross to admit the Israeli Red Cross were others), they do show the strength of opposition in the aftermath of the September 11 attacks to the Red Cross’s normal postdisaster *modus operandi*. The involuntary change of leadership at the ARC also underscores another important generalization from research on large-scale disasters that applies here as well. Changes that seem to be *caused by* catastrophes instead have their origins in trends or conflicts existing *before* these dramatic events.

Another lesson in both large-scale disasters and the aftermath of September 11: Even though victims and their relatives complain about all the “red tape” and bureaucratic delays in qualifying for and receiving disaster relief, aid cannot be distributed without rules and a staff to implement them impartially. Money is frequently donated to funds or charities other than the American Red Cross because of the widespread popular belief that Red Cross disaster services are overly bureaucratic. The organizational histories of the September 11 Victim Compensation Fund, headed by Kenneth Feinberg, and, on a smaller scale but even more interesting given the values and intentions of its leaders, the National Association of Home Builders, demonstrate the functional necessity of universal rules and a technically competent staff for achieving fair and equitable disaster relief.

Mitigation

Mitigation is a more politically charged term than the others used thus far to compare catastrophes. Basically it refers to the activities at some distance in time removed from a catastrophic event that are aimed at preventing or at least reducing the probability of a subsequent similar event. Mitigation is conventionally divided into two categories, structural mitigation (things such as the construction of dams and levees for flood control) and nonstructural mitigation (most commonly zoning and building codes). Parallels with potential future terrorist acts similar to those on September 11 are easy to identify. They include structural devices such as concrete barriers and heavy planters placed in front of entrances to public buildings, x-ray equipment for detecting explosive devices and weapons in checked and carry-on baggage at airports, electronic “wands” performing the same function on clothing and the human body, metal rods for preventing would-be hijackers from entering the cockpits of airliners, and so forth. Parallels to nonstructural mitigation include a wide array of activities, from intelligence gathering, covert operations, and military aid (including counterterrorism training and military advisers) to foreign economic assistance, diplomacy, and direct military intervention.

The choice of mitigation strategies depends on two things. Mitigation is *threat-specific*. Although some mitigation tools may have applicability in confronting more than one hazard (e.g., a single building standard may lessen the probability of damage from high winds, earth shaking, and flood waters), mitigation tools more often are created with a single hazard in mind. Because threats are allocated as responsibilities of specific organizations and clusters of organizations, mitigation is also *organization-specific*. Both beg the question: Mitigate what? In the case of future terrorist acts, the question becomes: What is the objective of the act, to kill as many civilians as possible?; to destabilize or topple the central government?; to disrupt the economy?; to lower civilian morale and create political discord? Some of these objectives make cities and their inhabitants targets, others (for example, economic disruption or the contamination of the water supply) do not. I will not discuss all the implications of the answers to this question for mitigation in their specifics, but only comment on some of them briefly in offering a few concluding remarks.

Conclusions

Let me summarize some lessons learned from this brief comparison of research findings on large-scale disasters with the events of September 11, 2001, and what this comparison suggests about future threats to cities. In general, events before and since last fall are similar to disasters

in their *form*, but they differ most evidently in their *content*. By form I mean the generic patterns of behavior displayed; by content I mean the subjective meaning that orients that behavior. For instance, one can make certain generalizations and predictions about planning for future threats, because planning as a form of behavior has certain commonalities regardless of the threat toward which it is aimed. On the other hand, making generalizations and predictions about the specifics of planning for an attack of anthrax contaminated Christmas cards from the specifics of planning for earthquakes is more tricky.

In my experience, the events surrounding last September's attacks most closely resemble those associated with the collision of two ships, the French *Mont Blanc* and the Norwegian *IMO*, in the inner harbor at Halifax, Nova Scotia, in 1917. The *Mont Blanc* was a munitions ship secretly carrying explosives and aviation fuel. Twenty minutes after colliding with the *IMO*, *Mont Blanc* exploded with one-seventh the energy of the first atomic bomb. One thousand nine hundred sixty-three were killed, and 9,000 more were injured. I quote from my friend Joe Scanlon, who has been studying the Halifax disaster for decades:

"The north end of the city was in ruins or on fire. Ships in the harbor were battered, both by the explosion and by the tidal wave it created. . . . Communications and transportations were disrupted. The fire department lost its senior personnel including the chief. Initial search and rescue was done by family, neighbors, and passers-by, then by hastily organized groups. Victims poured into physicians' homes where physicians tried to help despite their own injuries. The hospitals were swamped; patients were on floors, under tables, even, despite the chilly weather, outside on steps." (T. Joseph Scanlon, "Rewriting a Living Legend: Researching the 1917 Halifax Explosion." *International Journal of Mass Emergencies and Disasters* 15 [March 1997]: 147-178.)

There are other similarities between the Halifax disaster and recent acts of terrorism or at least acts that were thought initially to be the work of terrorists. (TWA 800 comes to mind.) After the *Mont Blanc* exploded, a rumor circulated in Halifax that the ship had been torpedoed by a German U-boat that had slipped into the inner harbor. A few residents even armed themselves and awaited what they believed was an impending attack by German ground troops. (The rumor was untrue, and no invasion by German troops took place.) In his famous doctoral dissertation, Samuel Henry Prince described the response to the explosion and fires as well as the recovery of Halifax and changes after the event in terms that parallel events in the U.S. during the past twelve months.

There are also many parallels between the terrorist attacks and major airliner disasters such as TWA flight 800 off East Moriches, New York; Egypt Air flight 990 off Nantucket, Massachusetts; ValuJet flight 592 in the Florida Everglades; and Swiss Air flight 11 off Blandford, Nova Scotia. I mention these recent airline disasters to repeat the point about the *content* or meaning of events. The label attached to an event makes a difference for all four activity clusters (i.e., preparedness, response, recovery, and mitigation). It is especially related to what organizations do. TWA 800 is a good illustration. The uncertainty over whether the explosion and breakup of the Boeing 747 was caused by an on-board explosive device ("terrorism") or by an electrical malfunction ("accident") affected the retrieval and reconstruction of the aircraft, how relatives of the victims were treated, as well as the

relationship between the FBI and the National Transportation Safety Board (NTSB). Projecting into the future, one can foresee more conflict and confusion in public and organizational reactions to life-threatening situations whose meaning is unclear, despite efforts to coordinate the roles of a variety of threat-specific organizations symbolized by the creation of the Office of Homeland Security at the federal level.

The tendency to base preparedness, response, and mitigation on the most recent and most dramatic event is also worrisome. My personal guess is that the next round of terrorist acts will *not* involve hijackings of fuel-laden aircraft and their use as flying bombs. Even if causing mass civilian casualties were the goal of such acts, there are other ways to achieve it that now would have a higher probability of succeeding. So-called “weapons of mass destruction” are obvious tools for contaminating water and food supplies and ambient air. If, on the other hand, the objective is economic disruption, then computer viruses, attacks on computer networks and data storage devices, and damaging electrical supply and distribution systems are among the possibilities. If the intent is symbolic, then a variety of targets need to be added such as historical landmarks, major cultural events (e.g., the Academy Awards), and other symbols of America’s “decadent” life-style (e.g., Las Vegas casinos and hotels and theme parks such as Disneyland and Disney World). (Documents found in the apartment of three men being held in Detroit on terrorist conspiracy charges included videotaped surveillance footage of the MGM Grand Hotel and Casino as well as Disneyland.) Tellingly, some recent anti-American attacks in France have targeted McDonald’s fast-food restaurants. (The “golden arches” as symbols of U.S. economic imperialism?)

The (fortunate) infrequency of terrorist attacks in the U.S. and the likelihood that future incidents probably will differ from those in the past suggests that Americans will have difficulty taking such events “in stride” as well as “moving on” and “putting them behind us.” The appropriate comparison here is not to one-of-a-kind events such as the munitions ship explosion in Halifax but to repeated acts of the same type such as “suicide bombings” in Israel. The infrequency of acts of violence or terror, while welcome, does mean that future such acts will be unique in their consequences rather than “routine.”

This means that there are likely to be changes in life-styles, at least in the short-run. Disasters have the same effect. Tourism in southern California decreases after major earthquakes (and riots) here. News coverage of tornadoes in the Midwest adds to my wife’s refusal to travel there in the spring and summer. (“I don’t do tornadoes!” she insists.) This typical reaction may be offset by the convergence of sightseers, such as to “ground zero” in Lower Manhattan. Such convergence is facilitated when the site is no longer perceived to be dangerous. Also, physical destruction is more likely to generate convergence of sightseers than other sites such as an anthrax-filled mail sorting facility.

Another part of this is what I earlier called the “reaction to the reaction.” There is already evidence of changes in preferred modes of transportation (long-distance vehicle rentals are up, airline passenger boardings are down). I suggest that this is more the unintended consequence of increased security (long lines at airline check-in counters, hand searches of luggage, “wanding” and “pat-downs,” removal of shoes for x-raying, the possibility of airport terminal evacuation and closure with missed, delayed, or cancelled flights) than continuing high levels of fear of skyjacking or on-board detonation of explosives.

Much of what is otherwise “normal” in the aftermath of the attacks of last September is also having unintended consequences. My colleague Barry Glassner has recently written about what we fear and why we fear it, usually in spite of expert assessments of the likely risks involved.

One factor is media coverage, which is correlated with levels of risk measured in opinion surveys. Coverage of security threats has the same effect. Like news reports showing what individuals and public agencies are doing to successfully “fight crime,” news coverage of measures being taken to make air travel safe from hijackers also unintentionally shows that the “people who should know” believe that the threat has not gone away. Even reassurances from political leaders about the success of the government’s “war on terrorism” will backfire as news to the contrary becomes available. (In fairness, politicians have no choice but to claim total success. Their constituents have no tolerance for equivocal—but more accurate—statements such as “We’re doing the best we can, but obviously we can’t guarantee that we will be successful.”)

Let me return to the point that I made in the beginning. Threats to cities are numerous and varied. Given the modern division of labor, each type is “owned” by a different organization. Threats also vary in the amount of attention they receive and in the level of concern about them. I will conclude with another anecdote that illustrates these points. Some years ago, Dan Kahneman and the late Amos Tversky—two people known for their work on risk—were recalling a trip they had made together to Israel. All that their Israeli hosts and colleagues were talking about were terrorist attacks, and they were repeatedly counseled on what to do to avoid becoming victims. However, both Kahneman and Tversky were adamant in describing their experiences: the greatest threat to life and limb in Israel had been obvious to these two Americans—the threat posed by Israeli drivers!