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55 Trends

Now Shaping the Future of
Policing

The Proteus Trends Series

*Volume 1, Issue 1
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Proteus USA

The National Intelligence University, Office of the Director of National Intelligence and the Center for Strategic Leadership, U.S. Army War College, established the Proteus USA as an international consortium and “think tank” that promotes further discourse, study, and research focused on examining uncertainty, enhancing creativity, gaining foresight, and developing critical analytical and decision making processes to effectively provide insight and knowledge to future complex national security, military and intelligence challenges. The organization focuses on the refinement, development, and application of new and emerging “futures” concepts, methods, processes, and scenarios.

The overarching goal of this effort is to provide value-added and relevant commentary that will assist strategic and high-operational level decision makers, planners, and analysts with “outside the box” considerations and critical analysis of national, military and intelligence issues within the Joint, Interagency, Intergovernmental, and Multinational (JIIM) environment.

The 55 Global Trends Series

Proteus supports research by several public and private organizations. The 55 Global Trends series is produced by Forecasting International Inc., a private think tank, as part of their ongoing research dedicated to the identification of key trends and their integration into long-term planning. Forecasting International (FI) has conducted an ongoing study of the forces changing our world for almost half a century in support of clients ranging from General Motors to the YMCA, the Central Intelligence Agency, and the White House.

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55 Trends

Now Shaping the Future of Policing

**By Dr. Marvin J. Cetron
and Owen Davies**

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Foreword

This report on the trends now shaping the future of policing is the first report in the Proteus Trends Series. This and subsequent reports identify trends that are shaping the future and analyze their impact on specific topics. This effort is designed to assist operational and strategic analysts, planners, and decision makers across the various communities within government and the private sector in scanning the horizon and defining the future environment in order to systematically identify discrete threats and capitalize on hidden opportunities.

Dr. Marv Cetron and Mr. Owen Davies, with the assistance of their associates at Forecasting International, developed this report. Building on Forecasting International 55 trends, they have identified specific implications of those trends in the area of future policing. Incisive commentary provided throughout by a panel of subject matter experts adds to the richness of their analysis. This report provides security officials, agencies, think tanks, and academic institutions from across government and the private sector with keen insights into key trends that will continue to influence terrorism and counter terrorism.

Proteus USA is pleased to sponsor this seminal work.

Bill Waddell
Chair, Proteus USA

Preface

More than one in every 100 adults in the United States were in prison at the end of 2007, according to the Pew Center on the States, which analyzed figures from the Justice Department. This was the highest rate of imprisonment in American history. Nationwide, the prison population has tripled in three decades, to 1.6 million. Some 723,000 more are being held in local jails. In Germany, ninety-three people are imprisoned for every 100,000 people in the country; in the United States, the figure is 750 per 100,000.

At the same time, the number of police officers is stable or declining. In Boston, there were 1,800 officers a decade ago. Now there are fewer than 1,400. In Ohio, there are 1,500 state troopers, just as there were in the mid-1970s—“even though we have twenty times the amount of work,” notes Jim Roberts, director of the Ohio State Troopers Association. Budgets are tight throughout the country, and layoffs are common.

There are many ways to interpret such numbers, few of them especially cheering and many controversial. But whatever else we make of them, one thing is clear: each arrest reflects a substantial investment of a police department’s time; each conviction represents even more. So according to the statistics, American police departments have been increasingly busy over the last 30 years. If the current trend in arrests continues, they are likely to be busier still in the years ahead.

Trends are a subject Forecasting International (FI) knows well. For nearly half a century, FI has tracked the trends that have shaped and reshaped the future. We have used them successfully to predict coming developments in fields ranging from terrorism to the commercial warehouse industry.

That is our goal here, to analyze the trends that will affect policing in the United States and project their impact over the medium-term future. In this way, it should be possible to anticipate changing demands for police service, future staffing and budgetary requirements,

technological innovations on both sides of the law, and many other factors that police agencies large and small will have to cope with between now and, say, 2025.

This study began when a company called Versaterm asked FI to undertake a study of developments that will affect policing over the next 20 years. Versaterm, based in Ontario, Canada, and Scottsdale, Arizona, produces software and communications systems for local police departments and other first responders. The future of policing was of critical interest to them.

At the suggestion of company CEO Ron Meyer, we soon were asked to present a similar report at the 2007 Major Cities Chiefs Conference, in Sun Valley, Idaho. This gathering is attended by police chiefs or deputy chiefs from the sixty largest local agencies in the United States and Canada. For 2007, they were joined by representatives from the Federal Bureau of Investigation. At this meeting, we met many very capable, dedicated law enforcement officials. Some of the best have contributed to this book.

The present work builds on this foundation, but it is a much more ambitious study than our previous efforts. We have attempted to make this work the most comprehensive forecast of policing now available. In this, we believe we have succeeded, thanks largely to the insights of the nearly three dozen leading thinkers from the fields of policing, criminal justice, and forecasting who have participated in this work. Their thoughts appear, in their own words, in the comments that follow each trend.

The next two decades will be a trying period for police departments in the United States and in most of the developed world. Yet they need not face the coming tests unprepared. We cannot anticipate everything that will occur in the period ahead. Yet well-informed foresight can make a big difference in how successfully we meet future demands. We believe that the findings reported here can help American law enforcement to cope with the coming challenges.

Acknowledgments

Much of the value in this special edition of our trends is owed to the stellar panel of experts in law enforcement who have contributed to this work. We thank them all for their invaluable help in preparing this report. Without their incomparable knowledge of the many issues involved in policing, both now and in the immediate future, this project would have been much less successful and certainly much less useful.

Participants in our expert panel included:

Brian Bruh, CEO, Brian Bruh Associates; former director of the Defense Criminal Investigative Service and the Financial Crimes Enforcement Network

Assistant Police Chief (Ret.), John Buchanan, Phoenix Police Department

Mark Callanan, Institute of Public Administration, Dublin, Ireland

Dr. David W. Chobar, Associate Professor of Education, Morningside College

Dr. James A. Conser, Faculty Emeritus, Criminal Justice Department, Youngstown State University

Chief Kim C. Dine, Fredrick Maryland Police Department

Jim Dye, Senior Research Analyst, Constituent Insight, Focus on the Family

Professor Robert Ford, IACP Senior Consultant, Regional Coordinator for Criminal Justice, Central Florida University

Dr. Craig Fraser, Director of Management Services, Police Executive Research Forum

John J. Gottsman, President, The Clarity Group

Dr. William Halal, Professor Emeritus of Science, Technology & Innovation, George Washington University; President, TechCast LLC

Don Hodge, Deputy National Intelligence Officer for Warning,
National Intelligence Council

Jeffery G. Hynes, Commander, Family Investigations Bureau,
Phoenix Police Department

John Jackson, Strategist, Houston Police Department

Dr. John Jarvis, Chief Criminologist, FBI

Deputy Chief F. Peter Jensen, Santa Ana Police Department

Dr. Frank Kardasz, Sergeant/Project Director, Phoenix Police
Department/Arizona ICAC Task Force

Norman I. Kaufman, Captain, U.S. Navy (Ret.)

John Kapinos, Strategic Planner, Fairfax County Police
Department

Nico van Klaveren, Futurist

Captain Charles Lifford, Gastonia, North Carolina, Police
Department

Robert Lunney, Police Chief (Ret.)

Ron Meyer, CEO, Versaterm

Dr. Stephen Millett, thought leader and manager of technology
forecasts, Battelle

Graham Molitor, President, Public Policy Forecasting; Vice
President, The World Future Society

Jim Mortimer, Director of Business Development, Versaterm

Jerry Needle, Director of Research, International Association
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Policy, University of Maryland

Deborah Osborne, Analyst and Futurist, Buffalo, NY

Professor Joe Schafer, Center for the Study of Crime,
Delinquency, and Correction, Southern Illinois University,
Carbondale

David Shtulman, Director of Agency Endowments, United Jewish Federation Foundation

Rick Smyre, President, Communities of the Future

James L. Stern, Esq.

Alan Youngs, Esq., retired Division Chief, Lakewood, Colorado, Police Department

Professor Don Zettlemoyer, Justice and Safety Institute (JASI), Penn State University

In addition, we owe special appreciation and recognition to those who forwarded comments and suggestions on the composition of these trends and earlier drafts of the document. In particular, select members of the Futures Working Group (a working collaboration between the Federal Bureau of Investigation and the Police Futurist International) provided extremely useful input. Dr. John Jarvis of the FBI Academy in Quantico, Virginia, coordinated their efforts.

Forecasting International's project staff for this work included:

Dr. Marvin J. Cetron, President, Forecasting International

Dr. Edward Cetron, Consultant

Justin Cetron, Information Technology Analyst, Forecasting International

Owen Davies, Researcher/Writer, Forecasting International

Mark Werfel, Senior Consultant

INTRODUCTION

The world is undergoing rapid and sometimes painful changes. Some people and institutions will benefit from these changes, while others will find themselves greatly burdened by them. For anyone concerned with the future, including planners and managers in all fields, it is crucial to anticipate what these changes will be, figure out how to adapt to them, and—if possible—devise ways to use them to their advantage.

This is Forecasting International's (FI) stock in trade. For more than four decades, FI has conducted an ongoing study of the forces changing our world. One of the values of tracking major trends over such a long period is that we usually can see whether sudden shifts are indicators of seismic transitions or merely temporary anomalies or fads. This has made it possible for us to anticipate many specific developments in fields ranging from terrorist studies to the future of commercial laundries. In this report, we examine the future of policing. As usual, the trends have proven very revealing.

This latest edition of FI's periodic trend report tracks 55 trends in eight major areas: economics and society; values, concerns, and lifestyles; energy; the environment; technology; the labor force and work; management; and institutions. Some of these trends examine different aspects of very wide-ranging developments, such as demographics or the changing energy picture. These may overlap to some degree, but for our purposes it is necessary that each trend stand on its own. Many of these trends can be seen in the world at large; a few are limited to the United States. Many have obvious applications to policing. Others will help to form the general environment in which we live and work. They all merit attention from anyone who must prepare for what lies ahead.

Forecasts stemming from the trends reported here range from the very near term (2008-2012) to medium-range futures (up to 2025), but we make no attempt to speculate about very-long-range futures that may prove of little practical use. Based upon our previous results, we expect that most of these predictions will turn out to be correct.

One commercial client recently re-examined a study we had carried out for them ten years earlier. They found that, out of more than 100 specific forecasts, more than 95 percent had come to pass.

LESSONS AND RECOMMENDATIONS

Examining these trends, it becomes clear that the next ten or twenty years will be a trying time for the world's police agencies, and especially for those in the United States. Many changes are under way that will require significant adaptations on the part of law enforcement. These include new technologies, demographic shifts, changing values, and a host of other forces for transformation.

Forecasting International rates technology as the most powerful of the many forces now changing law enforcement. This view is derived, not from any specific insight into law enforcement, but from hundreds of studies in widely varied fields. In almost every area, technology is wiping away traditional working methods faster than people can adapt to the new possibilities becoming available to them. So will it be in policing.

For example, the advent of cheap video cameras and networking technology has made it possible to keep entire nations under almost constant surveillance. At the same time, the emotional fallout of terrorism, and especially the September 11 terrorist attacks in the United States and the July 7 bombings in Britain, has made people less concerned about their privacy than about their safety. As a result, Britons now are caught on camera an estimated three hundred times per day. In a growing number of cities, Americans are only a bit less heavily observed.

At the moment, these systems are most useful in the forensic reconstruction of crime, rather than in observation and prevention, because personnel constraints make it impossible to monitor all the data being collected in real time. However, in the years ahead, research into artificial intelligence will enable computers to recognize a crime in progress and refer the video feed to a human colleague for handling. IBM already markets an early iteration of this technology. These systems

will first replace mobile officers for traffic enforcement—a revolution in itself—but eventually they will be capable of keeping watch for almost any crime or any known criminal. This will be a new era of efficiency for law enforcement.

Other automated systems will help to “mesh” information from incompatible data stores, recognize patterns in the data, develop rigorous hypotheses, perform collaborative analyses, and “capture” the skills of the most capable analysts so that others can benefit from them, even when the analysts themselves are not available. Eventually, these systems will spread from the intelligence community to law enforcement. These techniques may offer the best opportunity to give law enforcement agencies a clear advantage over their adversaries.

Adopting these systems, and many other useful technologies, will require significant budget outlays, special training for operators, and—at least in the case of traffic enforcement—wholesale reassignment of personnel to other duties. Specialists, even sworn officers, may be shared among departments or may sign on to carry out a specific job and then move on when that job is over. In order to make these transitions as quick and painless as possible, big-city police departments and regional organizations will need to track developments in technology that could improve the efficiency and success rates of law enforcement.

At the same time, law enforcers will need to track the use of new technologies by criminals and criminal organizations. The Internet has made possible a variety of financial crimes, international operations by close-knit gangs, and other challenges that law enforcement is ill equipped to meet. Catching up with the bad guys and, in the ideal case, staying one step ahead of them, is one more priority for the next ten to twenty years.

A second transforming force is demographics. This one is easier to predict than technology. Western societies are growing older, thanks to improved health care, and they are growing more diverse, owing to continued migration to the United States from Latin America and to Europe from the former colonies of Africa and Asia. However, knowing that change is coming will make it little easier to cope with.

As societies age, we are likely to see fewer violent crimes, because violence is generally a young person's game, but more financial crimes, because in the modern world the elderly tend to be relatively well-off. This will require a shift in policing to meet the needs of older clients and the training of more officers who specialize in financial misdeeds.

We also may see more territorial conflicts between police agencies and private security firms that look after the day-to-day needs of corporations and wealthy communities. Security will be one of the great growth industries of the next twenty years.

On the positive side, police officers will be living longer, healthier lives. This will allow them to remain on the job after retirement, most likely beginning second careers with other departments. Many will work in technical, support, and administrative positions, freeing their younger colleagues for more strenuous duties and helping to relieve any personnel shortages resulting from the relatively small populations of the younger generations. However, longer life expectancies also mean that departments will be faced with growing costs for pensions and medical benefits. This will place added strain on law enforcement budgets that already can barely meet the needs of their communities.

The other great demographic trend is the mass migration of people from the poorer countries of Latin America, Africa, Asia and Eastern Europe to the relatively wealthy lands of North America and Western Europe. In the United States, the number of Latinos will nearly double, to almost one in four, between 2000 and 2050. And at current rates of immigration and birth, France will have a Muslim majority by 2050. (Muslims are the fastest growing group in the United States as well.) This is a recipe for conflict between newcomers and the majority culture of their new home countries, as well as among various immigrant groups.

Police departments will find it necessary to learn immigrant cultural norms, both to anticipate conflicts with native-born neighbors and to avoid accidentally giving offense when dealing with new arrivals. This may require the development of specialists in immigrant-community relations.

Changing populations inevitably will demand recruiting police officers from within the immigrant communities. This is likely to raise security concerns, whether justified or not, when the recruits come from Muslim groups. In Europe especially, radical Islamists have had considerable success in attracting both immigrants and native converts to the extremist cause. The need to bring Muslims into law enforcement without accidentally recruiting would-be terrorists will be a growing concern for police departments throughout the Western world for many years.

Conflicts between cultures are largely conflicts of values, and this is not the only place where new values will modify police practices. In the United States and Europe, Baby Boomers have long set the social norms to align with the values they learned in the turbulent 1960s and '70s. Now new generations are taking over, and they are bringing with them new values that may fit poorly with standards long established in police agencies. These are Generation X, now in their late 30s and 40s and rising into senior positions in law enforcement; Generation Y or Dot-com, in their 20s and early 30s; and the Millennials, now just entering the work force.

Throughout the world, members of these generations resemble each other far more than they do their parents. Shared values include materialism, a strong entrepreneurial streak, and an eagerness to do things in their own way. Yet they also tend to be skilled at cooperation when joint effort is the best way to accomplish common goals.

However, the single most obvious characteristic of these generations, reinforced with each successive age cohort, is a single-minded devotion to the bottom line. Unfortunately, the bottom line that most concerns them is their own, not that of their employer or peer group. Millennials especially are capable of quitting a job and moving across the country at the hint of an opening they might find more appealing. This will make it much harder for law enforcement to recruit younger workers in the face of better pay and benefits from private industry. And since the start of the Iraq War, those young people who are best suited to police careers have tended to enter the military instead.

In the years ahead, this competition, combined with the self-oriented values of the young, will make it much more difficult for law enforcement agencies to fill their manpower needs. Coping with these problems will be another major formidable task for policing, at least through 2020.

There is another aspect to this transition of values, and it too will affect law enforcement. In the United States especially, police agencies tend to have an extremely traditional, conservative culture. As values change in society at large, police departments are likely to find themselves increasingly at odds with the values of the communities they serve. For example, five states already provide legal protections similar to those of marriage to same-sex couples, and many more are likely to join them; this is just one trend that tradition-minded officers may find uncomfortable. At times, conflicts may be inevitable, as in the case of marijuana, where social acceptance of the illicit drug has run far ahead of any possible legal acceptance. In other cases, police agencies may find it necessary to make some difficult adaptations, for example by extending health benefits to the unmarried partners of officers.

These are just a few of the challenges that today's trends are preparing for tomorrow's law enforcement agencies. However, we believe that these forces—technology, demographics, and changing values—will be the three most important facing the police community in the near future.

To help cope with the coming changes, police forces and other law enforcement agencies will have to prepare well. At least three specific measures seem likely to help.

1. Develop contingency plans to take advantage of funding and authorities that are not possible now but could become available after a major terrorist attack or a natural disaster. Improving emergency communications is one obvious use for a future budget windfall.
2. Partner with societies that already cope with the problems the United States could face in the future. Israeli law enforcement has more experience with modern terrorism than anyone else in the world. Any big-city police force would

benefit from joint planning sessions, exercises, training, and rotations with their counterparts in Jerusalem or Tel Aviv. There is ample precedent in U.S. military exercises with American allies.

3. The most pressing need may be to plan for tomorrow's retirees. Future pension and medical needs already are well understood, but the opportunities represented by former officers may not be. How can retirees be used as auxiliaries, paid or unpaid, in an emergency response force? What skills can each individual provide when they are needed? (These would have to be catalogued on a regional or national basis, because retirees so often move away from their home territory.) What could retirees in other fields offer? Would retired dentists or accountants attend a weekend or summer training program, as reserves do, and devote some of their time to identifying corpses or puzzling out financial crimes? This would have the added benefit of making the public more aware of the risks of policing, so politicians might be more comfortable proposing needed budget increases or other improvements while facing re-election.

Many other issues can be found in the pages ahead. Even if they are not likely to be as great or as pressing as the trends that form the bulk of this summary, cumulatively they will have an enormous impact on police operations and management over the next decade or two. Spending the time to read on should be regarded as an investment in the future. We believe it will be repaid many times over in the form of better preparation for the trying times ahead.

LESSONS FROM THIS STUDY

TEN MOST CRITICAL TRENDS FOR THE FUTURE OF POLICING

Inevitably, our panel of experts disagreed about which trends were the most significant for policing, and in a few cases none of them shared Forecasting International's estimate of a given trend's importance. Yet, if there was no consensus as to whether a trend deserved to be considered the third most important or the seventh, most of the specialists generally seemed to agree about which trends belonged in the top ten or twelve, and FI usually concurred.

As panelist John Kapinos points out, "It is always interesting with the expert panel to see what aspect of a question each member picks up on. The variety of perspectives on each trend is interesting." In comparing the responses of law enforcement officials from small towns and big cities, local departments and federal agencies, we learn about the pressures being felt at each level of policing. This can be as interesting as the opinions themselves.

In the list below, we have ordered the trends according to the average rank assigned by the specialists, with a "fudge factor" giving extra weight to trends that received more than the average number of citations. Where rankings diverged widely or Forecasting International's personnel felt strongly about the trend, our own judgment became the tie-breaker. We doubt that any of our specialists will be entirely happy with the result. However, we suspect that most would have been even less satisfied with any of the alternative rankings that reasonably could have been derived from their comments.

That said, here are the top ten most important trends for policing, in approximate descending order. Many more details about each trend are available in the body of this report.

1. TECHNOLOGY INCREASINGLY DOMINATES BOTH THE ECONOMY AND SOCIETY. (TREND 28)

Implications for Policing:

Networks of video cameras are just the first of many high-tech tools that will affect police operations in the years ahead.

Nanotech sensors capable of detecting explosives and chemical and biological weapons will be scattered around prime terrorist targets, such as major public gatherings, relaying the location of any possible threat to the local command center.

Intelligence analysts, already overwhelmed by the amount of data collected each day, will face a growing torrent of data in the years ahead. As surveillance spreads through society, this will be a problem for police agencies as well. Until automated systems become available to help monitor incoming data, much of the information collected by cameras and other tools will be used more to provide evidence for prosecutions than to prevent or interrupt crimes.

To assist them, engineers will develop automated systems to help “mesh” information from incompatible data stores, recognize patterns in the data, develop rigorous hypotheses, perform collaborative analyses, and “capture” the skills of the most capable analysts for use by others, even when the analysts themselves are not available. These systems will originate with the intelligence community, but they will eventually spread to law enforcement. They may offer the best chance of giving law enforcement agencies a clear advantage over their adversaries.

The recent decision by an American court to block data mining by the Department of Homeland Security (DHS) is a major loss to security efforts in this country. While similar military projects continue, the DHS shares data with the regional Fusion Centers responsible for much of the work carried out at the local level. Loss of this resource will make their efforts notably less effective.

Expert Comments:

CALLANAN: Presumably, as in other professions, a greater emphasis on lifelong learning in the police force will be required to keep up with the pace of technological change and in order to be able to get the most from new technologies.

FBI TEAM: Technology presents a host of challenges and opportunities—opportunities to engage in safer and more effective police operations while confronting new and increasingly complex forms of crime and terrorism. Unfortunately, many public safety agencies are under-funded and cannot quickly take advantage of technologies that would ease their jobs and improve their performance.

DINE: Technology is drastically changing the way police forces do business and carry out investigations.

FORD: Technology: particularly important to policing and corrections. Information technologies will assist in spreading intelligence-led policing. IT will also demand a more sophisticated and educated management staff within law enforcement agencies. Agencies will be held increasingly accountable by the public to provide information on police activities.

Surveillance technology will have dramatic impacts, particularly in traffic enforcement. Traffic officers increasingly will become technicians and warrant servers as traffic enforcement, particularly of speed and red lights, becomes fully automated.

Advances in forensics will dramatically transform the investigative function, requiring far more technicians and far better educated investigators. Smart car technology will alter the traffic control function. Drug and bomb dogs will be replaced by electronic sniffers.

JACKSON: The technologies maturing now will transform society on a scale not seen since the adoption of machinery during the industrial revolution. Police agencies possess large quantities of institutional friction that make them lag behind the rest of society in adopting new technologies.

KAPINOS: Technological change creates endless implications for law enforcement. Computer technology and other related fields create tremendous tools for the profession, but they open new avenues for crime as well. The law enforcement profession is forced to work constantly to adapt to and develop new technologies.

LUNNEY: Technology is changing our way of doing business. Traditional organizational models will be de-layered, and structures will be increasingly lateral in their design. We should place a priority on the implications and opportunities for using technology to improve productivity across the entire scope of operation.

MEYER: The primary constraint on really benefiting from technology is the rapidly shrinking pool of well-trained software developers who can apply the technology to national problems such as police administration. Because stories of outsourcing have led students to fear that well-paid jobs may be unavailable when they graduate, enrollment in the university programs that could produce the necessary talent has dropped precipitously.

OSBORNE: There are not enough trained, skilled, and knowledgeable law enforcers who can tackle problems based in current technology—identity theft, white collar crimes, and cybercrime. Emerging technologies are likely to bring further challenges, which justice and security agencies will be ill-equipped to face. However, sometime in the next twenty years, more sophisticated technologies will become much easier to use with relatively little training. These tools will be widely adopted and will transform policing.

SCHAFFER: New technologies will contribute to improved officer safety. Beneficial technologies include less lethal weaponry, protective tools, the use of video cameras to document on-the-job performance, unmanned aerial vehicles for surveillance, digital assistants, and online data systems that help police to prepare for operations and anticipate problems.

YOUNGS: The exponential rate at which technology is changing is directly affecting policing today. While it offers new tools for officers, it is also providing extremely lucrative and easy means of criminal activity. Changes in technology are already forcing us to re-think how we will investigate crimes, prosecute criminals and how laws must be changed or updated if we are to keep up with this growing field. For example, portable DNA machines are not being tested by many law enforcement agencies. This is the wave of the future, as media and the public expect law enforcement to resolve violent crimes in a timely manner. Recent cases have illustrated this fact. The experiences of Columbine and VA Tech have demonstrated the ability of the national and international press to respond to the scene of a crime, and they expect instant briefings and explanation of what occurred.

2: SOCIETAL VALUES ARE CHANGING RAPIDLY. (TREND 10)

Implications for Policing:

Reaction against changing values is one of the prime motives for cultural extremism, not only in the Muslim world and in parts of India, but in the United States and Europe, where it appears in the form of hate crimes against immigrants.

The spread of westernized Generation X and Dot-com values in the developing world will provoke an even greater reaction from fundamentalists, who will see it as cultural imperialism by America and Europe and as a threat to the piety of their children, and therefore to their afterlife in Paradise. This is likely to make the anti-West movement among Muslims even more violent and widespread.

At the same time, a reaction against immigrants could trigger hate crimes against the foreign-born on a scale not recently seen in the United States.

Expert Comments:

CALLANAN: Certainly changing attitudes to authority, and the lack of traditional authority figures and role models for many of the younger generation, must be affecting attitudes toward police officers.

Police forces around the world have spent the last twenty years or so trying to move away from traditional “authority policing” to a more “softly, softly” approach in terms of trying to inspire confidence and ultimately trying to be the “friend of the citizen.” With the changing perceptions and values in the light of increased terrorist threats, citizens may ultimately be happy to live with a return to traditional “authority policing.”

FORD: Law enforcement and corrections have been dealing with [changing values] for years. As officer lifestyles change, departments have found it necessary to modify both management styles and regulations. Police administrators in particular will face greater scrutiny and oversight for their decisions from both internal and external sources.

FRASER: This will affect who joins law enforcement agencies and will have an impact on enforcement priorities. For some period, many police departments will seem to be out of synch with the demands and expectations of the people they serve.

JACKSON: The large generation gap is creating significant dissonance and affecting succession schemes in various organizations. Boomers have a strong sense of moral superiority; they look upon the youth with great consternation because the young do not share the Boomers' values. Boomers are reluctant to choose successors. In the coming decade, a leadership vacuum is likely to emerge because Boomers have failed to groom their successors.

KAPINOS: We may see progress on addressing some long-term societal issues that have festered for decades, and have been held hostage to political battles. With generational change we may see newer and more pragmatic approaches to addressing these issues, which could reduce crime, especially in dysfunctional communities.

LIFFORD: As society changes, the shift creates a discord between the traditionally conservative values of the police and the more liberal values of the population they serve.

MORTIMER: Values change faster than the law can, and sometimes change for a time in ways the law must not follow. This could lead to the spread of activities that are criminal under the law, even though they may be accepted by a substantial portion of society.

YOUNGS: The new police employee does not have the same values—dedication, loyalty, and life experiences of older employees. Most employees today are not willing to work the midnight shift for a long period of time due to family pressures, job interest, and enrichment. Recruitment is failing miserably in attracting good employees and standards in the profession are being lowered. College degrees, a once sought after job requirement, are not required. This can only hurt public confidence and ethics in the profession.

3: THE GLOBAL ECONOMY IS GROWING MORE INTEGRATED. (TREND 8)

Implications for Policing:

International fraud, money laundering, and other economic crimes (particularly carried out via the Internet) are a growing problem, and one that can be expected to spread.

In addition, entrepreneurial success in global markets could widen the gap between the rich and poor, worsening social strains in countries already vulnerable to separatist and extremist movements. This could strengthen criminal gangs that are likely to spread to the United States. It also is likely to worsen the problem of international terrorism.

Expert Comments:

FORD: We will be experiencing increasing levels of cross-national crimes, making investigations far more complex, far more expensive, and far more legally challenging.

JACKSON: Globalization is a prime driver of change in the world. Over time, it will redefine social identities, diminishing national allegiances. Many people have formed global identities that have supplanted their national ones.

KAPINOS: As connections with China continue to grow, and particularly connections with the Chinese “gray market,” there may be a possibility of importing yet another international segment of organized crime into the United States. There also is the possibility that more products and services used in law enforcement will originate overseas, with unknown impacts on security concerns.

ZETTLEMOYER: Growth in e-commerce will provide greater opportunity for fraud committed by a global criminal element. This will become increasingly difficult to police.

4: MILITANT ISLAM CONTINUES TO SPREAD AND GAIN POWER. (TREND 9)

Implications for Policing:

The West, and particularly the United States, must expect more, and more violent, acts of terrorism for at least the next twenty years.

Europe faces a significant homegrown Muslim extremist movement, and the United States may do so in the near future. Thanks largely to waves of immigration since the 1980s, Islam is the fastest-growing religion in both regions. Extremist clerics in Europe are recruiting young Muslims to the cause of *jihad* against their adopted homes. So far, their colleagues in the United States have been much less successful. Yet, there is no guarantee that recruiting efforts in America will continue to fail in the years ahead.

Western interests also will be vulnerable in many countries outside the Muslim core. International ties formed among Islamic militants during the anti-Soviet war in Afghanistan produced an extremist infrastructure that can support terrorist activities almost anywhere in the world. The war in Iraq is doing so even more efficiently.

This development must be taken even more seriously, because for the first time a Muslim country—Pakistan—has nuclear weapons. Muslim extremists view this technology as an “Islamic bomb” that could be used to promote their cause. From here on out, nuclear terrorism is a realistic threat.

This risk will grow as Sudan, Iraq, and probably other countries establish fundamentalist regimes sympathetic to the cause of *jihad* against the West.

Saudi Arabia easily could be taken over by a fundamentalist regime. The Saudi rulers may well try to avoid this by providing even more support to extremists and directing their attention to the West.

The overthrow of the Taliban in Afghanistan, and especially of Saddam Hussein in Iraq, have made future fundamentalist revolutions more likely, rather than less so, because it has strengthened the global *jihadi* movement.

This is another of the top five trends for policing. In the worst scenarios, it could be one of the top two, behind only the dominance of technology.

Expert Comments:

FORD: One aspect of the rise of fundamental Islam—terrorism—has important implications for law enforcement. It will require the FBI to reduce its law enforcement role and focus mainly on homeland security issues. Local police and correctional agencies will have to develop antiterrorism units and programs. Antiterrorism efforts will also require far more information sharing and integration among law enforcement agencies than has occurred to date.

JACKSON: Militant Islam is the principal security threat to the developed world. Much of the police training conducted since 2001 is directed at mitigating this effect.

KAPINOS: Terrorism directed at the U.S. mainland will get worse. As a result, Homeland Security issues will have the single greatest impact on the law enforcement community for the next twenty years.

MORTIMER: If we will be continuously facing a battle against Muslim terrorism, our law enforcement resources may become even further strained. Many law enforcement officers also serve in the military, and some who are now serving in the military might have become law enforcement officers if it had not been for competition for personnel from the armed services. This potential shortage of manpower could reduce the effectiveness of police services.

YOUNGS: Terrorism will cause law enforcement to divide our current efforts focused on the traditional core mission of policing because it has augmented the existing job with the added expectation by the populace to develop prevention measures for domestic/homeland security. Local and state agencies are becoming more involved with focusing on terrorism in our communities. Local resources are being shifted to the federal level.

5: MASS MIGRATION IS REDISTRIBUTING THE WORLD'S POPULATION. (TREND 6)

Implications for Policing:

Some of the most fervent “culturist” movements will continue to spring from religious fundamentalism that can be exploited by would-be dictators and strongmen to promote their own interests. Others will appear, or gain strength, as a response to the growth of foreign populations in once-homogeneous societies.

Terrorism will be a continuing problem long into the future, particularly in European nations with large, poorly integrated Muslim immigrant populations. Security concerns therefore will take up more time and resources in the future, especially for big-city police departments.

Even where terrorism is not a problem, today's new wave of immigration to the developed countries will require law enforcement agencies to cope with such challenges as diversity recruitment, the need to speak and understand many foreign languages, and the possibility of colonization by foreign gangs and organized crime.

Expert Comments:

CALLANAN: Policing in an ever more multi-ethnic environment brings new challenges, as does immigration pressures. It will presumably also increase demands for police training to take account of ethnic sensitivities, as well as improved investigative techniques that may reveal more according to different ethnic situations.

FBI TEAM: We can see many examples of how immigration has brought rapid social and cultural change to Mayberry, RFD. Shifts in economy and labor markets influence communities that fail to adapt. This can radically influence population, local economic health, and the funding of law enforcement agencies.

FORD: With increasing international movements of people, law enforcement will encounter difficulties in identifying and tracking perpetrators. This will require a closer working relationship between the police agencies of different

nations. International information exchange will need to be upgraded, and legal changes will be needed to permit joint investigations. The concept of geographic jurisdiction will be continuously challenged.

JACKSON: Police will have to manage conflicts occurring among heterogeneous groups.

LIFFORD: Migration means that growing numbers of people who need service will belong to cultures different from those of the officers on the force. In the United States, we have been feeling the effects of this trend for at least five years.

ZETTLEMOYER: A growing U.S. economy will continue to draw illegal immigrants from the southern hemisphere. Local law enforcement may often be at odds with federal concerns of homeland security vs. the local mission of serving and protecting communities. Local policing will often focus on gaining the trust and confidence of these groups in order to provide effective police services, while the federal focus will be on enforcing immigration laws and closing the national borders. If these immigrant groups do not have trust and confidence in the police they will become fertile ground for the criminal class, and they will not provide any possible intelligence relating to criminal or terrorist activity. The United States needs effective laws to allow for, and be compatible with, immigrant labor and movement across borders, as it will prove impossible to close our borders.

Cities with large concentrated Arab-American Muslim populations such as Detroit and New York City could witness low-level acts of terrorism such as suicide bombings. This would be the result of planned efforts by hard-core terrorists rather than dissatisfaction within these communities toward their new homeland. Arab-American Muslims in areas such as Detroit have been a powerful and positive social and economic force and have successfully reclaimed neighborhoods, established strong communities, and created burgeoning new business enterprises. All of these are factors that Islamic terrorists would like to destroy and, although they represent a distinct minority sentiment, these Muslim terrorist groups are present within these communities. Any act of terrorism in these regions could drive a wedge between Arab-Americans and the larger local community.

6: PRIVACY, ONCE A DEFINING RIGHT FOR AMERICANS, IS DYING QUICKLY. (TREND 17)

Implications for Policing:

It will be nearly impossible for criminals to operate without being observed. However, until artificial intelligence systems “learn” to recognize suspicious activities, a lack of manpower will limit use of these observations. Except in obvious target areas, surveillance will be most useful in forensic reconstruction, rather than in active crime prevention.

What remains of privacy protections often conflicts with security needs. A good example is the recent decision to scrap an important data mining program at the Department of Homeland Security on the grounds that it might implicate the innocent in terrorism or other illegal activities. A more appropriate solution would have been to require that data used by the program be confirmed by at least two independent sources, as is routinely done in the intelligence community.

Expert Comments:

FORD: Privacy as we knew it is being altered as video surveillance is increasingly being used, both as a deterrent to crime and as an investigative tool.

FRASER: The rules of evidence will change, and investigations will be able to rely on information seized in ways formerly illegal and considered unconstitutional. There will be a great increase in police omnipresence in all aspects of American lives, and with technology the “big brother” society will continue to emerge with little notice by most people. Any future terrorist strikes inside the United States will dramatically accelerate the willingness of people to surrender liberty, privacy, and freedom in exchange for the perception of security.

JACKSON: Police will increasingly use cameras and other forms of electronic surveillance. Public spaces are largely covered by surveillance cameras, mostly owned by property managers, merchants, and other private interests. The concern over public entities also having surveillance cameras is likely to diminish over time, particularly as success stories accumulate. The

success the U.K. has had in its post-incident investigations as a result of its considerable surveillance network provides strong evidence of the utility of cameras in public areas.

KAPINOS: We are becoming a fully-recorded society, thanks to passive surveillance cameras (especially photo-red light cameras), in-car video systems, citizens recording encounters with police, etc. This could have interesting ramifications on the criminal justice system, as more cases may be decided by “going to the video tape.” The U.S. Supreme Court recently set a precedent by using a police in-car video to decide a case. With everything recorded, you may see everyone forced to be more honest.

LUNNEY: The prevalence of video scanning of public and private space and the capacity to intercept communications of all types is sweeping away the legal impediments that once protected privacy. This will be a two-edged sword for policing, but there is no going back.

OSBORNE: As the public debate around privacy issues grows, due to increased use of cameras and other surveillance equipment in urban areas for crime detection/law enforcement, public use of small cameras, recorders, and at home surveillance systems will grow. Police activity will be tracked via GPS on vehicles and perhaps on officers. Videos of officers’ interactions will be used for accountability and lawsuit protection. Police will become more accountable to citizenry as crime mapping on the Internet and other types of data are made available for analysis outside of the law enforcement environment, to be used by city planners and private security.

ZETTLEMOYER: Current acceptance of security measures that impinge on civil liberties may be short-lived if a new terrorist event takes place in the United States, This could undermine public confidence and rekindle domestic extremists on the right and left.

7: THE POPULATION OF THE DEVELOPED WORLD IS LIVING LONGER. (TREND 3)

Implications for Policing:

Longer life expectancies mean extended careers and longer retirements. This trend will raise pension costs for police departments throughout the industrialized world. It also may encourage older

officers to remain on the job longer, making it difficult to promote their younger colleagues and give them the broad experience needed to become senior officers in turn.

Expert Comments:

CALLANAN: With people living longer and a higher proportion of elderly, there may be a growing market for the private security industry, regardless of the economic situation, which in turn could lead to conflict or even “turf warfare” with traditional policing.

FORD: This is an important trend for law enforcement, since police pensions and early retirements are directly impacted by longer life spans. Pension costs are going up as pensioners live longer. State and local governments are working to cut rising pension costs, leading to labor unrest in police departments.

On the positive side, police officers are living longer, healthier lives, permitting them to begin new careers in their later years. In many law enforcement agencies, sworn officers are brought back to the work after retirement to carry out support, administrative, and technical jobs. It most probably will be necessary in the future to have police work longer than the traditional twenty to twenty-five years.

KAPINOS: We are seeing a greater demand to provide services to the elderly population, from crime prevention education, mature driver education programs, etc. Financial crime and various related types of fraud are big growth areas for police, as the elderly are particularly vulnerable to these types of crime.

JACKSON: Greater life expectancy will affect pensions, hiring, salaries, succession, and other aspects of law enforcement agency operations.

MORTIMER: This will require the displacement of more funding to senior issues, even as it may reduce the tax proceeds available for them. It also raises the potential for increased victimization, as the elderly form the most vulnerable segment of society.

ZETTLEMOYER: Private security will continue to be a growth enterprise as corporations and some residential communities find that they must rely on their own resources for safety and security. This result is that the local police will be freed to concentrate efforts on response to major incidents and criminal prosecutions. The down side is decreased interactions between the local police and these client groups.

8: CONTINUING URBANIZATION WILL AGGRAVATE MOST ENVIRONMENTAL AND SOCIAL PROBLEMS. (TREND 27)

Implications for Policing:

Concentrating the poor and powerless in cities produces conditions ideal for the spread of petty crime, violence, and the kind of religious extremism that lends itself to terror-prone political ideologies. This may not be one of the top ten trends for policing—but big-city police chiefs certainly will think it is!

Expert Comments:

CALLANAN: Policing in large metropolitan areas tends to be a quite different affair to policing in a relatively isolated rural area. The trend of urbanization can be expected to lead to an increased demand for the former type.

FBI TEAM: Increasing population density and competition for resources may bring more conflicts that result in criminal activities that require police attention.

FORD: The growth of suburbs in the United States will give their police departments an increasingly important role in metropolitan law enforcement. A number of suburban police agencies already rival big-city agencies in size, and their number can be expected to increase.

FRASER: Americans will increasingly be concentrated in urban centers. Police will be called on to referee more disputes between haves and have-nots. Dispossessed, violent predators will grow in viciousness and number as they see themselves as having nothing to lose. An urban underclass will be subject to radicalism as mercurial gang leaders effectively organize and lead groups in more disciplined violent strikes. There will be more pitched firefights between the police and highly organized and disciplined gangs.

JACKSON: This increases demands on urban agencies and reduces the resources available to rural agencies. Eventually, this trend may force rural agencies to consolidate.

KAPINOS: The trend toward increased urbanization certainly has a major impact on law enforcement agencies in the United States, Many previously

suburban jurisdictions are rapidly urbanizing, and once-rural areas are becoming suburban. This creates a variety of problems for many agencies as they adapt to changes with new staffing and deployment strategies, and broader service demands that come with a more urban environment. Certainly, many of the social problems that typically follow urbanization directly impact law enforcement (crime and traffic).

MEYER: Concentration of population in mega-cities will exacerbate the environmental problems in those centers. Urban police departments thus may be asked to take on a much greater role in enforcement of environmental regulations.

MORTIMER: Urbanization takes the poor away from rural support systems, such as the availability of inexpensive locally grown food, and puts them in close proximity to both conspicuous wealth and criminal organizations. In all these ways, it tends to breed criminal behavior, increasing the work load on local police agencies.

OSBORNE: As communities are faced with increasingly limited resources to meet taxpayers' needs, the one-person and small police departments will be incorporated into other entities. Regional police and other modes of policing, including privatization will emerge. Data gathering requirements for intelligence led policing may require a system wherein commanders and analysts are regionalized while ground troop officers are localized.

9: TREND 36: SPECIALIZATION CONTINUES TO SPREAD THROUGHOUT INDUSTRY AND THE PROFESSIONS.

Implications for Policing:

Like the rest of society, policing is trending toward greater specialization. Many of the most highly specialized functions may be shared between agencies or outsourced to consultants.

Expert Comments:

CALLANAN: There is already a greater trend towards specialization in law enforcement. This may become formalized into more clearly defined career paths specializing in certain fields. However, as indicated elsewhere, there

will still be a need for senior managers to have an understanding of a wide spectrum of activities across organizations.

DINE: Changing expectations and rules will have an impact on the police workforce. There is room to doubt that departments will be able to hire as they have in the past.

FORD: Law enforcement already is experiencing pressure toward specialization. Increasingly, officers must receive special training and be accredited to undertake certain law enforcement tasks. This trend probably will accelerate in the coming years as agencies adapt to new technologies.

KAPINOS: The law enforcement community continues to make greater use of consultants in technical/specialized areas, and many agencies are outsourcing these functions. More support positions that do not require sworn, armed law enforcement personnel to perform the functions, are civilianizing such positions. There has been a tremendous growth recently in consulting firms that serve law enforcement agencies exclusively.

LIFFORD: Changes in the profession will require more education and specialization. No longer will certain, highly specialized cops be loyal to their home agencies. Instead, advanced specialties will be hired short-term, for a specific duty, and then move on to another force. Examples probably will include computer forensics specialists, criminal profilers, and advanced forensic scientists.

LUNNEY: This trend will have critical impact on human resource management. So will Trends 37, 40, 43, and 45—the decline of the work ethic, the rise of training and education, and retention of older workers.

OSBORNE: As communities are faced with increasingly limited resources to meet taxpayers' needs, and policing becomes more specialized due to technological developments, agencies will begin to hire specialist civilians and contract out work that doesn't require basic police officer skills. This includes crime scene investigation, general investigations, crime and intelligence analysis, dispatch, and even some police manager roles that require specialized knowledge, such as information technology.

VAN KLAVEREN: Police agencies may need to put special effort into developing a cadre of generalists with the broad skills to become managers and leaders, much as private companies are beginning to do.

10: THE WORK ETHIC IS VANISHING. (TREND 43)

Implications for Policing:

The new generation of workers cannot simply be hired and ignored. They must be nurtured, paid well, and made to feel appreciated, or they will quickly look for a friendlier, more rewarding workplace. Training is crucial. Without the opportunity to learn new skills, young people will quickly find a job that can help them prepare for the rest of their professional life. This may make it difficult for law enforcement to recruit and retain personnel willing to accept the rigors of a police career.

Expert Comments:

FORD: The decline of the work ethic can be seen in the younger members of police agencies, who are much more likely to switch jobs and will leave unless they receive job enrichments.

FRASER: Senior law enforcement managers are already finding it harder to motivate younger employees. There will be more conflict between generations inside agencies. As people now young move up to supervisory and management positions, some agencies will become more reactive and less likely to engage in proactive operations. Many internal processes will atrophy because they will be seen as too much trouble and work to maintain.

KAPINOS: Younger law enforcement officers do not grow and maintain the same loyalty to the profession and their agency typical of previous generations. I have heard many veteran officers lament that the esprit d'corps they knew years ago seems to be missing from many of the younger officers.

YOUNGS: A decline in the work ethic is already prevalent. Younger officers do not have the same loyalty, dedication and commitment as previous generations. Training and communication between co-workers and between supervisors and employees already is experiencing the challenges of different values and commitments. Currently, recruitment of new officers and retention are huge challenges and will continue to be a growing problem for law enforcement agencies.

55 Trends for the Future of Policing

GENERAL LONG-TERM ECONOMIC AND SOCIETAL TRENDS

1. THE ECONOMY OF THE DEVELOPED WORLD IS ON PATH TO GROW FOR AT LEAST THE NEXT FIVE YEARS.

- The U.S. economy has been expanding continuously, though often weakly, since the fourth quarter of 2001. GDP grew by 3.2 percent in 2006, slowing to 2.6 percent in the fourth quarter of the year and just 0.7 percent in the first quarter of 2007. The consensus forecast calls for a rebound to 2.8 percent growth from the second quarter through year's end, but this depends heavily on the course of private consumption.
- Job creation and unemployment numbers are puzzling. Unemployment rates hovered around 4.5 percent in the first half of 2007, which counts as nearly full employment. About 145,000 new jobs were created each month for the first six months of 2007, according to the official data, compared with 186,000 reported in 2006.
 - Washington says it takes 140,000 new jobs each month to absorb the new workers coming into the labor market. However, a year or two ago, when the population was smaller, 150,000 new workers were said to enter the market each month. New jobs are either drawing down unemployment or leaving some new workers jobless, depending on which number you believe.
 - But that is true only if the job creation numbers are reliable. They aren't. There also is a major conflict between job surveys. For example, in April 2007, the Bureau of Labor Statistics reported that its survey of establishments, which tallies payrolls at selected companies, found 88,000 new jobs for the month, including 25,000 in government. In contrast, the BLS household

survey, which actually asks people whether they are working, reported a loss of 468,000 jobs for the month! Most economists believe the survey of establishments gives a more accurate picture of employment than the household survey, and in general we agree. Yet there are a number of “fudge factors” built into the establishment survey that may or may not be valid. At the very least, the United States needs to get a better handle on its employment situation.

- Inflation remains under control according to official reports. Both the consumer price index (CPI) and core inflation, neglecting energy and food prices, came in at 2.6 percent in 2006. In 2007, CPI has been sharply higher—up 7 percent, annualized, for the three months ending in May—thanks to spikes in the cost of energy and food. Core inflation rose by only 1.6 percent annualized for the three months ending in May. Government officials argue that core inflation is a more accurate reflection of long-term price trends because the cost of food and energy is so erratic. However, current increases in food and energy are due to long-term problems—the continuing imbalance between supply and demand of refined petroleum products and the growing diversion of corn to ethanol production. We believe CPI is now a much better measure of the economy than core inflation. If so, there may be trouble ahead for consumers.
- For the moment, those consumers do not seem to be seriously worried. In the first quarter of 2007, consumers spent 4.2 percent more than in the previous three months. Spending was off a bit in April, May, and June, but nowhere near as much as the rising CPI and monthly declines of about 0.1 percent in real household income might have suggested. Thus far, it seems consumers will continue to keep the economy growing.
- How does all this add up? At Forecasting International, we believe the growth rate will average about 2.3 percent annually through 2008—a bit more in 2007, slightly less the following year. Until the employment picture becomes much clearer, we will not be truly confident of that number. However, we see no prospect of a significant downturn in the near future.

- The world's second economic dynamo, China, continues to whirl. Its GDP officially grew by 10.7 percent—adjusted for inflation—in 2006, with 10.4 percent forecast for 2007 and 2008. Thanks to China's hot export markets, the country's current-account surplus is huge, equivalent to 10.7 percent of GDP in 2007, with 9.8 percent expected in 2008.
 - In fact, China may be even wealthier than it seems. A study of its gray market in 2005, including “all illegal incomes, questionable incomes, and incomes of dubious origins,” suggested the true GDP may be 24 percent larger than the official numbers. This powerhouse will keep the global economy humming even if the United States cannot.
- In Germany, Europe's biggest economy is performing well. The country's GDP grew by 3 percent in 2006, its fastest growth since 2000. Inflation is at just 1.9 percent, and real incomes are rising, if only a little. There even are signs that German consumers are beginning to spend for the first time in years. The Conference Board's leading index for Germany was up 1.6 percent for the six months ending in April, with a sharp spike at the end of that period. Economists now predict that the GDP will grow by 2.9 percent in 2007 and 2.2 percent in 2008. The German economy still has structural problems that could worsen any future downturn. Yet for the moment it seems good times should continue at least into 2010.
- The French GDP rose 2.1 percent in 2006, with growth of 2.2 percent expected in 2007 and 2008. That is the good news. Unfortunately, there is bad news as well. Unemployment is stuck above 8 percent. The Conference Board's leading indicator for France has been leveling off and actually declined slightly in May 2007. The government absorbs 50.7 percent of the GDP in taxes but spends more, giving a budget deficit of 2.4 percent. Plans to cut taxes more than spending could put the deficit over the 3 percent allowed by the European Union. In all, there is room to wonder how long France can sustain its growth beyond 2008.

- The British economy grew by 2.8 percent in 2006 and continued growing at that rate, on average, through the first half of 2007.
 - This is even better news than it sounds, as the second quarter of 2007 marks the 60th consecutive quarter of growth in Britain. Measured by GDP and inflation, the British economy has been more stable than at any other time in memory; the longest previous run of continuous growth was just nineteen quarters. Unemployment was only 5.5 percent in early 2007. Consumer spending has been strong, but was softening in early to mid-2007. Yet at mid-year, the Conference Board's leading index for the United Kingdom was growing at an annual rate of 4.5 percent. Short of a global recession, the UK's GDP seems destined to continue growing by 2.5 percent annually, or better, for the next few years.
- All this adds up to fairly good prospects for the European economy as a whole. Its aggregate GDP grew by 2.8 percent in 2006, its fastest rate in six years, with 2.7 percent growth forecast for 2007 and 2.3 percent for 2008. Modest weakness in France and Italy will be more than offset by the strength of Germany and the U.K. Europe will remain a sound trading partner for the United States and China for at least the next five years.
- Japan's GDP rose by 2.2 percent in 2006. In the fourth quarter of the year, growth hit 4.8 percent, its best showing in three years. This growth rate has slowed in 2007 but remains positive. Between November 2006 and May 2007, the Conference Board's index of leading indicators for Japan sank at a rate of 1.8 percent per year. Continued growth depends on spending by notoriously wary Japanese consumers. Nonetheless, the Organization for Economic Cooperation and Development predicts that Japan's GDP will grow by 2.4 percent in 2007 and 2.1 percent in 2008. The Japanese economy seems likely to remain healthy for at least a few years beyond 2008.
 - In the long run, Japan faces significant problems. Its population is aging, its working-age population is shrinking, and its birth rate is the lowest in the industrialized world and still declining. By 2030, the number of workers in Japan will shrink from its

current 66 million to about 56 million. Over all, the country's population is expected to decline by 50 percent by 2075 and by two-thirds through 2100. At the same time, government debt equals 176 percent of GDP. This will make it extremely difficult for Tokyo to provide necessary services for tomorrow's elderly. Yet these are problems for the future. They will not affect Japan's economy during the period now under study.

- Both prices and wages should remain under control.
 - Worldwide, improved manufacturing technology will continue to boost productivity and reduce the unit cost of goods.
 - At the same time, workers who remain on the job longer will offset slow growth in the labor force and the globalization of business will keep pressure on salaries in the developed countries.

AUTHORS' COMMENT:

The data above remain as originally supplied to our expert panel. There have been a number of gloomy developments in the world economy since then. In the United States, we have had the weakest Christmas retail season in years, a collapse in the real-estate market, declining job growth, the reappearance of significant inflation, and of course the crunch in subprime mortgages, which has spread to Britain and threatens prime mortgages as well. GDP growth in 2007 came in at 2.2 percent, sliding to an anemic 0.6 percent in the fourth quarter. In Germany, inflation is up to 3.3 percent, well above the level allowed by the European central bank, and fears are rising that the strength of the euro will throttle exports. Inflation is threatening China, Australia, Eastern Europe, Russia, and the Middle East as well. In all, it seems that the economies of the United States and the world are not as healthy as they were just a few months ago.

Nonetheless, at Forecasting International we believe that the U.S. economy will continue to grow in 2008, though perhaps not as quickly as once anticipated. The global economy will remain reasonably strong as well. Our expectations for the United States would change abruptly

if today's credit problems were to infect the prime mortgage market, but for the moment that continues to seem unlikely.

Assessment:

These trends have been revised many times since they were first codified in the late 1980s. Some trends have fallen out of the list as they matured or as circumstances came along to change them. Others have been added as they were recognized. This trend has remained a constant, and with each revision its effective period has been extended. To invalidate this trend would take a catastrophe on the order of the loss of Middle Eastern oil from the Western economies. No such dramatic reversal of global fortune can be foreseen.

Implications:

New growth among all these trading partners should create a "benevolent cycle," in which the health of each partner helps to ensure the continued health of the rest at least through 2012. Global growth is expected to come in at 5 percent in 2007, 4.8 percent in 2008, and 4.4 percent, on average, in the five years ending in 2013.

China has developed into an effective counterbalance for the U.S. economy. When America hits hard times, China can keep the world from following into recession. We first saw this in the post 9/11 crunch in the United States. This should make the global economy much more stable for so long as China remains a vibrant trading nation.

Any interruptions in economic growth should be relatively short-lived.

By 2012 or so, India will expand faster than any other market in the world, with China falling into a close second place.

In the long run, the newly capitalist lands of the former Soviet Union should be among the fastest growing new markets, particularly if the oil industries of Kazakhstan and its neighbors, Kyrgyzstan and Uzbekistan, can be developed promptly.

Labor markets will remain tight, particularly in skilled fields. This calls for new creativity in recruiting, benefits, and perks, especially profit sharing. This hypercompetitive business environment demands new emphasis on rewarding speed, creativity, and innovation within the workforce.

Implications for Policing:

The growing gap in wealth between the rich and poor nations will destabilize the world order, inspiring would-be terrorists in the developing countries to strike at the wealthy in their home countries and, in some cases, at the richer lands. The growing gap in wealth between the rich and poor within many western lands will feed discontent among the less well-off, possibly helping to inspire both random violence and native terrorists in the West. This development will increase the security-related workload on law enforcement agencies around the world. It also will help to drive continued growth in the private security industry.

It also will help to inspire conversion to Islam in the West, particularly among the poor and powerless. As we have seen in England, Germany, and Australia, this can be a source of violent extremism among native populations.

More directly, continued prosperity should make it easier to fund police departments, but harder to attract new recruits to law enforcement careers in preference to more lucrative careers in private industry.

Expert Comments:

CALLANAN: If the U.S. and global economy continue to strengthen, the main issue will be the difficulty of attracting people to a career in law enforcement in the face of competition from less demanding occupations.

CONSER: If outsourcing continues to grow and industrial production with the United States continues to decline, there will be greater turmoil on the streets. However, recruitment of good personnel could actually improve because there are not that many better jobs available.

FORD: Law enforcement is highly sensitive to budget cycles and economic downturns, which tend to bring more crime. Economic stability should allow for a period of stability in American law enforcement. However, good times do make it more difficult to hire quality officers, as better paying offers from the private sector attract young, college-educated candidates.

JACKSON: The economy has no great importance for policing, save to the extent that it affects operating budgets.

KAPINOS: Economic conditions and unemployment rates have a direct relationship historically on crime rates. Since the overall upturn in the U.S. economy dating from the mid-1990s, all national crime rates have correspondingly dropped. A trend of a continuing strong U.S. economy and relatively low unemployment should keep most crime numbers low.

OSBORNE: The demand for materials from China and India will continue to affect crime problems around the world. For example, theft of copper has increased globally due to the changing markets: theft of this and similar resources (such as water) will grow and affect crime rates and types all over the world.

SHTULMAN: Note that it is not only the poor and powerless who convert to radical Islam. Extremist groups draw from the socially disenfranchised, a condition that often is self-imposed and may be found among any economic class.

ZETTLEMOYER: Continued economic growth is good, unless the income gap continues to grow with the economy. Concentration of resources in fewer hands at the top while masses at the bottom lose resources could lead to unrest. This could be both domestic and global, with the possibility of violent civil unrest in cities and urban areas.

Economic growth could make it harder for law enforcement to recruit and retain quality personnel. Agencies in growth regions such as the western and southern United States will face a highly competitive labor market. This will translate into higher salaries and benefits for police officers. The cost to taxpayers will become hard to sustain over time. Agencies in the declining areas of the Midwest and Northeast will cut salaries and benefits. Low salaries and benefits for police typically lead to other issues, such as ethical gaps, inappropriate use of force, and corruption.

2. THE WORLD'S POPULATION IS ON COURSE TO REACH 9.2 BILLION BY 2050.

- Average annual growth worldwide peaked at 2.19 percent in 1963 and has fallen steadily since. The U.S. Census Bureau's International Data Base projects that annual growth will fall below 1 percent in 2016 and below 0.5 percent by 2047.
- The greatest fertility is found in those countries least able to support their existing populations: the largest population increases projected between 2000 and 2050 include the Palestinian Territory (217 percent), Niger (205 percent), Yemen (168 percent), Angola (162 percent), the Democratic Republic of Congo (161 percent), and Uganda (133 percent).
 - The Muslim world is especially fertile, with fertility rates of 7.5 in Afghanistan, 6.0 in Yemen, and 4.9 in Iraq.
 - Of the 2.7 billion extra people in the world in 2050, about 40 percent will live in sub-Saharan Africa and 30 percent in the Muslim world.
- Even these estimates may be much too low. According to the Center for Strategic and International Studies (CSIS), most official projections underestimate both fertility and future gains in longevity. They also assume that life expectancy will grow more slowly in the future, which seems unlikely.
- In contrast to the developing world, many industrialized countries will see fertility rates below the replacement level and hence significant declines in populations, excluding the effects of immigration. This means the population of the developed nations will fall from 14 percent of the total world population in 2000 to only 10 percent in 2050.
- By 2015, the workforce in Japan and much of Europe will be shrinking by 1 percent per year. By the 2030s, it will contract by 1.5 percent annually.

Assessment:

Demographic trends such as this are among the most easily recognized and difficult to derail. Barring a global plague or nuclear war—wildcard possibilities that cannot be predicted with any validity—there is little chance that the population forecast for 2050 will err on the high side.

Implications:

Rapid population growth in the United States compared with its industrialized competitors will reinforce American domination of the global economy, as the European Union falls to third place behind the United States and China.

To meet human nutritional needs over the next forty years, global agriculture will have to supply as much food as has been produced during all of human history.

Unless fertility in the developed lands climbs dramatically, either would-be retirees will have to remain on the job, or the industrialized nations will have to encourage even more immigration from the developing world. The third alternative is a sharp economic contraction and lower living standards.

A fourth alternative is the widespread automation of service jobs as well as manufacturing, to accomplish the work needed to support accustomed living standards. However, this requires development of a means other than wages to distribute wealth and to provide both a living income and a fulfilling occupation for workers and would-be workers displaced by machines and software.

Barring enactment of strict immigration controls, rapid migration will continue from the Southern Hemisphere to the North, and especially from former colonies to Europe. A growing percentage of job applicants in the United States and Europe will be recent immigrants from developing countries.

Implications for Policing:

Rapid population growth in the poor countries will drive their people to seek new lives in the richer lands. This will continue to drive migration from Latin America to the United States and from former colonies to Europe. We can expect to see continued growth of crime both within and against immigrant communities in all the receiving countries. Coping with this problem will require law enforcement personnel to receive more training in foreign languages and cultures.

Expert Comments:

CALLANAN: The growth in the world population will continue to pose migration pressures on the developed world, regardless of the economic situation. This in turn has obvious implications for law enforcement, especially in the areas of immigration control and border patrolling.

CONSER: “The third alternative is a sharp economic contraction and lower living standards.” In my opinion, this is the most realistic for the United States, unless there is immigration control and domestic production incentives. There could be increased ethnocentric conflicts as immigrants remain in communities and migration is not controlled.

FORD: This trend has little direct implications for law enforcement, but is important in the other forces it will unleash. Density is related to crime and disorder as a variable in its own right. More dense populations will require relatively higher investment in law enforcement to realize the same security level.

VAN KLAVEREN: Trends 2, 3, and 4 will cause even more of the “mass migration” anticipated in Trend 6: People go where they can work and are needed. In the host countries, resistance to foreigners will slowly recede as the value of new immigrants becomes recognized. However, this depends on the continued growth of the overall economy. A serious, prolonged recession would slow migration.

3. LIFE EXPECTANCY IN THE DEVELOPED WORLD IS STEADILY GROWING LONGER.

- Each generation lives longer and remains healthier than the last. Since the beginning of the twentieth century, every generation in the United States has lived three years longer than the previous one. An 80-year-old in 1950 could expect 6.5 more years of life; today's 80-year-olds are likely to survive 8.5 more years.
 - Life expectancy in Australia, Japan, and Switzerland is now over 75 years for males and over 80 for females.
 - A major reason for this improvement is the development of new pharmaceuticals and medical technologies that are making it possible to prevent or cure diseases that would have been fatal to earlier generations. In many developed countries, credit also goes to government health programs, which have made these treatments available to many or all residents. In the developing lands, the primary reason is the availability of generic drugs, which cut the cost of care and make health affordable even for the poor.
- Medical advances that slow the fundamental process of aging now seem to be within reach. (This is a controversial issue within the medical community, but the evidence appears quite strong.) Such treatments could well help today's middle-aged Baby Boomers to live far longer than even CSIS anticipates. In the developed world, younger generations are likely to live routinely beyond the century mark.

Assessment:

See the assessment for Trend 2.

Implications:

Global demand for products and services aimed at the elderly will grow quickly in the immediate future, but this trend may pass as geriatric medicine improves the health of the elderly.

Developed countries may face social instability as a result of competition for resources between retirement-age Boomers and their working-age children and grandchildren. At the present rate of growth, public spending on retirement benefits in the United States and other developed countries could be one-fourth of GDP by 2050, even as the number of workers available to support each retiree declines sharply.

Barring dramatic advances in geriatric medicine, the cost of health care is destined to skyrocket throughout the developed lands. This could create the long-expected crisis in health-care financing and delivery.

However, dramatic advances in geriatric medicine are all but inevitable. Paying the high cost of new drugs, technologies, and therapies will reduce the overall cost of caring for patients who otherwise would have suffered from disorders delayed, eased, or cured by such advances. In the end, these reductions will offset many of the expected increases, leaving the average health-care bill in the developed lands much lower than the doomsayers predict.

Any practical extension of the human life span will prolong health as well and will reduce the incidence of late-life disorders such as cancer, heart disease, arthritis, and possibly Alzheimer's disease. This would dramatically reduce demand for products and services in the senior market, at least in the developed world. FI believes this development is nearer than even many researchers expect.

Healthier aging in the developed world may offer new hope to the world's poorer, sicker lands. Faced with declining growth in their pharmaceutical industries, western nations—and particularly the United States—are likely to subsidize research and treatment for diseases that burden the poor countries of Africa and Asia. This will give those lands their first real prospects for economic growth and improved quality of life.

Implications for Policing:

Longer life expectancies mean extended careers and longer retirements. This trend will raise pension costs for police departments throughout the industrialized world. It also may encourage older officers to remain on the job longer, making it difficult to promote their younger colleagues and give them the broad experience needed to become senior officers in turn.

Expert Comments:

CALLANAN: With people living longer and a higher proportion of elderly, there may be a growing market for the private security industry, regardless of the economic situation, which in turn could lead to conflict or even “turf warfare” with traditional policing. This of course applies to Trend 4 as well.

CONSER: Longer life expectancies and longer times in service will necessitate a change in public policy and may lead to mandatory retirement policies. Officers may be forced to move into second careers and/or become volunteers in public service.

DINE: The growth of the older population stands as the ninth most important trend for policing.

FORD: This is an important trend for law enforcement, since police pensions and early retirements are directly impacted by longer life spans. Pension costs are going up as pensioners live longer. State and local governments are working to cut rising pension costs, leading to labor unrest in police departments.

On the positive side, police officers are living longer, healthier lives, permitting them to begin new careers in their later years. In many law enforcement agencies sworn officers are brought back to the agency after retiring to address support, administrative, and technical jobs. It most probably will be necessary in the future to have police work longer than the traditional twenty to twenty-five years.

JACKSON: Greater life expectancy will affect pensions, hiring, salaries, succession, and other aspects of law enforcement agency operations. This is the fifth most important among these trends.

KAPINOS: We are seeing a greater demand to provide services to the elderly population, from crime prevention education, mature driver

education programs, etc. Financial crime and various related types of fraud are big growth areas for police, as the elderly are particularly vulnerable to these types of crime.

MORTIMER: This will require the displacement of more funding to senior issues, even as it may reduce the tax proceeds available for them. It also raises the potential for increased victimization, as the elderly form the most vulnerable segment of society.

ZETTLEMOYER: Private security will continue to be a growth enterprise as corporations and some residential communities find that they must rely on their own resources for safety and security. This result is that the local police will be freed to concentrate efforts on response to major incidents and criminal prosecutions. The down side is decreased interactions between the local police and these client groups.

4. THE ELDERLY POPULATION IS GROWING DRAMATICALLY THROUGHOUT THE WORLD.

- Worldwide, the elderly (age 65 and older) numbered 440 million and represented 6 percent of the global population in 2002. Their numbers will nearly double by 2020 (to over 9 percent of total population) and more than triple by 2050 (to nearly 17 percent), according to the U.S. Census Bureau's International Data Base.
- In the developed world, people age 60 and over made up one-fifth of the population in 2000 and will grow to one-third in the next half century.
- Between 2000 and 2050, the 60+ age group in the less developed countries will grow from only one in twelve to one in five.
- The first Baby Boomers turn 65 in 2011. Thereafter, 10,000 Americans will turn 65 every day. Only half will maintain their standard of living in retirement. One in four will be dependent on government programs.
 - Only one American in 25 was over age 65 in 1900. Between 2030 and 2050, one in five will be over age 65.

- Throughout the developed world, population growth is fastest among the elderly. In the United States, there are 4.2 million people age 85 and up. By 2050, there will be 19.3 million.
 - In Germany, the retirement-age population will near 19 percent of the total in 2010 and will reach 31 percent in 2050.
 - By 2050, one in three Italians will be over 65, nearly double the proportion today.
 - Japan's over-65 population will be 22 percent of the total in 2010 and nearly 37 percent in 2050.
- In Europe, the United States, and Japan, the aged also form the wealthiest segment of society.
- In the United States, at least, suburban populations are aging faster than those in the cities.

Assessment:

Again, this is a demographic trend, difficult to derail and unlikely to change while the massive Baby Boom generation remains on the scene.

Implications:

Not counting immigration, the ratio of working-age people to retirees needing their support will drop dramatically in the United States, Germany, Italy, Russia, Japan, and other countries. This represents a burden on national economies that will be difficult to sustain under current medical and social security systems.

In the next two to three decades, shortages of health workers will loom large in “aging vulnerable” countries. The United States in particular will need at least twice as many physicians specializing in geriatrics as its current 9,000, as well as half a million more nurses by 2020.

Suburban communities are likely to face a growing demand for social services such as senior day-care, public transportation, and other

programs for the elderly. This will place a growing strain on local government budgets.

In the developing countries, where the elderly have traditionally relied on their children for support, this system will begin to break down as middle-aged “children” find themselves still supporting their parents while anticipating their own retirement.

Implications for Policing:

This trend carries two opposing implications for law enforcement. The industrialized countries may be more peaceful and orderly, because the inclination toward violent crime tends to dissipate with age. However, crimes against the elderly will multiply significantly. Police departments will have to devote more of their time to infractions such as fraud and elder abuse for at least the next three decades.

Expert Comments:

LIFFORD: An older population will significantly ease some aspects of police operations, because older people commit fewer violent crimes. However, this trend also means that the pool of young employees entering the profession is likely to shrink.

FORD: Elderly people require very different services from law enforcement than younger populations. In areas with high concentrations of senior citizens, it may be necessary to reformulate police delivery of services to focus on senior problems and predation.

The senior population also provides a valuable source of volunteers for police agencies. Volunteers can supply ancillary personnel and administrative support that free sworn officers for other duties.

[CSIS Aging Vulnerability Index (2003)]

Rankings from Least to Most Vulnerable

Low Vulnerability

1. Australia
2. United Kingdom
3. United States

Medium Vulnerability

4. Canada
5. Sweden
6. Japan
7. Netherlands
8. Belgium

High Vulnerability

10. France
11. Italy
12. Spain

FRASER: Third most important trend: More crime victims will be elderly, as their increase creates more vulnerable targets. Because injury can have such severe consequences for older people, the elderly will fear victimization and therefore will demand more of their police forces. More criminals will also be elderly.

JENSEN: Tenth most significant trend for policing.

NOLTE: As populations age, the police become more a part of community social services. The “cop on the beat” becomes the person who alerts other social service agencies that an elderly person seems ill or malnourished, for example.

OSBORNE: The growing aging population in the United States will result in more crime against the elderly and the emergence of new crimes targeting vulnerable populations and those who are not technically savvy.

5. TECHNOLOGY IS CREATING A KNOWLEDGE-DEPENDENT GLOBAL SOCIETY.

- More and more businesses, and entire industries, are based on the production and exchange of information and ideas rather than exclusively on manufactured goods or other tangible products.
- At the same time, manufacturers and sellers of physical products are able to capture and analyze much more information about buyers’ needs and preferences, making the selling process more efficient and effective.
- The Internet makes it possible for small businesses throughout the world to compete for market share on an even footing with industry leaders.
- It also makes it possible for international organizations such as businesses, nonprofits, and political movements to coordinate their operations more effectively.
- The number of Internet users in the United States more than doubled between 2000 and 2007, to nearly 231 million, or 69 percent of the population. Yet the percent of the population online

has remained almost unchanged since 2004. About 70 percent now use broadband connections, but adoption of broadband has slowed markedly since 2005.

- In the United States, the “digital divide” seems to be disappearing. Internet access is increasing faster in black and Hispanic households as they catch up with white households. As of 2001, 32 percent of Hispanic and 30.8 percent of African American households were online. By early 2004, 61 percent of black children and 67 percent of Hispanic youngsters had Internet access at home, compared with 80 percent of white children.
- Digital appliances—whether computers or telephones—are becoming more integrated, portable, and powerful.

Assessment:

This trend will not reach even its half-way mark until the rural populations of China and India gain modern educations and easy access to the Web.

Implications:

This trend is raising the level of education required for a productive role in today’s workforce. For many workers, the opportunity for training thus is becoming one of the most desirable benefits any job can offer.

Even entry-level workers and those in formerly unskilled positions require a growing level of education. For a good career in almost any field, computer competence is mandatory.

Knowledge workers are generally better paid than less-skilled workers, and their proliferation may raise overall prosperity.

However, data and communications technologies also are exposing workers in the developed world to competition from low-wage countries. It is not yet clear at what pay level these competing forces will balance.

This trend also is enlarging the income gap between well-educated workers and those with a high school degree or less. That gap will continue to grow.

In ten years, most digital devices will combine multimedia communication functions and real-time voice translation, so that conversations originating in one of seven or eight common languages can be heard in any of the others. These technologies will enable even more people to become knowledge workers or, at least, knowledge-enhanced workers.

Telecommuting will make many companies more efficient, cutting their expenses in the process.

New technologies create new industries, jobs, and career paths, which can bring new income to developing countries. An example is the transfer of functions such as technical support, and more recently R&D, to Asian divisions and service firms.

For some developing countries, computer skills are making it faster and easier to create wealth than a manufacturing economy ever could. India, for example, is rapidly growing a middle class, largely on the strength of its computer and telecom industries. Other lands will follow its example.

Implications for Policing:

For policing, this is clearly the most important of all our trends. Technology is transforming law enforcement much as it has many other fields. From advanced communications systems to affordable video surveillance cameras to data mining, technology allows police departments and other agencies to carry out much of their work faster and more effectively. At the same time, it is requiring officers to learn many new skills to gain the greatest benefit from the new equipment and methods that are now becoming available.

Expert Comments:

CALLANAN: Multimedia communications and ICT has made mobilisation of pressure groups much, much easier. Protest groups can now be mobilized

at local, regional, national, or global level in an instant due to quicker and cheaper communication. This may facilitate the proliferation of a larger number of single-issue protest groups (often focusing on highly specific issues, sometimes local, sometimes not), which will have consequences for policing.

Of course there are also possible benefits for law enforcement in terms of improved surveillance technologies.

DINE: Technology is drastically changing the way police forces do business and carry out investigations. This is the fifth most important trend for policing.

FORD: No technology has had more impact on policing than information technology. With law enforcement's growing reliance on IT, police officers and administrators will require more training and background in data and data analysis. This suggests that the future most probably will require a minimum of some college for all officers and advanced degrees for supervisors and managers.

Information management will also require the increased hiring of technically skilled people to address technology support. This will further stress the divide between sworn and non-sworn in law enforcement agencies. In the future, police agencies will need to build new career ladders for non-sworn personnel.

FRASER: Most important trend: Crime will be increasingly related to knowledge theft and theft of data through sophisticated use of technology. Law enforcement agencies will be faced with the challenge of creating computer crime investigation units to handle both local technology crimes and those that cross-jurisdictional boundaries. This latter point will require increased cooperation among law enforcement agencies.

HODGE: The United States now faces more than just one or two (e.g. Russia and China) intelligence threats. Many other nation states will be targeting the United States for intelligence collection. Both the breadth and scope of the foreign intelligence and espionage threat to the United States will continue to grow. Terrorist groups will also expand their intelligence collection activities.

JACKSON: This is the most important trend for policing. Technology creates the greatest change when it begins to co-evolve society. This will be the single most transformative trend in society.

KAPINOS: Technology and knowledge-based systems are revolutionizing law enforcement in a number of ways. Increasing, technology skills and

knowledge are being required of all of our personnel. A minor problem in this area arises from Trend 4: Elderly volunteers are sometimes limited in their ability to contribute, due to insufficient technology skills.

KARDASZ: The most obvious impact of the Internet on policing is the growing number of Internet-facilitated sex crimes being committed worldwide against children including luring/enticement and child pornography.

MORTIMER: In conjunction with several other trends, this may make it more difficult for police organizations to hire technically qualified people just when they require more technical knowledge.

NOLTE: So far, the focus has been, to a large degree, internal; i.e., how technology changes the way police operate. How technology will change the way criminals operate is at least as important.

OSBORNE: As issues of homeland security continue to place attention on the need for data sharing and analysis at all levels of policing and law enforcement, new tools will emerge that are more user friendly and affordable, leading to a truly knowledge-based intelligence-led police network. Progress will be slow, requiring retraining a workforce, enlightened managers, increased civilianization of analysts/experts, and more research on crime/terrorism threat pattern detection as well as crime/terrorism threat prevention.

6. MASS MIGRATION IS REDISTRIBUTING THE WORLD'S POPULATION.

- There are nearly 100 million international migrant workers in the world, according to the United Nations. About 30 million live in Europe, 20 million in Africa, and 18 million in North America.
 - These figures include only the workers themselves, not their dependents.
- About 4 million people immigrated permanently to the countries of the Organization for Economic Cooperation and Development in 2005, 10.4 percent more than the year before.
- Immigration to Western Europe from Eastern Europe, North Africa, the Middle East, and the Indian subcontinent continues despite controls enacted in the wake of terrorist attacks.

- More than 400,000 legal immigrants from Central Europe now live and work in Western Europe. Between 3 million and 4 million more migrants are expected to join them in the next twenty-five years.
- In China, about 160 million people have moved from rural areas to cities in recent years.
- Immigration is quickly changing the ethnic composition of the U.S. population. In 2000, Latinos made up 12.6 percent of the U.S. population; by 2050, they will account for 24.5 percent. Asians in the United States, currently 3.8 percent of the population, will comprise 8 percent by 2050, according to the latest U.S. Census Bureau figures.
 - Higher fertility rates among the immigrant Latino population will accelerate this trend. As of 2002, women in the United States produced about two children during their lives, just enough to maintain the population. Among Hispanics, the average was more than 2.7 births per woman. Among Mexican immigrants, it was nearly 2.9.
 - At the same time, there is a small countertrend of Generation Xers and, especially, Millennials moving to other countries to pursue business opportunities or for cultural interest.

Assessment:

As native workforces shrink in most industrialized lands, economic opportunities will draw people from the developing world to the developed in growing numbers. Thus, this trend will continue for at least the next generation.

Implications:

Impoverished migrants will place a growing strain on social-security systems in the industrialized countries of Europe and North America. Similar problems will continue to afflict the urban infrastructures of China and India.

Remittances from migrants to their native lands are helping to relieve poverty in many developing countries. Globally, these payments exceeded US\$230 billion in 2005, according to the World Bank.

Significant backlashes against foreign migrants, such as the skinhead movement in Europe, will be seen more frequently in the years ahead. They will appear even in the most peaceful lands. For example, in Scandinavia, resentment against foreign workers is strong, in part because they can return to their native lands after three years of employment and collect a pension equal to the minimum wage for the rest of their lives.

Since the terrorist attacks of September 11, 2001, and the rail bombings in London and Madrid, the large number of Muslim immigrants in Britain, France, and other European lands has inspired suspicion, and some persecution.

Unfortunately, suspicion is to some extent justified. A tiny minority of Muslim immigrants have proved to be linked to terrorist groups, and some have plotted or carried out terrorist attacks. So have native-born Muslims and converts to Islam.

Implications for Policing:

Some of the most fervent “culturist” movements will continue to spring from religious fundamentalism that would-be dictators and strongmen can exploit to promote their own interests. Others will appear, or gain strength, as a response to the growth of foreign populations in once-homogeneous societies.

Terrorism will be a continuing problem long into the future, particularly in European nations with large, poorly integrated Muslim immigrant populations. Security concerns therefore will take up more time and resources in the future, especially for big-city police departments.

Even where terrorism is not a problem, today’s new wave of immigration to the developed countries will require law enforcement agencies to cope with such challenges as diversity recruitment, the need

to speak and understand many foreign languages, and the possibility of colonization by foreign gangs and organized crime.

We rate this as one of the top ten trends for policing.

Expert Comments:

CALLANAN: Policing in an ever more multi-ethnic environment brings new challenges, as does immigration pressures. It will presumably also increase demands for police training to take account of ethnic sensitivities, as well as improved investigative techniques that may reveal more according to different ethnic situations.

FBI TEAM: We can see many examples of how immigration has brought rapid social and cultural change to Mayberry, RFD. Shifts in economy and labor markets influence communities that fail to adapt. This can radically influence population, local economic health, and the funding of law enforcement agencies.

FORD: With increasing international movements of people, law enforcement will encounter difficulties in identifying and tracking perpetrators. This will require a closer working relationship between the police agencies of different nations. International information exchange will need to be upgraded, and legal changes will be needed to permit joint investigations. The concept of geographic jurisdiction will be continuously challenged.

JACKSON: Police will have to manage conflicts occurring among heterogeneous groups. This is the seventh most important trend.

JENSEN: Fourth most significant trend for policing.

KAUFMAN: As populations age in the developed countries and the birthrate remains too low to support a large elderly cohort, the excess manpower of underdeveloped nations will be enlisted to fill the needs of their wealthy neighbors. This trend can only accelerate in the future. As it does, the need for policing suited to immigrant communities will grow ever more acute.

LIFFORD: Migration means that growing numbers of people who need service will belong to cultures different from those of the officers on the force. In the United States, we have been feeling the effects of this trend for at least five years.

SHTULMAN: Demographic change within neighborhoods and counties has been a trigger for ethnic and racial tension forever in this country even without the emotional overlay of religious terrorism. In addition, immigrant

groups tend to move into the same neighborhood to be close to one another and the communal self-help institutions that they establish. This tendency to self ghettoize reinforces their sense of isolation and the us-vs.-them paranoia on both sides.

ZETTLEMOYER: A growing U.S. economy will continue to draw illegal immigrants from the southern hemisphere. Local law enforcement may often be at odds with federal concerns of homeland security vs. the local mission of serving and protecting communities. Local policing will often focus on gaining the trust and confidence of these groups in order to provide effective police services, while the federal focus will be on enforcing immigration laws and closing the national borders. If these immigrant groups do not have trust and confidence in the police they will become fertile ground for the criminal class, and they will not provide any possible intelligence relating to criminal or terrorist activity. The United States needs effective laws to allow for, and be compatible with, immigrant labor and movement across borders, as it will prove impossible to close our borders.

Cities with large concentrated Arab-American Muslim populations such as Detroit and New York City could witness low level acts of terrorism such as suicide bombings. This would be the result of planned efforts by hardcore terrorists rather than dissatisfaction within these communities toward their new homeland. Arab-American Muslims in areas such as Detroit have been a powerful and positive social and economic force and have successfully reclaimed neighborhoods, established strong communities, and created burgeoning new business enterprises. All of these are factors that Islamic terrorists would like to destroy and, although they represent a distinct minority sentiment, these Muslim terrorist groups are present within these communities. Any act of terrorism in these regions could drive a violent wedge between Arab Americans and the larger local community.

7. DESPITE SOME XENOPHOBIC REACTIONS TO IMMIGRANTS, THERE IS GROWING ACCEPTANCE OF DIVERSITY.

- Migration is mixing disparate peoples and forcing them to find ways to coexist peacefully and productively. Because of this, the interaction of diverse cultures will continue to grow, both internationally and intranationally, throughout much of the world.

- The Internet and other technologies promote long-distance communication and build links between distant, and disparate, people.
- Mass media, including television, radio, films, interactive games, and music tend to homogenize global culture as they promote a common language, mores, and cultural reference points.
 - In the United States, for instance, television encourages the spread of standard accents and language patterns.
- The globalization of business is having a similar impact. Throughout the United States and Europe, regional differences, attitudes, incomes, and lifestyles are blurring as business carries people from one area to another.
- Intermarriage also continues to mix cultures geographically, ethnically, socially, and economically.
- Minorities are beginning to exert more influence over national agendas.
 - The growing number of African-Americans, Hispanics, and Asians in the United States is mirrored by the expanding population of refugees and former “guest workers” throughout Europe.
- Britons increasingly support staying in the European Union, according to a September 2007 survey by the polling firm Ipsos MORI. In March 2001, 39 percent of those surveyed said they would vote to keep the U.K. in the European Union, and 42 percent favored getting out. By 2007, 51 percent supported staying in while 39 percent wanted out.
- However, in many countries there are powerful reactions against these changes.
 - The growth of the German neo-Nazi movement after unification in 1992 is one obvious example, though public distaste for these views has tended to keep extremist activities in check.

- American hostility toward undocumented aliens also may be viewed as a reaction against the growing political and cultural influence of a minority.
- Japan has chosen to develop robotic technologies for industry and the home, rather than opening its traditionally closed society to substantial immigration and foreign influence.

Assessment:

This trend applies most clearly to the West, where it will continue for as long as we can foresee. In other regions, including Japan and large parts of the Muslim world, it remains weak, if it exists at all.

Implications:

Groups with highly varied customs, languages, and histories of necessity will develop ways to coexist peacefully.

Nonetheless, local conflicts will continue to erupt in societies where xenophobia is common.

Companies will hire ever more minority workers and will be expected to adapt to their values and needs. Much of the burden of accommodating foreign-born residents will continue to fall on employers, who must make room for their languages and cultures in the workplace.

Public schools and libraries must find more effective ways to educate this future workforce.

Implications for Policing:

See Trend 6.

Expert Comments:

This appears to be an issue for police forces, especially with regard to recruiting around the world.

DINE: This is the tenth most important trend for policing.

FORD: Police agencies will have to devote far more resources to cultural training of police and correctional staff and to finding ways to overcome language barriers. Technologies such as automatic language translators will become increasingly important.

FRASER: The issue of building trust and communication with our minority communities as well as understanding and respecting cultural issues, continues to be a critical issue in policing.

KAPINOS: As we see an influx of immigrants from under-developed countries, this will create new diversity issues for U.S. Law Enforcement. There will be more and varied immigrant communities, with assimilation and acculturation difficulties, who arrive with attitudes of mistrust of authority (based on experiences in their home countries.) Witness the current issues among the Latino community re: localities and ICE enforcement: that problem will continue to be exacerbated.

NEEDLE: During this first decade of the 21st century, the face of communities throughout the world has changed dramatically. The global economy and more transient populations are resulting in waves of new residents, unprecedented in numbers and density, that must be served and protected by law enforcement agencies at all levels of government. Issues of diversity and racism therefore are taking on global dimensions. Few countries or regions are immune to ethnic, racial, or class strife, and combating problems such as human trafficking or smuggling will require international solutions.

Within the United States today, change is occurring in places that had been unaffected by new immigrant groups for decades. Many suburbs and small towns have experienced surges in immigrant populations, as well as first-generation children of immigrants and new minority residents. As a result, law enforcement agencies will face a wide variety of challenges. These include language differences, strict accountability for professional and bias-free conduct, building trust among immigrant communities for whom the police in their native lands may reasonably have been seen as enemies, diversity recruitment, and the need to control immigrant gangs. Coping with these challenges successfully will be one of the most important components of successful policing in the years ahead.

8. THE GLOBAL ECONOMY IS GROWING MORE INTEGRATED.

- Only half of the world's one hundred largest economies are nation-states. The rest are multinational corporations.
- In the European Union, relaxation of border and capital controls and the adoption of a common currency and uniform product standards continue to make it easier for companies to distribute products and support functions throughout the Continent.
- The Internet continues to bring manufacturers effectively closer to remote suppliers and customers.
- Companies are increasingly farming out high-cost, low-payoff secondary functions to suppliers, service firms, and consultants, many of them located in other countries.
 - Parts for the new Boeing 787 “Dreamliner” are being constructed in at least eight countries around the world for assembly in the United States
 - Toyota has manufacturing or assembly plants in Japan, Australia, Canada, Indonesia, Poland, South Africa, Turkey, the United Kingdom, the United States, France, Brazil, Pakistan, India, Argentina, the Czech Republic, Mexico, Malaysia, Thailand, China, Vietnam, Venezuela, and the Philippines.
- Companies in high-wage countries also are outsourcing management and service jobs to low-wage countries.
 - An estimated 3.3 million U.S. jobs are expected to migrate to India and China by 2015. Some 40 million jobs are believed vulnerable to outsourcing.
 - There is a nascent countertrend among job-receiving countries to establish branches in the donor lands. For example, in September 2007, India's Wipro announced that it was setting up a programming division in Virginia, both to hire top-quality American programmers and to help tap the lucrative government market.

- Jobs in western Europe are migrating to eastern Europe, the former Soviet Union, and the English- and French-speaking former colonies of Africa. India has begun to ship jobs to even lower-cost countries in Africa.

Assessment:

This trend will continue for at least the next two decades.

Implications:

The growth of e-commerce enables businesses to shop globally for the cheapest raw materials and supplies. In niche markets, the Internet also makes it possible for small companies to compete with giants worldwide with relatively little investment. This has brought new opportunities for quality-control problems and fraudulent cost-cutting by suppliers, as seen in the recent spate of tainted food and other products coming from China.

The Net also has created a generation of “e-preneurs” whose businesses exist largely on the Internet, with production, fulfillment, and other functions all outsourced to specialty firms.

Demand will continue to grow for employee incentives suited to other cultures, aid to executives going overseas, and the many other aspects of doing business in foreign countries

However, rising demand for foreign-language training is likely to be a temporary phenomenon, as more countries adopt English as part of their basic school curricula.

Western companies may have to accept that proprietary information will be shared not just with their immediate partners in Asian joint ventures, but also with other members of the partners’ trading conglomerates. In high technology and aerospace, that may expose companies to extra scrutiny due to national-security concerns.

- Establishing overseas branches mitigates this concern by keeping trade secrets within the company, even while gaining the benefits of cheaper foreign labor and other resources.

Economic ties can give richer, more powerful countries considerable influence over their junior partners. Thus far, China has been the most successful at wielding this “soft” power. This has given it the ability to undermine American foreign policy even as it secures its energy and raw-materials needs.

Implications for Policing:

International fraud, money laundering, and other economic crimes (particularly carried out via the Internet) are a growing problem, and one that can be expected to spread.

In addition, entrepreneurial success in global markets could widen the gap between the rich and poor, worsening social strains in countries already vulnerable to separatist and extremist movements. This could strengthen criminal gangs that are likely to spread to the United States. It also is likely to worsen the problem of international terrorism.

FI rates this one of the top five trends for policing.

Expert Comments:

FORD: The global economy is growing more integrated. Property crime follows the economy. We will be experiencing increasing levels of cross-national crimes, making investigations far more complex, far more expensive, and far more legally challenging.

JACKSON: Globalization is a prime driver of change in the world. Over time, it will redefine social identities, diminishing attitudes toward *nation*. Many people have formed global identities that have supplanted their national ones. This is the second most important among these trends.

KAPINOS: As connections with China continue to grow, and particularly connections with the Chinese “gray market,” there may be a possibility of importing yet another international segment of organized crime into the United States. There also is the possibility that more products and services used in law enforcement will originate overseas, with unknown impacts on security concerns.

SMYRE: As global innovation networks emerge as a fundamental part of the “molecular economy,” law enforcement alliances will need to connect in

collaboration to develop “Internet interceptors” to identify hackers attempting to disrupt the business of e-preneurs.

YOUNGS: Globalization will create unlimited avenues for cross-national criminal activity. These types of crimes are extremely complex in regards to investigation and prosecution. Net-centric policing, trans-jurisdictional cooperation and enabling legislation will be necessary to effectively keep pace with the increasing crimes made possible by the Internet, such as the increase in fraud. It is shifting the entire thought process of current policing norms.

ZETTEMAYER: Growth in e-commerce will provide greater opportunity for fraud committed by a global criminal element. This will become increasingly difficult to police.

9. MILITANT ISLAM CONTINUES TO SPREAD AND GAIN POWER.

- It has been clear for years that the Muslim lands face severe problems with religious extremists dedicated to advancing their political, social, and doctrinal views by any means necessary.
- Most of the Muslim lands are overcrowded and short of resources. Many are poor, save for the oil-rich states of the Middle East. Virtually all have large populations of young men, often unemployed, who are frequently attracted to violent extremist movements.
- During its proxy war with the Soviet Union in Afghanistan, the United States massively fortified the Muslim extremist infrastructure by supplying it with money, arms, and, above all, training.
- It is making a similar mistake today. The overthrow of Saddam Hussein and the American occupation of Iraq has inspired a new generation of *jihadis*, who have been trained and battle-hardened in the growing insurgency.
- In a now-declassified National Security Estimate, the American intelligence community concluded that Al Qaeda was more powerful in 2007 than it had been before the so-called “war on terror” began—more dangerous even than it had been when it planned the attacks of September 11, 2001.

- American support for Israel has also made the United States a target for the hatred of Muslim extremists.

Assessment:

This trend may wax and wane, but it seems unlikely to disappear this side of a Muslim reformation comparable to those that transformed Christianity and Judaism.

Implications:

Virtually all of the Muslim lands face an uncertain, and possibly bleak, future of political instability and growing violence. The exceptions are the oil states, where money can still buy relative peace, at least for now.

These problems often have spilled over into the rest of the world. They will do so again.

In a 1994 terrorism study for the Department of Defense and other government clients, Forecasting International predicted that by 2020 a strong majority of the world's twenty-five or so most important Muslim lands could be in the hands of extremist religious governments. At the time, only Iran was ruled by such a regime. That forecast still appears sound.

Iraq is likely to become the next fundamentalist Muslim regime. Once American forces leave, Iran will support the establishment of a Shiite regime much like its own in Baghdad.

There is a one-in-ten chance that this will set off a general war in the Middle East, as Sunni-dominated states intercede to protect Iraqi Sunnis against Shi'a domination. However, Iraq and Saudi Arabia already are negotiating to keep this situation under control.

Any attempt to reduce the commitment of Western forces to the task of stabilizing Afghanistan will result in the restoration of the Taliban to power.

Implications for Policing:

The West, and particularly the United States, must expect more—and more violent—acts of terrorism for at least the next twenty years.

Europe faces a significant homegrown Muslim extremist movement, and the United States may do so in the near future. Thanks largely to waves of immigration since the 1980s, Islam is the fastest-growing religion in both regions. Extremist clerics in Europe are recruiting young Muslims to the cause of *jihad* against their adopted homes. So far, their colleagues in the United States have been much less successful. That may not always be true.

Western interests also will be vulnerable in many countries outside the Muslim core. International ties formed among Islamic militants during the anti-Soviet war in Afghanistan produced an extremist infrastructure that can support terrorist activities almost anywhere in the world. The war in Iraq is doing so even more efficiently.

This development must be taken even more seriously, because for the first time a Muslim country—Pakistan—has nuclear weapons. Muslim extremists view this technology as an “Islamic bomb” that could be used to promote their cause. From here on out, nuclear terrorism is a realistic threat.

This risk will grow as Sudan, Iraq, and probably other countries establish fundamentalist regimes sympathetic to the cause of *jihad* against the West.

Saudi Arabia easily could be taken over by a fundamentalist regime. The Saudi rulers may well try to avoid this by providing even more support to extremists and directing their attention to the West.

The overthrow of the Taliban in Afghanistan, and especially of Saddam Hussein in Iraq, have made future fundamentalist revolutions more likely, rather than less so, because it has strengthened the global *jihadi* movement.

This is another of the top five trends for policing. In the worst scenarios, it could be one of the top two, behind only the dominance of technology.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: The policing implications here are too obvious to need elaboration.

DINE: This is the fourth most important trend for policing.

FORD: One aspect of the rise of fundamental Islam—terrorism—has important implications for law enforcement. It will require the FBI to reduce its law enforcement role and focus mainly on homeland security issues. Local police and correctional agencies will have to develop antiterrorism units and programs. Antiterrorism efforts will also require far more information sharing and integration among law enforcement agencies than has occurred to date.

JACKSON: Militant Islam is the principal security threat to the developed world. Much of the police training conducted since 2001 is directed at mitigating this effect. This ranks as the third most important trend for policing.

JENSEN: Fifth most significant trend for policing.

KAPINOS: Terrorism directed at the U.S. mainland will get worse. As a result, Homeland Security issues will have the single greatest impact on the law enforcement community for the next twenty years.

MILLETT: Because of this trend, police departments are doing more CIA/FBI types of intelligence for themselves. The big example is NYPD international surveillance and intelligence on terrorists.

MORTIMER: If we will be continuously facing a battle against Muslim terrorism, our law enforcement resources may become even further strained. Many law enforcement officers also serve in the military, and some who are now serving in the military might have become law enforcement officer if it had not been for competition for personnel from the armed services. This potential shortage of manpower could reduce the effectiveness of police services.

NOLTE: I applaud every effort to link formerly “domestic” subjects like policing with national security. First of all, because that’s where the environment is going—toward a world in which “foreign versus domestic” has some residual meaning but only within a context in which the two are seen as part of an organic whole. In addition, I believe the energy in American “national security” comes more from formerly (and still, in some circles) ignored folks like cops.

Note that good policing can facilitate the process whereby an “alien” population, in this case Muslim, integrates effectively into society, rather than being further alienated from it.

TRENDS IN VALUES, CONCERNS, AND LIFESTYLES

10. SOCIETAL VALUES ARE CHANGING RAPIDLY.

- Industrialization raises educational levels, changes attitudes toward authority, reduces fertility, alters gender roles, and encourages broader political participation.
 - This process is just beginning throughout the developing world. Witness the growing literacy, declining fertility, and broad voter turnout seen in India over the last decade.
- Developed societies increasingly take their cue from Generation X and the Millennial generation (aka Generation Y or Generation Dot-com), rather than the Baby Boomers who dominated the industrialized world's thinking for most of four decades.
- Millennials value, and display, both self-reliance and cooperation. They need self-reliance because they believe individuals can no longer count on government social-security income, pensions, or other benefits. They value, and are good at, cooperation because group action often is the best way to optimize the use of scarce resources, such as retirement savings.
- Post-9/11 fear of terrorist attacks has led Americans to accept almost without comment security measures that their traditional love of privacy once would have made intolerable.
 - This continues a long-established tendency in the United States to prefer a greater sense of safety at the cost of increased government surveillance and intervention in their lives.

Assessment:

This trend will continue for at least the next two decades in the industrialized lands and two generations in the developing world.

Implications:

The growing influence of the post-Baby-Boom generations will tend to homogenize basic attitudes throughout the world, because Generation Xers and especially the Millennials around the globe have more in common with each other than with their parents.

The highly polarized political environment that has plagued the United States since the 1980s will slowly moderate as results-oriented Generation Xers and Millennials begin to dominate the national dialogue.

As national security concerns have begun to lose their immediacy, family issues are regaining their significance in American society: long-term health care, day care, early childhood education, antidrug campaigns, and the environment. Concerns about health care, education, and the environment already are shaping the 2008 presidential campaign.

Demand for greater accountability and transparency in business will be crucial for countries that wish to attract international investors.

Implications for Policing:

Reaction against changing values is one of the prime motives for cultural extremism, not only in the Muslim world and in parts of India, but in the United States and Europe, where it appears in the form of hate crimes against immigrants.

The spread of westernized Generation X and Dot-com values in the developing world will provoke an even greater reaction from fundamentalists, who will see it as cultural imperialism by America and Europe and as a threat to the piety of their children and, therefore, to their afterlife in Paradise. This is likely to make the anti-West movement among Muslims even more violent and widespread.

At the same time, a reaction against immigrants could trigger hate crimes against the foreign-born on a scale not recently seen in the United States.

This is another of our top ten trends for policing.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: Certainly changing attitudes to authority, and the lack of traditional authority figures and role models for many of the younger generation, must be affecting attitudes towards police officers.

Police forces around the world have spent the last twenty years or so trying to move away from traditional “authority policing” to a more “softly, softly” approach in terms of trying to inspire confidence and ultimately trying to be the “friend of the citizen.” With the changing perceptions and values in the light of increased terrorist threats, citizens may ultimately be happy to live with a return to traditional “authority policing.”

CONSER: This is nothing new for policing and unfortunately society will fluctuate in both direction and speed based on events the policing world cannot control. There will be greater emphasis on training and orientation of shared values within organizations.

DINE: This is the second most important trend for policing. Note that changing societal values could be linked to the appearance of fringe groups and the incidence of terrorism.

FORD: Law enforcement and corrections have been dealing with this for years. As officer lifestyles change, departments have found it necessary to modify both management styles and regulations. Police administrators in particular will face greater scrutiny and oversight for their decisions from both internal and external sources.

FRASER: Fifth most important trend: This will affect who joins law enforcement agencies and will have an impact on enforcement priorities. For some period, many police departments will seem to be out of synch with the demands and expectations of the people they serve.

JACKSON: The large generation gap is creating significant dissonance and affecting succession schemes in various organizations. Boomers have a strong sense of moral superiority; they look upon the youth with great consternation because the young do not share the Boomers’ values. Boomers are reluctant to choose successors. In the coming decade, a leadership vacuum is likely to emerge because Boomers have failed to groom their successors. This will be true in policing as in other fields. This is the sixth most important trend.

KAPINOS: We may see progress on addressing some long-term societal issues that have festered for decades, and have been held hostage to political battles. With generational change we may see newer and more pragmatic approaches to addressing these issues, which could reduce crime, especially in dysfunctional communities.

LIFFORD: As society changes, the shift creates a discord between the traditionally conservative values of the police and the more liberal values of the population they serve.

JENSEN: This is the most significant trend for policing.

MORTIMER: Values change faster than the law can, and sometimes change for a time in ways that the law must not follow. This could lead to the spread of activities that are criminal under the law, even though they may be accepted by a substantial portion of society.

YOUNGS: The new police employee does not have the same values—dedication, loyalty, and life experiences—of older employees. Most employees today are not willing to work the midnight shift for a long period of time due to family pressures and job interest and enrichment. Recruitment is failing miserably in attracting good employees and standards in the profession are being lowered. College degrees, a once sought after job requirement, are not required. This can only hurt public confidence and ethics in the profession.

11. YOUNG PEOPLE PLACE INCREASING IMPORTANCE ON ECONOMIC SUCCESS, WHICH THEY HAVE COME TO EXPECT.

- Throughout the 1990s—effectively, their entire adult lives—Generation Xers and the Millennials knew only good economic times, and the economic downturn at the turn of the century seemed to them a confusing aberration rather than a predictable part of the business cycle.
 - Most expect to see hardship on a national level, but they both want and expect prosperity for themselves.
- Generation Xers and the Millennials are the most entrepreneurial generations in history.

- In the United States especially, most young people have high aspirations, but many lack the means to achieve them.
 - High-school dropout rates average between 18 and 30 percent, depending on who does the counting.
 - Inner-city rates are much higher by anyone's measure, with up to half of all students leaving high school before graduation in the worst districts.
 - Only about one high-school graduate in four goes on to receive a college degree. Many of the rest wish to go, and are qualified to do so, but cannot afford the high cost of further schooling.
 - On average, someone with a bachelor's degree in the United States earned nearly \$54,689 in 2004, compared with less than \$29,448 for someone with only a high school diploma.
 - High-school dropouts earned just \$19,915, while those with a professional degree raked in \$119,009.

Assessment:

This trend appeared with the Baby Boom generation and has strengthened with the later cohorts. It will be interesting to see what develops among the children of the Millennials, something we find it difficult to predict with any confidence.

Implications:

Disappointed ambitions will be a major source of political unrest in the United States and many other countries in the next two decades. Most of the other countries seriously affected by this trend will be in the developing world or will be host to large numbers of disadvantaged immigrants.

Entrepreneurialism will be a global trend, as members of Generation X and the Millennials throughout the world tend to share values. Generation X and Millennial entrepreneurs are largely responsible for the current economic growth in India and China, where they are becoming a major force in the Communist party. In India, the younger generations dress and think more like their American counterparts than

their parents. In China, the democratic fervor that spawned Tiananmen Square has been replaced by capitalist entrepreneurialism.

If younger-generation workers find their ambitions thwarted, they will create growing pressure for economic and social reform. If change does not come fast enough in the developing world, disappointed expectations will raise the number of young people who emigrate to the developed lands.

In the United States, pressure will grow to provide more, and less burdensome, economic assistance to qualified high school graduates who cannot afford to go on to college.

Pressure also will grow to make sure that all American students have access to an education capable of preparing them for college or a rewarding career.

Implications for Policing:

Disappointment also will drive underemployed young men in the developing world into fringe political and religious movements. This will add to future terrorism and instability, with profound effects on the cultures and economies of both their home lands and the target countries.

This basic materialism may be the single greatest complaint of Muslim fundamentalists against the West.

In the developed world, economic hardship could lead some young people who otherwise would not have considered public service to seek the security of government jobs. Others could “drop out” to become casual laborers, part-time “gray market” workers, or other non-participants with little personal investment in society. This second group could raise the frequency of minor drug offenses and other petty crimes.

Expert Comments:

CALLANAN: I believe that if a sudden economic downturn hits, the younger generation who have known only the good times are the most

vulnerable. Many lack the means or adaptability to cope, unlike many of the older generation. This could result in significant numbers of young people effectively “opting out” of society, and perhaps some disaffection. This in turn will have consequences for policing.

FORD: This trend already is evident in police agencies. Officers are increasingly concerned about pay and benefits. This is hindering recruitment and leading to higher turnover among recent hires. Police salaries in recent years have not kept up with those in the private sector, leading to shortages of quality police recruits.

KAPINOS: Public sector employers are already having difficulty drawing adequate recruits from a smaller pool of interested and qualified recruits.

MORTIMER: This emphasis on economic success could discourage some young people from following a career in law enforcement, which is not generally a lucrative field, and make it more difficult to fulfill the personnel requirements of police departments and related agencies.

YOUNGS: Police agencies are already experiencing the effects of this trend. Police salaries are not keeping up with jobs in the private sector, making it harder for police agencies to enlist and retain qualified recruits.

12. TOURISM, VACATIONING, AND TRAVEL (ESPECIALLY INTERNATIONAL) CONTINUE TO GROW WITH EACH PASSING YEAR.

- International tourism grew by more than 6 percent in the first half of 2007, thanks in part to global prosperity. By 2020, international tourist arrivals are expected to reach 1.6 billion annually, up from 842 million in 2006.
 - The number of Americans traveling to foreign countries (excluding Canada and Mexico) crashed following the September 11 attacks. More recently, their numbers have been growing by about 5.5 percent annually, even faster than before 2001.
 - In contrast, the United States received only 21.7 million visitors from countries other than Canada and Mexico, down 17 percent from the peak in 2001, even though the dollar’s weakness on foreign exchange markets should have made the United States

a more attractive destination. The decline stems from tighter American entry restrictions enacted in the name of security and from international hostility inspired by the Iraq war.

- However, U.S. domestic tourism is growing about 2.3 percent each year.
- By 2020, according to the World Trade Organization, 100 million Chinese will fan out across the globe, replacing Americans, Japanese, and Germans as the world's most numerous travelers.
 - Chinese spending for international travel will reach \$100 billion by 2008.
 - Some 50 million Indian tourists will join them.
- China soon will become the world's most popular destination as well, as preparations for the 2008 Summer Olympic Games focus international attention on Beijing.
 - By 2020, China can expect 130 million international arrivals.
- Online travel services are displacing traditional travel agencies in all but cruises and other luxury markets.
 - In the United States, the online travel industry grossed \$79 billion in 2006. It is expected to take in more than \$94 billion in 2007 and \$146 billion by 2010.
- Multiple, shorter vacations spread throughout the year continue to replace the traditional two-week vacation.

Assessment:

Travel seems to be in the DNA of the middle and upper economic classes. This trend will continue so long as national economies continue to generate new prosperity for the formerly poor.

Implications:

Travel will grow by at least 5 percent per year for the foreseeable future.

Tourism offers growing opportunities for out-of-the-way destinations that have not yet cashed in on the boom. This will make it an important industry for still more developing countries.

American domestic tourism will continue to grow by an average of 2.3 percent per year through at least 2011.

The tourism industry will create 3.3 million new jobs worldwide. Jobs dependent on tourism will comprise nearly 14 percent of the global workforce.

Direct employment will not grow quite as quickly, but it will be up 1.7 percent annually, to nearly 87.5 million jobs, while indirect employment will account for some 260 million jobs around the world.

This will bring major opportunities for the travel industries of Southeast Asia and Africa, where Chinese and Indian tourists can take quick, inexpensive vacations.

Retirees who travel off-season will further ease the cyclical peaks and valleys typical of the industry.

Cruise ships will continue to lure retirees. Some liners are offering full-time residency—creating new options for assisted living arrangements.

Implications for Policing:

The continuing growth of tourism will increase the contact between Westerners and residents of the developing world, to the frustration and dismay of culturally motivated extremists in the recipient lands.

Western tourists are more vulnerable to kidnapping and killing when abroad than they are at home.

Expert Comments:

CALLANAN: This trend can only bring greater demands for “tourist friendly” policing (e.g., on horseback in cities) in areas with high concentrations of visitors.

CONSER: This trend will be aborted instantly if terrorism strikes the travel market again, as it did on 9/11. I believe it will.

FORD: Police in tourist destination such as Florida will face higher population-to-officer ratios than in non-tourist areas. Police service delivery will also have to be modified to address the unique concerns of tourists.

JACKSON: This trend increases the demands on police to be able to deal with tourist populations visiting their jurisdictions. It will place pressure on translation capacities.

STERN: Growing tourism adds a significant burden to policing in the most popular destinations, requiring more personnel, more multilingual officers, and larger departmental budgets.

13. THE PHYSICAL-CULTURE AND PERSONAL-HEALTH MOVEMENTS ARE IMPROVING HEALTH IN MUCH OF THE WORLD, BUT THEY ARE FAR FROM UNIVERSAL.

- Emphasis on preventive medicine continues to grow.
 - Of late, a few insurance carriers—but more each year—have expanded coverage or reduced premiums for policyholders with healthy lifestyles.
- Where change has been slow, legislation has sometimes mandated it.
 - Since 2005, more than half of states have required insurers to pay for mammograms.
- Health is continuing to improve in the United States, but less quickly.
 - During the 1990s, health in the United States improved by 1.5 percent annually, based on such measures as smoking prevalence,

health-insurance coverage, infant mortality rates, and premature deaths.

- During the 2000s, health improvement has slowed to just 0.2 percent a year, largely due to personal choices.
- Health consciousness is spreading to Europe. For example, a recent poll found that two-thirds of Britons now spend more to maintain a healthy lifestyle than they did a decade ago, and three out of four say they enjoy leading a healthy lifestyle.
 - Unfortunately, much of the developing world still worries more about eating enough than about eating well.
- Smoking is in general decline in the United States. Only 21 percent of Americans smoked cigarettes as of 2005, down from 30 percent in 1983. About 42.5 percent of current smokers reported that they had tried to stop smoking within the last year. However, the percentage of smokers has stabilized since 2000.
- The antismoking movement also has made its way to Europe. Ireland banned smoking from its pubs late in April 2004. In 2006, France banned smoking in public facilities. Britain followed suit in 2007.
- The global obesity crisis is a significant countertrend to the physical-culture movement. Poor diet, physical inactivity, and associated obesity contribute to 47 percent of diseases and 60 percent of deaths worldwide.
 - Developing countries that "westernize" their diets by consuming more foods high in fat, sugar, and salt are at risk of epidemic obesity, including among children and adolescents.
- The current epidemic of obesity in the United States is especially troubling. Among children, overweight has tripled since 1980, to about 18 percent for those age six or older.
 - However, there is some evidence that obesity has begun to stabilize among American adults. The rate of obesity among women appears to have reached a plateau in the last six years.

Assessment:

This trend always seems a case of two steps forward, at least one step back. We expect it to continue for at least the next generation.

Implications:

As the nutrition and wellness movements spread, they will further improve the health of the elderly.

Better health in later life will make us still more conscious of our appearance and physical condition.

Thus, health clubs will continue to boom, and some will specialize in the needs of older fitness buffs. Diet, fitness, stress control, and wellness programs will prosper.

States will continue to mandate insurance coverage of mammography. By 2012, they will begin to require coverage of sigmoidoscopy.

By 2015, Congress will add coverage of many preventive-care activities to Medicare.

The cost of health care for American Baby Boomers and their children could be much lower in later life than is now believed. However, Asia faces an epidemic of cancer, heart disease, emphysema, and other chronic and fatal illnesses related to health habits.

Like tobacco companies, producers of snack foods, liquor, and other unhealthy products will increasingly target markets in developing countries where this trend has yet to be felt.

Continuing health improvements in the industrialized world will be accompanied by a dramatic rise in heart disease, diabetes, cancer, and other such "lifestyle" disorders in the developing lands.

Chronic diseases related to obesity burden national economies and could thwart economic progress in developing countries.

Implications for Policing:

Police officers live with high stress and traditionally have poor health habits, resulting in lower-than-average life expectancies. Younger officers are more likely to exercise, watch their weight, and generally look after themselves. As a result, they may remain healthy and fit much later in life than their older colleagues. This should reduce their cost to departmental insurance programs.

Expert Comments:

CALLANAN: According to healthcare professionals we have been working with here in Ireland, it is not a case of if, but rather when a major health pandemic hits the developed world. This has the potential to cause severe damage to health services, food and water supply, and heavy congestion in terms of physical infrastructure networks. As evidenced with Katrina, events such as these also challenge different arms of government (including the various emergency services, including policing) to respond in a coordinated and orchestrated fashion.

FORD: The impact of the health movement can be already seen in the attitudes of young officers, who are much more interested in health and exercise than their older peers. These cultural values will make it easier for departments to mandate lifelong physical standards and exercise regimens for officers.

JACKSON: Police have notoriously bad lifestyles and life expectancies well below the norm. Health benefits are a pressing financial constraint on employers, including government. This may increase pressure on departments to improve employee wellness.

KAPINOS: Public safety personnel are healthier than in prior generations and are living and working longer. However, fitness levels for younger, Millennial-generation recruits are not consistently as good as with previous cohorts.

YOUNGS: More agencies are adopting fitness standards or voluntary fitness programs. Younger officers seem to adapt and accept this more readily as part of the job requirements.

14. CONSUMERISM IS STILL GROWING.

- A networked society is a consumerist society.
 - Shoppers increasingly have access to information about pricing, services, delivery time, and customer reviews on the Internet.
 - Marketers, of course, can also check the competition's offerings. This may gradually halt the decline of prices and shift competition increasingly to improvements in service and salesmanship.
- A possible reaction to this trend began in June 2007, when the U.S. Supreme Court threw out a longstanding rule and decreed that manufacturers have the right to set minimum retail prices for their products.
- Children in the United States become shoppers as young as age six and become aware of brands at age two or three, due largely to child-focused advertising.
- The Millennial generation is becoming increasingly prone to compulsive spending.
 - In the United States, 10 percent of Millennials can be classified as clinically compulsive spenders, compared with 5 percent of Generation Xers and perhaps 3 percent of Baby Boomers.

Assessment:

This trend seems likely to remain healthy for the at least the next 15 years.

Implications:

Consumer advocacy agencies and organizations will continue to proliferate, promoting improved content labels, warning notices, nutrition data, and the like on packaging, TV, the Internet, and even restaurant menus.

Europe, Japan, China, and other markets are undergoing the same revolution that has replaced America's neighborhood stores with cost-cutting warehouse operations, discounters such as Wal-Mart, and "category killers" like Staples and Home Depot.

However, the cultural and political power of farmers and small shop owners has slowed this trend in some areas, particularly in Japan.

Thanks to recent contamination of food imported from China, the U.S. Food and Drug Administration will be required to improve screening of incoming food products. However, it will not receive adequate funding to do the job effectively.

As prices fall to commodity levels and online stores can list virtually every product and brand in their industry without significant overhead, service is the only field left in which marketers on and off the Internet can compete effectively.

Branded items with good reputations are even more important for developing repeat business.

Consumer debt may be an even greater problem for Millennials than it has been for their elders.

Implications for Policing:

The growth of consumerism in Muslim lands will provide one more incentive for a fundamentalist reaction and a further inspiration for terrorism. This may also inspire a return to strict Islam among Muslims in Western lands, and perhaps help turn some younger Muslims toward extremist movements. In this, consumerism represents a security issue for law enforcement.

Consumer debt is a problem for police officers, as it is for other Americans. This could conceivably open them to financial influences inconsistent with sound job performance.

Expert Comments:

FORD: Nowhere can this trend be better seen than in the employee parking lots of police stations. Police officers, like their civilian peers, have been taking on debt at a higher level than in the past. This has resulted in personnel problems and concerns that officers could be compromised.

JACKSON: Police departments are experiencing recruiting problems. Many candidates are disqualified because of poor credit histories. To the degree that police candidates eliminate themselves through excessive consumerism, departments will find it difficult to staff appropriately.

KAPINOS: Law enforcement agencies are seeing more recruits with consumer debt issues and major problems with high credit debt among recruits and even veteran personnel. More agencies are doing regular credit checks on staff and are offering credit counseling referrals.

NOLTE: It's not a given that consumerism in Muslim societies will work to the advantage of the fundamentalists. We're in the second generation of post-Revolutionary Iran, and I would think that one of the things the mullahs should worry about is that Iranians 15 to 25 are more interested in iPods than the Koran.

SMYRE: Law enforcement departments will need to form collaborative relationships with nonprofit credit counseling services to work with officers and civilians to resolve credit issues.

15. THE WOMEN'S EQUALITY MOVEMENT IS LOSING ITS SIGNIFICANCE, THANKS LARGELY TO PAST SUCCESSES.

- According to some, though not all, studies, women have nearly achieved pay parity with men in the United States when factors such as educational level, responsibilities, and seniority are taken into account.
 - From 1979 to 2005, median wages for women in the United States with college degrees rose by 58 percent.
 - Their male counterparts saw pay hikes of only 24 percent over the period.

- In 2004, one-third of American women earned more than their husbands, up from 24 percent in 1987.
- Some 70 million women, 59 percent of those age 16 and older, participated in the U.S. labor force in 2006.
 - Among those ages 25 to 54, more than three-fourths either held a job or were looking for one.
 - Three-fourths of employed women worked full-time.
- Younger generations of women are better educated.
 - Fully 58 percent of American college students were women as of 2006.
 - Among whites, only 56 percent are female, but 60 percent of African-American college students are women.
 - Among students over age 25, nearly two-thirds are women.
 - And women earn nearly 60 percent of the bachelor's and master's degrees awarded in the United States.
- Nearly 10.4 million American businesses were owned by women in 2006, up 42 percent from 1997.
 - Women-owned firms currently employ 13 million people and generate \$1.9 trillion in sales, according to the Center for Women's Business Research.
 - However, most are small retail and service operations that offer few opportunities to build major corporations.
- Corporations are adding more women to their boards of directors.
 - In Britain's top 20 firms, 90 percent now have at least one female director on their boards, reports the U.K. Department of Trade and Industry.
 - In the United States, 14.6 percent of the directors at *Fortune* 500 companies were women as of 2006.
- Generation Xers and Millennials are virtually gender-blind in the workplace, compared with older generations. This is true even

in societies such as India and Japan, which have long been male-dominated, though not yet in conservative Muslim lands.

- An infrastructure is evolving that allows women to make more decisions and to exercise political power, especially where both spouses work.
 - One indication of growing dependence on the wife: life insurance companies are selling more policies to women than to men.
- More women are entering the professions, politics, and the judiciary. As we have seen in Iraq, they also are finding roles in combat.

Assessment:

This trend is valid only in the developed lands. In the developing world, the movement toward women's equality is barely beginning. In the United States, the trend could be seen as complete, with women's equality now taken for granted and only mopping-up operations required to complete the process. However, we believe that the women's equality movement will continue to retain some importance, less with each passing year, until the gender-blind Generation X and Millennials accede to leadership in business and politics.

Implications:

In most of the developed world, whatever careers remain relatively closed to women will open wide in the years ahead. Japan will remain some years behind the curve, owing to the strength of its traditionally male-dominated culture.

Women's increasing entrepreneurialism will allow the formation of entrenched "old girl" networks comparable to the men's relationships that once dominated business.

The fraction of women entering the American labor force has leveled off in recent years. The percentage of female workers is likely to

remain approximately stable until some force appears to begin a new trend.

Demand for child care, universal health coverage, and other family-oriented services will continue to grow, particularly in the United States, where national services have yet to develop. Over the next twenty years, American companies may increasingly follow the example of their counterparts in Europe, whose taxes pay for national daycare programs and other social services the United States lacks.

There is little sign of progress for women in much of the developing world. India is an exception, because growing literacy has given women the chance to earn income outside the home and, with it, value other than as wives and mothers.

Implications for Policing:

This trend is as likely to affect law enforcement agencies as it is other organizations, though perhaps some years behind the societal average owing to the traditional male domination of policing. Expect demands for family-oriented benefits and a growing cadre of female senior officers.

Expert Comments:

CALLANAN: Obviously, efforts have been made to increase the number of women in police forces and law enforcement. What will change in the future is that a greater proportion of senior managers in law enforcement will be women—whether you think the effect will be good or bad, it is likely that there will be an effect on organizational culture arising from this development.

CONSER: In many parts of the country, there is no significant increase in the number of women in policing positions. In fact, their number is decreasing as women find better jobs in other fields.

FORD: While this trend may hold true in other sectors of American society, pressures to integrate more women into policing and corrections will continue for at least the next decade. The movement of women into the rank structure has lagged behind other enterprises and probably will continue to do so for at least another ten years before this issue is finally laid to rest.

JACKSON: The large female advantage in college degrees will translate to female dominance of leadership positions once Generation Xers and Millennials replace Boomers. This will be less true in policing, where women remain a significant minority. In fact, police work is likely to attract the males who are no longer going to college. This creates the potential for a police force that is distinctly different from the political and business power systems. This would be a situation ripe for conflict, with the marginalization of the police force as a possible outcome.

KAPINOS: Women have been well integrated into most law enforcement agencies. Now we are seeing mature women's networks developing, as well as second-generation women coming into agencies. There also are growing demands for family-friendly benefits such as child-care services, flex-scheduling, and tele-work opportunities (where possible.)

16. FAMILY STRUCTURES ARE BECOMING MORE DIVERSE.

- In periods of economic difficulty, children and grandchildren move back in with parents and grandparents to save on living expenses. Many bring their own children with them. In the United States, one-third of Generation Xers have returned home at some point in their early lives. Among Millennials, the figure is even higher.
 - The 2001 Census found that so-called “multigenerational households” are the fastest growing group in the United States.
 - Among the poor, grandparents also provide live-in day care for the children of single mothers trying to gain an education or build a career.
- The average age of marriage is rising, and growing numbers of people either do not marry or remain single after divorce. The number of people living together outside marriage thus continues to rise.
- Nonetheless, the fastest growing “family” structure consists of a single adult living alone.

- Yet the nuclear family also is rebounding in the United States, as Baby-Boom and Generation X parents focus on their children and grandparents retain more independence and mobility.
- Same-sex households also are gaining new acceptance.
 - At least five American states now permit same-sex marriage or have enacted domestic-partnership laws that provide similar protections: Massachusetts, California, New Jersey, Connecticut, and New Hampshire.
 - In this, they join such countries as Denmark, Germany, the Czech Republic, the United Kingdom, and most recently Switzerland.
 - Many American companies now grant spousal benefits to the same-sex partners of employees, even where states do not.
- Many grandparents are raising their grandchildren because drugs and AIDS have left the middle generation either unable or unavailable to care for their children.
 - This trend is strongest in Africa, where AIDS has orphaned some 12 million children, half between the ages of 10 and 14. In Botswana, Lesotho, Swaziland, and Zimbabwe, more than one in five children will be orphaned by 2010. According to UNICEF. At that time, there will be 25 million AIDS orphans in sub-Saharan Africa. In the seven African countries most affected by AIDS, life expectancy at birth has now dropped below 40 years.

Assessment:

This trend will remain in effect for at least a generation in the United States, longer in the rest of the world.

Implications:

Where many European countries have largely adjusted to this trend, the United States has not.

Tax and welfare policies need adjustment to cope with families in which heads of households are retired or unable to work.

Policies also need modification for those who receive Social Security and work to support an extended family.

In the United States, the debates over homosexuality and the “decline of the family” will remain polarizing for the foreseeable future.

The next debate is likely to focus on granting parental rights to more than two parents, as when a sperm or egg donor wants a role in the life of a child whose official parents are the recipients.

Implications for Policing:

Police forces will have to adjust benefits and other policies to fit the needs of non-traditional families, much as private organizations must. Although this trend is not as dramatic as developments in technology or the rise of terrorism, we view it as one of the ten most important trends for policing.

Expert Comments:

FORD: Facing problems with morale, recruitment, and absenteeism, police and correctional agencies will be forced to become more family friendly. Child-care centers may soon be included in many employee benefit packages. Nepotism rules will have to be revisited as marriages and relationships continue to form within departments.

JACKSON: Conflicts are likely to arise from this transition, and police departments will have to manage them.

JENSEN: Tenth most significant trend for policing.

KAPINOS: Law enforcement agencies will continue to see more non-traditional living arrangements among their personnel, which in the past have caused ethical concerns. Among these are same-sex partnerships, non-married cohabitants, extended families, etc. These situations are raising numerous issues, such as payment of survivor benefits and other related concerns.

YOUNGS: If agencies want to effectively recruit from within the new generation, they will have to make adjustments, think outside the box and look at previously considered non-viable or accepted aspects of benefits and policies.

17. PRIVACY, ONCE A DEFINING RIGHT FOR AMERICANS, IS DYING QUICKLY.

- Internet communications, a basic part of life for many people, are nearly impossible to protect against interception, and governments around the world are working to ensure their unfettered access to them. Postings to blogs and Web forums are nearly immortal.
 - The contents of most Internet-connected computers are open to virtually unobstructed snooping by anyone with a minimum of skill and the will to examine them. All but the most secure can be invaded by more-capable hackers.
- Corporate databases are collecting and marketing data on individual credit-worthiness, incomes, spending patterns, brand choices, medical conditions, and lifestyles.
 - While privacy regulations bar distribution of much personal information in the European Union, restrictions in the United States are much weaker.
- Widespread surveillance of private individuals is technically feasible and economically viable, as tiny, powerful cameras now cost next to nothing. Increased surveillance has become socially acceptable in an age when many people fear terrorism and crime.
 - In Britain, an estimated 4.2 million surveillance cameras watch over streets, office buildings, schools, and shopping centers, making the U.K. one of the most closely monitored nations in the world. On average, Britons are caught on camera an estimated three hundred times per day.
 - In the United States, the growth of surveillance also is driven by the fear that lawsuits following a future terrorist attack could claim that failure to install monitoring equipment constitutes negligence.
 - Video surveillance systems have been installed in Chicago; New York City; Washington DC; Tampa FL; and other cities around the United States. In most cases, local police departments

have been a driving force in this movement. Protests thus far have been small and ineffective.

- The USA Patriot Act of 2001 sets aside the constitutional requirement of a search warrant for government officials who wish to search someone's home in order to thwart possible terrorism. Its provisions have been used to justify searches in pursuit of drug dealers and even, in one attempt thus far blocked by the courts, copyright abusers.

Assessment:

Pessimists could say that privacy already is a thing of the past; society is merely coming to recognize its loss. We believe that enough effective privacy survives outside the most authoritarian countries to justify noting its continued erosion. However, this trend could easily reach its logical conclusion within ten years.

Implications:

In the future, privacy is likely to be defined, not by the ability to keep information truly secret, but by the legal power to restrict its distribution. Even this limited form of privacy will be eroded as both government and private organizations find legal justification for their interest in personal information. Once access is granted to any type of information, it is unlikely ever to be rescinded.

Most surveillance provisions of the USA Patriot Act will survive, even if the law itself is repealed or modified.

In the absence of a major terrorist event, most Americans will continue to consider privacy a "right," and privacy-related lawsuits are likely to proliferate as more people feel violated or inconvenienced by surveillance. However, courts will be unsympathetic to such suits for so long as conservative appointees dominate the bench.

In large and medium-size cities around the world, spaces that remain unwatched by video cameras will continue to shrink.

Growing numbers of companies, and even private citizens, will encrypt their computer data.

The number of criminal cases based on surveillance will grow rapidly in countries with the required technological sophistication and infrastructure.

Private citizens increasingly will use similar technologies to watch over government abuse, as in cases where bystanders have recorded police misconduct with their cell-phone cameras.

Implications for Policing:

It will be nearly impossible for criminals to operate without being observed. However, until artificial intelligence systems “learn” to recognize suspicious activities, manpower will limit use of these observations. Except in obvious target areas, surveillance will be most useful in forensic reconstruction, rather than in active crime prevention.

What remains of privacy protections often conflicts with security needs. A good example is the recent decision to scrap an important data-mining program at the Department of Homeland Security on the grounds that it might implicate the innocent in terrorism or other illegal activities. A more appropriate solution would have been to require that data used by the program be confirmed by at least two independent sources, as is routinely done in the intelligence community.

This is clearly one of the ten most important trends for policing. It may be one of the top five.

Expert Comments:

CALLANAN: There are obvious investigation benefits from this development, although it could cause greater resentment toward police forces.

CONSER: Few Americans understand this right, and their mistaken beliefs raise the likelihood of conflict with the policing agencies. The United States needs a better educational program regarding the legal issues surrounding privacy. There will be greater demand for statutory protections on the USE of information collected by intelligence and policing organizations.

DINE: Privacy matters continue to redefine citizen expectations, policing policies, and the constant balancing of privacy vs. freedom. This is the number-one trend for policing.

FORD: Privacy as we knew it is being altered as video surveillance is increasingly being used, both as a deterrent to crime and as an investigative tool.

FRASER: Eighth most important trend: The rules of evidence will change, and investigations will be able to rely on information seized in ways that were formerly illegal and unconstitutional. There will be a great increase in police omnipresence in all aspects of American lives, and with technology the “big brother” society will continue to emerge with little notice by most people. Any future terrorist strikes inside the United States will dramatically accelerate the willingness of people to surrender liberty, privacy, and freedom in exchange for the perception of security.

JACKSON: Police will increasingly use cameras and other forms of electronic surveillance. Public spaces are largely covered by surveillance cameras, mostly owned by property managers, merchants, and other private interests. The concern over public entities also having surveillance cameras is likely to diminish over time, particularly as success stories accumulate. The success the U.K. has had in its post-incident investigations as a result of its considerable surveillance network provides strong evidence of the utility of cameras in public areas.

KAPINOS: We are becoming a fully-recorded society, thanks to passive surveillance cameras (especially photo-red light cameras), in-car video systems, citizens recording encounters with police, etc. This could have interesting ramifications on the criminal justice system, as more cases may be decided by “going to the video tape.” The U.S. Supreme Court recently set precedent by using a police in-car video to decide a case. With everything recorded, you may see everyone forced to be more honest.

LIFFORD: Privacy concerns will be directly related to the police delivery of service, since the police will be the ones who most often legally employ the new technology.

LUNNEY: The spread of video scanning of public and private space and the capacity to intercept communications of all types is sweeping away the legal impediments that once protected privacy. This will be a two-edged sword for policing, but there is no going back.

MEYER: Privacy has obvious implications for law enforcement agencies.

NOLTE: This is, it seems to me, a huge issue. If we've lost privacy in the traditional sense, what new definition of privacy, if any, will the public insist on?

OSBORNE: As the public debate around privacy issues grows due to increased use of cameras and other surveillance equipment in urban areas for crime detection/law enforcement, public use of small cameras, recorders, and at home surveillance systems will grow. Police activity will be tracked via GPS on vehicles and perhaps on officers. Videos of officers' interactions will be used for accountability and lawsuit protection. Police will become more accountable to citizenry as crime mapping on the Internet and other types of data are made available for analysis outside of the law enforcement environment, to be used by city planners and private security.

STERN: The trade-off between privacy and data collection is extremely important. For greater efficiency, law enforcement needs more freedom to infringe upon areas that once would have been considered private.

ZETTLEMOYER: Current acceptance of security measures that impinge on civil liberties may be short-lived if a new terrorist event takes place in the United States, This could undermine public confidence and rekindle domestic extremists on the right and left.

ENERGY TRENDS

18. DESPITE EFFORTS TO DEVELOP ALTERNATIVE SOURCES OF ENERGY, OIL CONSUMPTION IS STILL RISING RAPIDLY.

- The world used only 57 million barrels of oil per day in 1973, when the first major price shock hit. By 2004, it was using 83 million barrels daily, according to the U.S. Energy Information Administration. Consumption is expected to reach 97 million barrels daily by 2015 and 118 million by 2030.
 - The United States alone consumes about 20.7 million barrels of oil per day. Nearly 60 percent of that is imported.
 - In 2005, the most recent data available, China consumed 6.534 million barrels of oil per day, making it the second-largest user of oil in the world. Its oil demand has grown by 7 percent per year, on average, since 1990. Most of China's imported oil (more than 3.1 million barrels a day) comes from the Middle East.
- However, oil's share of world energy consumption has begun to decline: It is expected to drop from 40 percent in 1999 to about 37 percent in 2020.

Assessment:

Nothing is likely to reverse this trend in the next 25 years.

Implications:

Oil prices now are high enough to provide an incentive to develop new fields, such as the Arctic National Wildlife Refuge and the deep fields under the Gulf of Mexico.

Environmentally sensitive areas will be developed using new drilling techniques, double-walled pipelines and other precautions, that make

it possible to extract oil with less damage to the surroundings. But they will be developed.

Any prolonged rise of oil prices to triple digits will erode support for environmental protections in the United States, leading to widespread development of whatever energy sources are most readily available, regardless of the long-term consequences.

Implications for Policing:

The West will remain vulnerable to any instability in the Middle Eastern oil producing countries.

A primary goal of Muslim terrorists will be to interrupt the flow of oil to the United States.

Energy facilities also will make inviting targets for regional terrorist organizations with purely local goals. Attacks on Mexican natural gas pipelines by the tiny Popular Revolutionary Army are one such case.

Expert Comments:

CALLANAN: Apart from police forces and law enforcement agencies (like most government agencies) being forced to become “greener” (through switching to biofuels in cars, introducing hybrid cars, reducing waste production, etc.), I cannot see any major implications here.

FORD: Trends 18 through 21 are significant in part because fuel costs are the second-highest expense for police agencies, after personnel. If fuel prices rise, police agencies will seek to use alternative fuels vehicles and will downsize their vehicles. Alternatives to dispatched patrol units will be studied for less serious calls. The use of smaller police cars may require a return to “paddy wagons” for prisoner transport.

JACKSON: The price of oil has a direct impact on police operational budgets, particularly in economies sensitive to oil price fluctuations.

SHTULMAN: Another goal of terrorists will be to attack energy targets here in the United States. A refinery in Louisiana is probably easier to hit than a facility in Saudi Arabia these days. Think also about all those small nuclear reactors on U.S. college campuses with hardly any security.

19. CONTRARY TO POPULAR BELIEF, THE WORLD'S CONFIRMED OIL SUPPLY IS GROWING, NOT DECLINING.

- As a result of intensive exploration, the world's proven oil reserves climbed steadily since the 1980s and now hover at over 1.3 trillion barrels. Natural gas reserves stood at about 6.2 trillion cubic feet in 2007, about 1 percent more than a year earlier.
 - Recent discoveries of major oil fields in Canada, Brazil, and under the Gulf of Mexico have substantially increased the world's known oil reserves.
 - Claims that the world's oil reserves may be up to 20 percent smaller than previously believed are not credible, in part because they originate with an odd coalition of the American Petroleum Institute and alternative energy proponents—two groups with a vested interest in keeping oil prices high.
 - Exploitation of oil in Venezuela has barely begun. Reserves there may be even larger than those in Saudi Arabia, according to some estimates. However, it is more expensive to refine and use, because it contains much higher levels of sulfur than the Middle Eastern oil currently in production.
 - India also is believed to own substantial reserves of oil in deposits beneath the Indian Ocean.
- OPEC officials claim that the eleven member countries can provide for the world's energy needs for roughly the next 80 years.
 - OPEC supplies about 40 percent of the world's oil and holds 60 percent of the known oil available internationally.
 - Even 80 percent of OPEC's estimated supply would still be oil enough to supply the world for the next 64 years.

Assessment:

Talk of "peak oil," the suggestion that crude production has topped out, or soon will, is unjustified and, in FI's view, unjustifiable. Our best estimate is that the world has used about one-fourth of its

recoverable oil, and almost certainly no more than one-third. This trend will remain intact until at least 2040.

Implications:

Higher oil prices should make it cost effective to develop new methods of recovering oil from old wells. Technologies already developed could add nearly 50 percent to the world's recoverable oil supply.

OPEC will continue to supply most of the oil used by the developed world. According to the U.S. Department of Energy, OPEC oil production will grow to about 57 million barrels of oil per day by 2020.

Russia and Kazakhstan will be major suppliers if the necessary pipelines can be completed and political uncertainties do not block investment by Western oil companies. Russia will grow into the world's second-largest oil producer by 2010.

Alternative energy sources face problems with economic viability. Barring substantial incentives, this will inhibit efforts to stem global warming for the foreseeable future.

A generalized war in the Middle East after the United States leaves Iraq could drastically reduce the region's oil output. This is unlikely, but the probable impact of such a conflict is so great that the possibility cannot be ignored.

The spread of fundamentalist Muslim regimes with a grudge against the West also could keep OPEC oil out of the American market.

If the United States loses access to Middle Eastern oil, it will buy even more from Canada and Venezuela, tap the Arctic National Wildlife Reserve, and develop the deepwater fields under the Gulf of Mexico much faster than expected.

In a prolonged energy emergency, America also would be likely to develop its vast reserves of oil shale, which have long been economically viable at crude prices over \$40 per barrel. New technology reportedly makes it profitable at any price over \$17 per barrel. With enough shale

oil to supply its own needs for 300 years, the United States could become one of the world's largest petroleum exporters.

Developing shale would devastate the environment, but with crude oil prices in triple digits during a Mid-East war, the environment would be considered expendable.

Implications for Policing:

Broader development of global energy resources could partially insulate the West from the effects of attacks on their energy supplies.

However, development of American shale resources would deprive the Middle Eastern oil states of their "lock" on the world's energy markets and reduce the value of their only significant resource. This would trigger a wave of resentment among Muslim extremists and could unleash a wave of terrorism more destructive than anything yet seen.

Expert Comments:

STERN: The United States needs more refinery capacity. These facilities will require greater security. Even if some of this comes from private security services, their efforts will need to be coordinated with local and state police departments, with the Department of Homeland Security, and perhaps with the National Guard.

20. WHEN NOT PERTURBED BY GREATER-THAN-NORMAL POLITICAL OR ECONOMIC INSTABILITY, OIL PRICES WILL AVERAGE AROUND \$65 PER BARREL.

- The International Energy Agency's *World Energy Outlook 2007* concurs.
- Prices approaching \$100 per barrel in the fall of 2007 are an aberration caused by a global shortage of refinery capacity and by fears of instability triggered by the Iraq war.

- New energy demand from the fast-growing economies of China and India has raised the floor that until 2004 supported oil in the \$25 per barrel range.
- The “risk premium” built into the price of oil is estimated at \$10 to \$15 per barrel.
- Yet in the long run other factors will tend to depress the price of oil toward its former levels.
 - New refineries in Saudi Arabia and other countries scheduled to come on line by 2010 will ease the tight supply-demand balance for oil.
 - As seen in Trend 19, new oil supplies are being found or developed in many parts of the world.
 - The twenty most industrialized countries all have at least three-month supplies of oil in tankers and underground storage. Most have another three months worth in “strategic reserves.” In times of high oil prices, customer nations can afford to stop buying until the costs come down.
 - OPEC has stated that it prefers to see the price of oil in the neighborhood of \$45 per barrel.

Assessment:

Given the condition of the American dollar, it might be better to denominate this trend in euros. Aside from that, the long-term trend is toward stability in energy prices.

Implications:

Barring an American invasion of Iran, any excursions beyond \$100 per barrel will be extremely brief. Given continued concerns about instability in the Middle East, oil prices will slowly decline to \$60 or so per barrel.

In response to high (by American standards) gas prices, the U.S. Government probably will boost domestic oil production and refining to increase the reserve of gasoline and heating oil. This stockpile would

be ready for immediate use in case of future price hikes. This will make it easier to negotiate with OPEC.

A key step in controlling oil prices, and an indicator that Washington is serious about doing so, would be development by the government of at least four new refineries around the country, probably for lease to commercial producers. We rate the odds at no more than 50-50.

The United States almost certainly will drill for oil in the Arctic National Wildlife Reserve, though efforts will be made to minimize environmental damage, for example, drilling will take place only in the winter, when the tundra is rock hard.

By 2020, the new fields under the Gulf of Mexico will come online, putting even more pressure on oil prices.

Implications for Policing:

Depriving the United States and its allies of Middle Eastern oil will be a major goal of terrorist strategy.

Pipelines from Russia and the “Stans” will be particularly inviting targets for Muslim terrorists.

Expert Comments:

SMYRE: Law enforcement agencies at the local level should work with chambers of commerce to provide leadership in the transformation to community energy efficiency in two ways: (1) testing cutting-edge prototypic cars, including fuel cell models, and (2) developing community-based energy reduction programs.

**21. GROWING COMPETITION FROM OTHER ENERGY SOURCES ALSO
WILL HELP TO LIMIT THE PRICE OF OIL.**

- Nuclear power is growing rapidly.
 - Nuclear plants supply about 15 percent Russian electricity. By 2020, Russia will consume 129 billion kWh of nuclear energy per

year. Plans call for construction of twenty-six more nuclear plants by 2030, when 25 percent or more of the nation's electricity will be nuclear.

- In early 2004, China had only nine operating nuclear power plants. It plans to build 30 more by 2020, bringing nuclear energy consumption from 16 billion kWh in 2000 to 142 billion kWh.
 - By 2020, Canada will use 118 billion kWh.
 - Even the United States is weighing the construction of new reactors.
- Renewable sources accounted for about 14 percent of the world's energy in 2005.
 - However, more than half of the world's renewable energy came from hydroelectric dams. Hydroelectric power generation has been declining since its peak of 727.62 billion kWh in 1996.
 - Worldwide wind-power generating capacity grew by 30 percent annually in the decade ending in 2005, to a total of 59,000 MW, according to the Earth Policy Institute and the Worldwatch Institute. This is a twelve-fold increase in ten years.
 - Photovoltaic solar energy production has been growing at a steady 25 percent per year since 1980. Commercial solar cells are now cheap enough to compete with other power sources, especially in sunny regions.
 - Natural gas burns cleanly, and there is enough of it available to supply the world's total energy demand for the next 200 years. Consumption of natural gas is growing by 3.3 percent annually, compared with 1.8 percent for oil.
 - Although most of the world's scientists gave up on cold fusion long ago, the U.S. Navy has continued work on the process. Its researchers have announced development of a reproducible cold fusion system that consistently releases more energy than it consumes.
 - According to the U.S. Department of Energy's Energy Information Agency, shifting 20 percent of America's energy supply to renewable resources by 2020 would have almost no impact on the total cost

of power. At present, less than 5 percent of the energy used in the United States comes from renewable resources.

Assessment:

This trend will remain in effect for at least 30 years

Implications:

Though oil will remain the world's most important energy resource for years to come, two or three decades forward it should be less of a choke point in the global economy.

Solar, geothermal, wind, and wave energy will ease power problems where these resources are most readily available, though they will supply only a very small fraction of the world's energy in the foreseeable future.

Declining reliance on oil eventually could help to reduce air and water pollution, at least in the developed world. By 2060, a costly but pollution-free hydrogen economy may at last become practical.

Fusion power remains a distant hope.

Cold fusion also remains a long shot for practical power, but FI believes it can no longer be discounted. If the Navy's reports of success prove correct, power plants based on the process could begin to come on line by 2030.

Implications for Policing:

Alternative energy will reduce the vulnerability of terrorist target nations to oil price shocks, but only to an extremely limited degree.

In the event that cold fusion proves to be a useful energy source, it could prove as destabilizing as shale oil, though only after a longer period of infrastructure development.

Expert Comments:

No comments were received for this trend.

ENVIRONMENTAL TRENDS

22. PEOPLE AROUND THE WORLD ARE BECOMING INCREASINGLY SENSITIVE TO ENVIRONMENTAL ISSUES AS THE CONSEQUENCES OF NEGLECT, INDIFFERENCE, AND IGNORANCE BECOME EVER MORE APPARENT.

- The World Health Organization (WHO) estimates that 3 million people die each year from the effects of air pollution, about 5 percent of the total deaths.
 - In the United States, an estimated 64,000 people a year die of cardiopulmonary disease caused by breathing particulates. A 2004 report for the U.S. Environmental Protection Administration estimated that pollution by American power plants causes 23,600 needless deaths per year.
 - In sub-Saharan Africa, the toll is between 300,000 and 500,000 deaths per year.
 - Pollution-related respiratory diseases kill about 1.4 million people yearly in China and Southeast Asia.
 - None of India's 23 million-plus cities meets WHO air quality standards.
 - In developing countries, indoor air pollution is an even bigger problem. Indoor smoke from burning fuels such as dung and wood—which more than half the world's population relies on for cooking and other basic energy needs—creates particulates that penetrate deeply into the lungs. An estimated 1.6 million people a year die from indoor air pollution, according to the WHO.
- Contaminated water is implicated in 80 percent of the world's health problems, according to WHO.
 - An estimated 40,000 people around the world die each day of diseases directly caused by contaminated water, more than 14 million per year.

- In India, an estimated 300 million people lack access to safe drinking water, due to widespread pollution of rivers and groundwater.
- The European Parliament estimates that 70 percent of the Continent's drinking water contains dangerous concentrations of nitrate pollution.
- In the United States, there is growing concern that pollutants such as perchlorate, the gasoline additive MTBE, and even the chlorine used to kill water-borne pathogens may represent significant health concerns.
- Though some debate remains about the cause, the fact of global warming has become undeniable. At Palmer Station on Anvers Island, Antarctica, the average annual temperature has risen by 3 to 4 degrees since the 1940s, and by an amazing 7 to 9 degrees in June—early winter in that hemisphere.
- Pew Research Center reports that its 2007 Global Attitudes Project survey of 46 countries found much more concern for the environment than in the 2002 survey.
 - In the United States, the number citing environmental problems as the top global threat rose from 23 percent to 37 percent.
 - In India, the number went from 32 percent to 49 percent; in another survey of Indian concerns in the late 1990s, the environment had come in dead last.
 - In both Japan and China, 70 percent of respondents said environmental problems were the greatest global threat to the world.
- Many governments are taking more active measures to protect the environment.
 - After years of ineffective gestures, Costa Rica has incorporated about 25 percent of its land into protected areas, such as national parks.
 - Cambodia has protected a million-acre forest.

- Gabon has set aside 10 percent of its land for parks.
- Liberia is protecting 155,000 acres of forest in an effort to safeguard endangered western chimpanzees.
- In 1999, Brazil raised the maximum fine for illegal logging.
- In an effort to promote cleaner energy technologies and to slow global warming, most European nations now tax carbon emissions or fossil fuels. In Germany, a carbon tax raises the cost of gasoline by nearly 11 cents per gallon.
- Anti-pollution legislation in Europe could reduce premature deaths by 80,000 between 2000 and 2020, according to the WHO. In Germany alone, 17,000 premature deaths would be avoided.
- Anticipating a three-foot rise in sea levels, the Netherlands is spending \$1 billion to build new dikes.

Assessment:

A solid majority of voters throughout the developed world, and even some in the developing lands, now recognize the need to clean up the environment, and especially to control greenhouse warming. They will keep this trend intact for at least the next 30 years.

Implications:

Throughout most of the world, polluters and private beneficiaries of public assets will increasingly confront restrictive regulations designed to serve the interests of the community at large.

CO₂ will remain a problem for many years to come. If air pollution were halted instantly, it would take an estimated 200 years for carbon dioxide and other greenhouse gases to return to pre-industrial levels.

Impurities in water will become an even greater problem as the population of the developed countries ages and becomes more susceptible to infectious diseases.

Recent analyses say there is a 90 percent chance that the planet's average annual temperature will rise between 3 and 9 degrees centigrade over the next century. This will cause severe dislocations both for plant and animal populations and for many human activities.

Environmental policies will provoke a political backlash wherever they conflict with entrenched interests, as they have long done in the American West.

Implications for Policing:

As highly visible arms of government, police departments will be asked to use low-emissions vehicles and to conserve energy wherever possible, to serve as models for their communities. They may also be required to enforce environmental regulations in addition to criminal and traffic laws.

Expert Comments:

CONSER: Specialized policing agencies exist to control environmental crimes. They will adjust as necessary to get their jobs done.

FORD: Police will be asked to play a wider role in environmental law enforcement, while agencies such as Florida's Fish and Game Commission, the National Parks Rangers, and National Wildlife Refuge Enforcement Units will add staff and broaden their existing roles. A number of new agencies may be founded whose mission addresses environment and land use issues. As more parkland is added, more enforcement officers will be needed to protect the resource. These comments also apply to Trend 26.

JACKSON: Police agencies will be under increasing pressure to use alternative energy sources and hybrid or fuel cell vehicles, and to adopt "green" building practices. The effects of this trend will be mitigated by miserliness.

KAPINOS: Trends 22 through 26 beg the question, will law enforcement agencies at all levels find themselves as more frequent enforcers of environmental laws, especially as they relate to "quality-of-life" concerns for communities?

NOLTE: We're coming way too quickly to something approaching orthodoxy on the intersection of climate, energy, and economic issues. And if there's anything worse than an antiquarian orthodoxy, it's a premature orthodoxy.

23. WATER SHORTAGES WILL BE A GROWING PROBLEM FOR MUCH OF THE WORLD.

- In many regions, they are severe already.
 - The northern half of China, home to perhaps half a billion people, already is short of water. The water table under Beijing has fallen nearly 200 feet since 1965.
 - Australia’s Murray-Darling river system, which supplies water for 40 percent of the country’s crops and 80 percent of its irrigation, no longer carries enough water to reach the sea without constant dredging. Salinity in the Murray is rising so quickly that the water is expected to be undrinkable in 20 years.
- There is worse to come. According to U.N. studies, at least 3.5 billion people will run short of water by 2040, almost ten times as many as in 1995.
 - Ten years later, fully two-thirds of the world’s population could be living in regions with chronic, widespread shortages of water.
 - One-third of the population of Africa and most of the major cities in the developing world will face water shortages, according to the United Nations.
 - Many climatologists believe that global warming will make drought in the United States much more frequent—even the norm—west of the Mississippi River.
- Water usage is causing other problems as well. For example, irrigation water evaporates, leaving minerals in the soil.
 - By 2020, 30 percent of the world’s arable land will be salty; by 2050, 50 percent.
 - Salinization already is cutting crop yields in India, Pakistan, Egypt, Mexico, Australia, and parts of the United States.

Assessment:

This trend will remain with us for the very long term.

Implications:

Providing adequate supplies of potable water will be a growing challenge for developing and developed countries alike.

Such problems as periodic famine and desertification can be expected to grow more frequent and severe in coming decades.

In many lands, including parts of the United States, growing water shortages may inhibit economic growth and force large-scale migration out of afflicted areas.

Climate change is expected to reduce the flow of Australia's parched Murray River by a further 5 percent in 20 years and 15 percent in 50 years.

Water wars, predicted for more than a decade, are a threat in places like the Kashmir—much of Pakistan's water comes from areas of Kashmir now controlled by India.

Other present and future water conflicts involve Turkey, Syria, and Iraq over the Tigris and Euphrates; Israel, Jordan, Syria, and Palestine over water from the Jordan River and the aquifers under the Golan Heights; India and Bangladesh over the Ganges and Brahmaputra; China, Indochina, and Thailand over the Mekong; Kyrgyzstan, Tajikistan, and Uzbekistan over the Oxus and Jaxartes rivers; and Ethiopia, Sudan and at least six East African countries, including Egypt, over the Nile.

In the United States, repair of decayed water systems is likely to be a major priority for older cities such as New York, Boston, and Atlanta. Cost estimates for necessary replacement and repair of water mains range up to \$1 trillion.

Implications for Policing:

Beyond the need to deal with possible resource conflicts and perhaps to enforce environmental regulations, we see no obvious implications for policing.

Expert Comments:

JACKSON: This will add new sources of potential conflict with which the police will have to contend.

24. RECYCLING HAS DELAYED THE “GARBAGE GLUT” THAT THREATENED TO OVERFLOW THE WORLD’S LANDFILLS, BUT THE PROBLEM CONTINUES TO GROW.

- Americans now produce about 4.5 pounds of trash per person per day, twice as much as they threw away a generation ago. In 2005, they sent about 245 million tons of “municipal solid waste” to landfills. Seventy percent of U.S. landfills will be full by 2025, according to the EPA.
- Japan expects to run out of space for industrial waste as soon as 2008, and for municipal solid waste by 2015.
- In London and the surrounding region landfills will run out of room by 2012.
- In some other regions simply collecting the trash is a problem. Brazil produces an estimated 240,000 tons of garbage daily, but only 70 percent reaches landfills. The rest, 72,000 tons per day, accumulates in city streets where it helps to spread disease.
- Recycling has proved to be an effective alternative to dumping.
 - Some 37 percent of London’s municipal waste is recycled, with a target of 45 percent by 2020.
 - Seattle, with one of the most effective recycling programs in the United States, recycles about half of its solid waste.
 - As of 2005, Germany recycled 60 percent of its municipal solid waste, 65 percent of manufacturing waste, 80 percent of packaging, and 87 percent of construction waste, according to the Environment, Nature Conservation, and Nuclear Safety.

Largely as a result, the number of landfills for domestic waste has been reduced from about 50,000 in the 1970s to just 160.

Assessment:

The challenge of dealing with garbage will grow for so long as the world's middle classes continue to expand or until technology finds ways to recycle virtually all of the materials used in manufacturing and packaging. This trend will remain intact through at least 2050.

Implications:

Recycling and waste-to-energy plants are a viable alternative to simply dumping garbage.

This trend will push the development of so-called life-cycle design, which builds convenient recyclability into new products from their inception.

Expect a wave of new regulations, recycling, waste-to-energy projects, and waste management programs in the United States and other countries in an effort to stem the tide of trash. In the United States, it will of course begin in California, a jurisdiction often cited by policy forecasters as a bellwether of change.

State and local governments will tighten existing regulations and raise disposal prices in Pennsylvania, South Carolina, Louisiana, and other places that accept much of the trash from major garbage producers such as New York.

Trash producers in the developed world will ship much more of their debris to repositories in developing countries. This will inspire protests in the receiving lands.

Beyond 2025 or so, the developing countries will close their repositories to foreign waste, forcing producers to develop more waste-to-energy and recycling technologies. Ultimately, it may even be necessary to exhume buried trash for recycling to make more room in closed dump sites for material that cannot be reused.

Waste-to-energy programs will make only a small contribution to the world's growing need for power.

Implications for Policing:

Police departments may have to spend more of their time investigating illegal dumping and enforcing environmental regulations. To the extent that this is so, it will compete for resources with traditional duties.

Expert Comments:

JACKSON: Political processes may increase the sanctions against illegal dumping. Police agencies therefore may need to increase their enforcement efforts toward environmental and dumping crimes.

25. PREFERENCE FOR INDUSTRIAL DEVELOPMENT OVER ENVIRONMENTAL CONCERNS IS FADING VERY SLOWLY IN MUCH OF THE DEVELOPING WORLD.

- The Pew study cited in Trend 22 found that less than one-fourth of respondents in any African country rated environmental problems as the world's most important threat.
 - In Ethiopia, where desertification is at its worst and drought is a constant threat, only 7 percent did so.
- Beijing has made repairing the environment a national priority. Yet 70 percent of the energy used in China comes from coal-burning power plants, few of them equipped with pollution controls.
 - The country intends to build over five hundred more coal-fired plants in the next ten years.
 - Scientists estimate that by 2025 China will emit more carbon dioxide and sulfur dioxide than the United States, Japan, and Canada combined.

Assessment:

View this as a counter-trend to Trend 22. It will remain largely intact until the poor of India and China complete their transition into the middle class, around 2040.

Implications:

Broad regions of the planet will be subject to pollution, deforestation, and other environmental ills in the coming decades.

Acid rain, like that afflicting the United States and Canada, will appear wherever designers of new power plants and factories neglect emission controls.

In India, an area the size of the United States is covered by a haze of sulfates and other chemicals associated with acid rain. Look for this problem to appear in most other industrializing countries.

Diseases related to air and water pollution will spread dramatically in the years ahead. Already, chronic obstructive pulmonary disease is five times more common in China than in the United States. As citizens of the developing countries grow to expect modern health care, this will create a growing burden on their economies.

This is just a taste of future problems, and perhaps not the most troublesome. Even the U.S. Government now admits that global warming is a result of human activities that produce greenhouse gases. It now seems that China and India soon will produce even more of them than the major industrialized nations. Helping the developing lands to raise their standards of living without creating wholesale pollution will require much more aid and diplomacy than the developed world has ever been willing to give this cause.

Implications for Policing:

Police agencies could find themselves required to control or investigate demonstrations and criminal activity by political movements intended to influence government policies affecting the environment.

Expert Comments:

No comments were received for this trend.

26. CONCERN OVER SPECIES EXTINCTION AND LOSS OF BIODIVERSITY IS GROWING QUICKLY.

- An estimated 50,000 species disappear each year, up to 1,000 times the natural rate of extinction, according to the United Nations Environmental Program. By 2100, as many as half of all species could disappear.
 - Eleven percent of birds, 25 percent of mammals, and 20 percent to 30 percent of all plants are estimated to be nearing extinction.
 - Some 16,118 species are now listed as threatened (7,925 animal species and 8,393 plant and lichen species), according to the 2006 Red List of the International Union for Conservation of Nature and Natural Resources. This is an increase of nearly 2,700 in four years. The real list is likely much larger, as the group has evaluated only 40,000 of the 1.5 million species on its list.
 - Amphibian populations are in decline throughout the world, for reasons that remain poorly understood.
- Coral reefs throughout the world are dying rapidly.
 - Caribbean reefs have lost 80 percent of their coral cover in the past three decades.
 - In Indonesia, home to one-eighth of the world's coral reefs, more than 70 percent of the reefs are dead or dying.
 - Most scientists believe that climate change is largely responsible for killing coral. Other suspected culprits are over-fishing and pollution.
- Just twenty-five so-called “hot spots” covering 11 percent of the world's surface have lost 70 percent of their original vegetation.

These hot spots are home to 1.2 billion people, or one-fifth of the world's population.

- What is left in its natural state, about 2 percent of the planet's surface, is home to 44 percent of all plant species and 35 percent of all vertebrates other than fish.
- The chief cause for species loss is the destruction of natural habitats by logging, agriculture, and urbanization.
 - Some 30 million acres of rainforest are destroyed each year. More than half the world's rainforests are already gone. At current rates, the rest could disappear in the next 40 years.
- Though commercial fishing is not known to have exterminated any species—largely because the last few members of a species are too costly to catch—it is turning out to be one more important cause of species depletion. Stocks of cod, tuna, swordfish, marlin, and sharks are down 90 percent or more since modern industrialized fishing began 40 years ago.

Assessment:

This trend has at least three decades to run.

Implications:

Saving any significant fraction of the world's endangered species will require much more effort and expense than many governments find acceptable. For species such as corals, if the loss is attributable largely to climate change, it may not be possible.

Species loss has a powerful negative impact on human well-being. Half of all drugs used in medicine are derived from natural sources, including fifty-five of the top one hundred drugs prescribed in the United States. About 40 percent of all pharmaceuticals are derived from the sap of vascular plants. So far, only 2 percent of the 300,000 known sap-containing plants have been assayed for useful drugs. Most of the species lost in the years ahead will disappear before they can be tested.

The Indonesian economy loses an estimated \$500,000 to \$800,000 annually per square mile of dead or damaged reef.

Australia may lose even more as degradation of the Great Barrier Reef continues. The UN Intergovernmental Panel on Climate Change predicts that the Reef will be “functionally extinct” by 2030.

Diverse ecosystems absorb more carbon dioxide than those with fewer species. Loss of biodiversity thus is a potential cause of global warming.

Implications for Policing:

The only obvious affect on policing resulting from this trend could be greater demand for attention to smuggling of rare animals and enforcement of environmental regulations.

Expert Comments:

No comments were received for this trend.

27. URBANIZATION, ARGUABLY THE WORLD’S OLDEST TREND, CONTINUES RAPIDLY.

- Forty-eight percent of the world's population currently lives in cities, according to the Population Reference Bureau's 2006 *World Population Data Sheet*. By 2030, that figure will grow to 60 percent, as some 2.1 billion people are added to the world’s cities.
 - More than three-fourths of the population in developed countries live in cities. In North America, urbanization is the highest, at 79 percent. But cities are growing fastest in the developing world.
 - The big are getting bigger. In 1950, there were just eight megacities, with populations exceeding 5 million, in the world. By 2015, there will be fifty-nine megacities, forty-eight of them in less developed countries. Of these, twenty-three will have

populations over 10 million, all but four in the developing lands.

- Natural increase now accounts for more than half of population increase in the cities; at most, little more than one-third of urban growth results from migration.
- Up to 1 billion city dwellers lack adequate shelter, clean water, toilets, or electricity. The United Nations estimates that these problems cause 10 million needless deaths annually.
- Urbanization has significant environmental consequences.
 - Fuels burned in cities account for 75 percent of global carbon emissions from human activity, according to the Worldwatch Institute.
 - NASA scientists point out that urbanization also tends to put buildings and blacktop on the most fertile land, eliminating significant quantities of carbon-absorbing plants.
 - Urbanization also deprives surrounding areas of water: Instead of sinking into the ground, rain is collected, piped to the city, used, treated as gray water, and then discarded into the ocean. In some regions, such as near Atlanta, water levels in local aquifers are declining rapidly because the water that once replenished them now is lost.
- The United States is the one major exception to the global urbanization trend. This automobile-reliant society built one of the best highway systems in the world and has relatively little mass transit, so more Americans live in the suburbs than in the cities. This could only occur where there are large swaths of land with low population density.

Assessment:

After surviving for some 3,500 years, this trend is unlikely to disappear in the next 50.

Implications:

Cities' contribution to global warming can only increase in the years ahead.

As the world's supply of potable water declines, people are concentrating in those areas where it is hardest to obtain and is used least efficiently. This trend will aggravate water problems for so long as it continues.

Many more people will die due to shortages of shelter, water, and sanitation. Epidemics will become still more common as overcrowding spreads HIV and other communicable diseases more rapidly.

Since urban growth is now due more to natural increase than to migration, programs designed to encourage rural populations to remain in the countryside may be misplaced. Education and family planning seem more likely to rein in the growth of cities.

Implications for Policing:

Concentrating the poor and powerless in cities produces conditions ideal for the spread of petty crime, violence, and the kind of religious extremism that lends itself to terror-prone political ideologies. This may not be one of the top ten trends for policing—but big city police chiefs certainly will think it is!

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: Policing in large metropolitan areas tends to be a quite different affair to policing in a relatively isolated rural area. The trend of urbanization can be expected to lead to an increased demand for the former type.

FBI TEAM: Increasing population density and competition for resources may bring more conflicts that result in criminal activities that require police attention.

FORD: The growth of suburbs in the United States will give their police departments playing an increasingly important role in metropolitan law enforcement. A number of suburban police agencies already rival big-city agencies in size, and their number can be expected to increase.

FRASER: Ninth most important trend: Americans will increasingly be concentrated in urban centers. Police will be called on to referee more disputes between haves and have-nots. Dispossessed, violent predators will grow in viciousness and number as they see themselves as having nothing to lose. An urban underclass will be subject to radicalism as mercurial gang leaders effectively organize and lead groups in more disciplined violent strikes. There will be more pitched firefights between the police and highly organized and disciplined gangs.

JACKSON: This increases demands on urban agencies and reduces the resources available to rural agencies. Eventually, this trend may force rural agencies to consolidate.

JENSEN: Second most significant trend for policing.

KAPINOS: The trend toward increased urbanization certainly has a major impact on law enforcement agencies in the United States. Many previously suburban jurisdictions are rapidly urbanizing, and once-rural areas are becoming suburban. This creates a variety of problems for many agencies as they adapt to changes with new staffing and deployment strategies, and broader service demands that come with a more urban environment. Certainly, many of the social problems that typically follow urbanization directly impact law enforcement (crime and traffic.)

MEYER: Concentration of population in megacities will exacerbate the environmental problems in those centers. Urban police departments thus may be asked to take on a much greater role in enforcement of environmental regulations.

MORTIMER: Urbanization takes the poor away from rural support systems, such as the availability of inexpensive locally grown food, and puts them in close proximity to both conspicuous wealth and criminal organizations. In all these ways, it tends to breed criminal behavior, increasing the work load on local police agencies.

OSBORNE: As communities are faced with increasingly limited resources to meet taxpayers' needs, the one-person and small police departments will be incorporated into other entities. Regional police and other modes of policing, including privatization will emerge. Data gathering requirements

for intelligence led policing may require a system wherein commanders and analysts are regionalized while ground troop officers are localized.

STERN: When populations grow increasingly dense, as they are in the cities, it is obvious that you need more policing in those areas.

TECHNOLOGY TRENDS

28. TECHNOLOGY INCREASINGLY DOMINATES BOTH THE ECONOMY AND SOCIETY.

- New technologies are surpassing the previous state of the art in all fields, and technological obsolescence is accelerating.
- For most users, computers have become part of the environment rather than just tools used for specific tasks.
 - With wireless modems, portable computers give us access to networked data wherever we go.
 - Internet-equipped cell phones are even more convenient for access to e-mail and some websites.
- Robots are taking over more and more jobs that are routine, remote, or risky, such as repairing undersea cables and nuclear power stations.
 - Flexible, general-service personal robots will appear in the home by 2015, expanding on the capabilities of devices such as robotic vacuum cleaners and lawn mowers.
- By 2015, artificial intelligence (AI), data-mining, and virtual reality will help most companies and government agencies to assimilate data and solve problems beyond the range of today's computers.
 - AI applications include robotics, machine vision, voice recognition, speech synthesis, electronic data processing, health and human services, administration, and airline pilot assistance.
- Superconductors operating at economically viable temperatures will be in commercial use soon after 2015.

Assessment:

Technologically related changes in society and business seen over the last 20 years are just the beginning of a trend that will accelerate at least through this century.

Implications:

New technologies should continue to improve the efficiency of many industries, helping to keep costs under control.

However, this increased productivity has retarded United States job creation since at least 2002. Other developed countries are likely to feel the same effect in the future.

Technology made international outsourcing possible. It will continue to promote outsourcing to the benefit of the recipient countries, but to cause painful job losses in the donor lands.

New technologies often require a higher level of education and training to use them effectively. They also provide many new opportunities to create businesses and jobs.

Automation will continue to cut the cost of many services and products, making it possible to reduce prices while still improving profits. This will be critical to business survival as the Internet continues to push the price of many products to the commodity level.

New technology also will make it easier for industry to minimize and capture its effluent. This will be a crucial ability in the environmentally conscious future.

In 1999, a team at the technology organization Battelle compiled a list of the ten most strategic technological trends for the next 20 years. The list is available at the Battelle website at http://www.battelle.org/SPOTLIGHT/tech_forecast/technology2020.aspx. Key technologies for 2020, as forecast by Battelle:

- Gene-based medical care, from custom-tailored pharmaceuticals to cloned organs for transplantation
- High-powered energy packages such as advanced batteries, cheap fuel cells, and micro-generators;
- “Green integrated technology” to eliminate manufacturing waste and make products completely recyclable

- Omnipresent computing with computers built into consumer products, clothing, and even implanted under the skin
- Nanomachines measured in atoms rather than millimeters that do everything from heating and cleaning our homes to curing cancer
- Personalized public transportation that integrates our cars into a coordinated transport network, automatically picking the fastest routes and bypassing traffic jams
- Designer foods and crops genetically engineered to resist disease and pests and be highly nutritious
- Intelligent goods and appliances such as telephones with built-in directories and food packaging that tells your stove how to cook the contents
- Worldwide inexpensive and safe water from advanced filtering, desalination, and perhaps even extraction from the air
- Super senses that use implants to give us better hearing, long-distance vision, or the ability to see in the dark

Implications for Policing:

Networks of video cameras are just the first of many high-tech tools that will affect police operations in the years ahead. This is a top-five trend.

Nanotech sensors capable of detecting explosives, chemical, and biological weapons will be scattered around prime terrorist targets, such as major public gatherings, relaying the location of any possible threat to the local command center.

Intelligence analysts, already overwhelmed by the amount of data collected each day, will face a growing torrent of data in the years ahead. As surveillance spreads through society, this will be a problem for police agencies as well. Until automated systems become available to help monitor incoming data, much of the information collected by cameras and other tools will be used more to provide evidence for prosecutions than to prevent or interrupt crimes.

To assist them, engineers will develop automated systems to help “mesh” information from incompatible data stores, recognize patterns in the data, develop rigorous hypotheses, perform collaborative analyses, and “capture” the skills of the most capable analysts so that others can benefit from them, even when the analysts themselves are not available. Eventually, these systems will spread from the intelligence community to law enforcement. These techniques may offer the best chance of giving law enforcement agencies a clear advantage over their adversaries.

The recent decision by a U.S. court to block data-mining by the Department of Homeland Security (DHS) is a major loss to security efforts in this country. While similar military projects continue, the DHS shares data with the regional Fusion Centers responsible for much of the work carried out at the local level. Loss of this resource will make their efforts notably less effective.

Expert Comments:

CALLANAN: Presumably, as in other professions, a greater emphasis on lifelong learning in the police force will be required to keep up with the pace of technological change and in order to be able to get the most from new technologies.

FBI TEAM: Technology presents a host of challenges and opportunities—opportunities to engage in safer and more effective police operations while confronting new and increasingly complex forms of crime and terrorism. Unfortunately, many public safety agencies are underfunded and cannot quickly take advantage of technologies that would ease their jobs and improve their performance.

DINE: See comment for Trend 5. The speed and connectivity of information is transforming policing, allowing us to “connect the dots” much faster than in the past. This is the sixth most important trend for policing.

FORD: Technology: particularly important to policing and corrections. Information technologies will assist in spreading intelligence-led policing. IT will also demand a more sophisticated and educated management staff within law enforcement agencies. Agencies will be held increasingly accountable by the public to provide information on police activities.

Surveillance technology will have dramatic impacts, particularly in traffic enforcement. Traffic officers increasingly will become technicians and warrant servers as traffic enforcement—particularly of speed and red lights—becomes fully automated.

Advances in forensics will dramatically transform the investigative function, requiring far more technicians and far better educated investigators. Smart car technology will alter the traffic control function. Drug and bomb dogs will be replaced by electronic sniffers.

HODGE: Foreign economic espionage will grow. Foreign firms, some working in collusion with foreign intelligence services, will attempt to steal our economic and technology secrets at an alarming rate.

JACKSON: The technologies that are maturing now will transform society on a scale not seen since the adoption of machinery during the industrial revolution. Police agencies possess large quantities of institutional friction that make them lag behind the rest of society in adopting new technologies. This trend ranks as the fourth most important.

JENSEN: Sixth most significant trend for policing.

KAPINOS: Technological change creates endless implications for law enforcement. Computer technology and other related fields create tremendous tools for the profession, but also open up new avenues for crime as well. The law enforcement profession is forced to work constantly to adapt to, and develop, new technologies.

LUNNEY: Technology is changing our way of doing business. Traditional organizational models will be de-layered, and structures will be increasingly lateral in their design. We should place a priority on the implications and opportunities for using technology to improve productivity across the entire scope of operation. This comment also applies to Trend 48.

MEYER: The primary constraint on really benefiting from technology is the rapidly shrinking pool of well-trained software developers who can apply the technology to national problems such as police administration. Because stories of outsourcing have led students to fear that well-paid jobs may be unavailable when they graduate, enrollment in the university programs that could produce the necessary talent has dropped precipitously.

MILLETT: Technological advances are creating a much bigger role for physical evidence, such as DNA and other forms of personal identification.

OSBORNE: There are not enough trained, skilled, and knowledgeable law enforcers who can tackle problems based in current technology—identity

theft, white collar crimes, and cybercrime. Emerging technologies are likely to bring further challenges, which justice and security agencies will be ill-equipped to face. However, sometime in the next 20 years, more sophisticated technologies will become much easier to use with relatively little training. These tools will be widely adopted and will transform policing.

SCHAFFER: New technologies will contribute to improved officer safety. Beneficial technologies include less-lethal weaponry, protective tools, the use of video cameras to document on-the-job performance, unmanned aerial vehicles for surveillance, digital assistants, and online data systems that help police to prepare for operations and anticipate problems.

STERN: As we use more technology, using the equipment effectively requires more technical training, longer technical training, and a better basic education.

YOUNGS: The exponential rate at which technology is changing is directly affecting policing today. While it offers new tools for officers, it is also providing extremely lucrative and easy means of criminal activity. Changes in technology are already forcing us to re-think how we will investigate crimes, prosecute criminals and how laws must be changed or updated if we are to keep up with this growing field. For example, portable DNA machines are not being tested by many law enforcement agencies. This is the wave of the future, as media and the public expect law enforcement to resolve violent crimes in a timely manner. Recent cases have illustrated this fact. The experiences of Columbine and VA Tech have demonstrated the ability of the national and international press to respond to the scene of a crime and they expect instant briefings and explanation of what occurred.

29. RESEARCH AND DEVELOPMENT PLAY A GROWING ROLE IN THE WORLD ECONOMY.

- Total U.S. outlays on research and development (R&D) have grown steadily in the past three decades.
 - In 2006, the United States spent about \$330 billion on R&D.
- China has taken second place in the world's R&D spending, with a budget estimate at \$136 billion in 2006, up from \$60 billion in 2001.

- Still more spending may be hidden in military budgets.
- China says it will raise its R&D spending from about 1.23 percent of GDP in 2004 to 2.5 percent in 2020.
- R&D outlays in Japan have risen almost continuously, to nearly 3 percent of GDP. In 2006, Japan spent about \$130 billion on R&D.
- R&D spending in the European Union (EU-15) amounted to \$230 billion in 2006, about 1.9 percent of GDP.
 - The European Commission has set a goal of raising R&D spending to 3 percent of GDP by 2010.
- In Russia, R&D funding is roughly 1.5 percent of GDP, up from just 0.7 percent in 1997. This amounted to about \$26.25 billion in 2006.
 - The Russian government funds around 60 percent of research in the country. About 44 percent of Russia's R&D budget goes to defense research, 10 percent to space.
 - These figures do not include whatever clandestine military research escapes notice.
- Corporate R&D in the United States has shifted in the post-9/11 period, with less emphasis on pharmaceuticals and computer-related fields and more focus on biotechnology, nanotechnology, and security technologies.
- Western corporations are outsourcing a growing fraction of their R&D to foreign contractors, just as they do other functions.
 - Much of this work goes to India, some to Russia and Eastern Europe, but the growth area is China.

Assessment:

This trend is stabilizing as developed nations, particularly the United States, devote more of their resources to less productive activities. We believe this is a temporary phenomenon. The trend

will regain momentum in the years ahead. It will not fall off this list before the middle of this century.

Implications:

This is a significant factor in the acceleration of technological change.

The demand for scientists, engineers, and technicians will continue to grow, particularly in fields where research promises an immediate business payoff.

Low-wage countries such as China once took only low-wage jobs from advanced industrialized countries such as the United States. Today higher-paid jobs in science, technology, and the professions also are at risk.

Countries like India, China and Russia once suffered a brain drain as those with high-tech skills emigrated to high-demand, high-wage destinations. Today, many students and professionals spend time in the West to learn cutting-edge skills, and then return to their native lands to work, start companies, and teach. This promotes the growth of some developing countries while reducing the competitive advantages of the developed world.

Implications for Policing:

A host of new high-tech tools will become available for policing in the years ahead. They will require more training for effective use and may even require tighter recruitment standards to ensure that new officers will be able to adapt to fast-changing techniques and demands.

Expert Comments:

FORD: The federal government will be called upon to fund more R&D in law enforcement. New enforcement technologies will face rigorous testing before being adopted in the field.

KAPINOS: Law Enforcement [LE] usually “piggy-backs” on much of the cutting-edge R&D projects developed for military and/or intelligence use,

as the needs are similar, and the technology can be easily adapted for civilian LE use. Overall reduction in U.S. research and development capacity may be felt in the future as security concerns may impact the adoption of foreign products. (See Trend 8 above.) This comment also applies to Trend 30.

SMYRE: Local law enforcement agencies should establish a policy of developing new research and development projects in conjunction with local government and the nonprofit sector, connecting social-networking technologies and mini-cameras to bring the youth and other citizens into the crime-prevention arena. Such ideas would lower costs, improve community relations, and potentially lessen youth crime.

30. THE UNITED STATES IS CEDING ITS SCIENTIFIC AND TECHNICAL LEADERSHIP TO OTHER COUNTRIES.

- "The scientific and technical building blocks of our economic leadership are eroding at a time when many other nations are gathering strength," the National Academy of Sciences warns. "Although many people assume that the United States will always be a world leader in science and technology, this may not continue to be the case inasmuch as great minds and ideas exist throughout the world. We fear the abruptness with which a lead in science and technology can be lost—and the difficulty of recovering a lead once lost, if indeed it can be regained at all."
- Although R&D spending is growing in raw-dollar terms, when measured as a percentage of the total federal budget or as a fraction of the U.S. GDP, research funding has been shrinking for some 15 years. In 2005, the United States spent about 2.68 percent of its GDP on R&D, down from 2.76 percent in 2001.
 - Washington has often reduced the post-inflation buying power of its R&D funding request. In the FY 2007 budget, for the first time, it cut R&D funds in absolute dollars as well. The 2007 funding request for R&D totaled about \$137 billion, down about 1 percent from FY 2006.
 - Some areas were harder hit. The National Science Foundation lost 3.2 percent of its previous budget; the National Institute of

Science and Technology lost 6 percent. Some programs funded by the Federal Energy Efficiency and Renewable Energy Office lost 18 percent.

- Military research now absorbs much of the money that once supported basic science.
 - Since 2000, U.S. federal spending on defense research has risen an average of 7.4 percent per year, compared with only 4.5 percent for civilian research.
 - In 2006, 59 percent of U.S. federal research funding went to defense projects.
 - Of that, an estimated 40 percent went to “earmarks,” congressional pet projects often of doubtful value.
 - The Defense Advanced Research Projects Agency has been legendary for its support of “blue sky” research that led to dramatic technical advances, including the creation of the Internet. Today it focuses increasingly on immediate military needs and low-risk development efforts.
- Washington’s neglect of basic science is being felt in many ways.
 - Only half of American patents are granted to Americans, a number that has been declining for decades.
 - Only 29 percent of the research papers published in the prestigious *Physical Review* in 2003 were by American authors, down from 61 percent in 1983.
- More than half of American scientists and engineers are nearing retirement. At the rate American students are entering these fields, the retirees cannot be replaced except by recruiting foreign scientists.
 - Between 25 percent and 30 percent of high school graduates who enter college plan to major in science or engineering. Fewer than half of them receive a degree in those fields.
 - The number of U.S. bachelor’s degrees awarded in engineering in 2005 was nearly 15 percent below the peak 20 years earlier. The United States needs 114,000 engineering graduates each

year, according to the Department of Labor. According to most reports, it graduates about 65,000.

- According to the National Academy of Engineering, the United States produces only about 7 percent of the world's engineers.
 - Only 6 percent of American undergraduates are engineering majors. In Europe, the number is 12 percent; in China, it is 40 percent.
 - Of the doctoral degrees in science awarded by American universities, about 30 percent go to foreign students. In engineering, it is 60 percent.
- By inhibiting stem-cell research, cloning, and other specialties the United States has made itself less attractive to cutting-edge biomedical scientists.
 - The United Kingdom is capitalizing on this to become the world's leader in stem-cell research. In the process, it is reversing the brain drain that once brought top British scientists to the United States. More than seventy leading American biomedical researchers have moved to the U.K., along with many less-noted colleagues.
 - Latin America also has been receiving scientific emigrés from the U.S.
 - Since post-9/11 immigration restrictions were enacted, the number of foreign students taking the Graduate Record Exam has declined sharply.
 - Applications were off by 50 percent from China, 37 percent from India, 15 percent from South Korea, and 43 percent from Taiwan as of 2004. Though recovering slowly, their numbers remain depressed.
 - Instead of building relationships in the United States—professional loyalties that could contribute to American science and technology—these missing students will form their attachments to U.S. competitors.
 - This is significant. About 25 percent of America's science and engineering workforce are immigrants, including nearly half of

those with doctoral degrees. During the 15 years ending in 2007, one-third of the American scientists receiving Nobel Prizes were foreign-born.

- According to Purdue president Martin Jischke, by 2010 more than 90 percent of all scientists and engineers in the world will live in Asia.

Assessment:

This trend emerged from a wide variety of ill-conceived political decisions made over the last 30 years. It will take a generation to reverse.

Implications:

If this trend is not reversed, it will begin to undermine the U.S. economy and shift both economic and political power to other lands. According to some estimates, about half of the improvement in the American standard of living is directly attributable to research and development carried out by scientists and engineers.

The Bureau of Labor Statistics predicts that the number of job openings in science and engineering will grow by 47 percent in the five years ending 2010—three times as fast as non-technical fields. The United States will not produce nearly enough home-grown technical specialists to fill them.

Demand to import foreign scientists and engineers on H-1B visas also will continue to grow.

Publicity about the H1-B program, and about the offshoring of R&D to company divisions and consulting labs in Asia, in turn, will discourage American students from entering technical fields. This has already been blamed for shrinking student rolls in computer science.

In 2005, China for the first time exported more IT and communications goods (\$180 million) than the United States (\$145 million.) Its lead has grown each year since then.

Implications for Policing:

The growing sophistication of scientists and engineers in the developing world threatens to put chemical, biological, and nuclear weapons in the hands of international terrorist organizations. The success of A.Q. Kahn in creating Pakistan's nuclear program and spreading his knowledge to the Middle East is likely to be just the first of what could be many such examples. This will make law enforcement's security duties much more difficult to carry out successfully.

Even in conventional policing, departments are likely to see much more sophisticated criminals who are capable of carrying out more challenging types of computer crime, defending their operations with surveillance systems and hard cryptographic record keeping, and other high-tech methods.

Expert Comments:

FORD: See Trend 28.

SMYRE: Consider having local law enforcement agencies designate one officer/civilian to become involved with a network of peers and youth to help identify emerging inventions and developments that could have potential for transforming how law enforcement is performed at the local level. Effectively developed, this could help build relationships with youth for future interest in 21st century policing as well as reducing potential for youth crime.

STERN: We will get more and more technically skilled people coming to the United States with special "green cards" under the H1B program and other provisions. These people must be checked carefully for security concerns, to make sure that they are not associated with terrorist cells.

31. TRANSPORTATION TECHNOLOGY AND PRACTICE ARE IMPROVING RAPIDLY.

- The newest generation of aircraft, such as the Boeing 787 and future Airbus A350 XWB, are using light-weight materials and

more efficient engines to cut fuel costs, stretch ranges, and increase cargo capacity.

- In the United States, two companies have even announced plans to build supersonic business jets and have them in the air by 2013 or so. One has already taken deposits for several dozen aircraft.
- The airline industry is developing technical advances such as improved satellite navigation and communications, runway collision avoidance systems, and safer seat designs.
 - The Enhanced Ground Proximity Warning System (EGPWS) compares an aircraft's GPS location with digital topographic maps to warn when a plane is in danger of flying into terrain. No plane equipped with it has ever had this kind of crash.
 - These improvements will also allow planes to fly closer together, increasing the carrying capacity of air routes.
- Rail travel is getting faster. The new TGV Est line, which runs 300 km (180 miles) from Paris to Frankfurt, operates at 320 kph (198.8 mph) inside France, compared with 300 kph on other parts of the TGV system.
- Advances in automobile technology, such as road-condition sensors, continuously variable transmissions, automated traffic management systems, night-vision systems, and smart seats that tailor airbag inflation to the passenger's weight, are reaching the marketplace.
- The first commercial hybrid gas-electric cars are available already, with more scheduled for future model years.

Assessment:

These advances will continue at least through mid-century.

Implications:

One of the fastest-growing transport industries is trucking, thanks to the expanded use of just-in-time inventory management and Internet-based companies that rely on trucks to deliver their products. This field will grow more efficient as GPS-based truck tracking, RFID-based cargo management, more efficient engines, and other new technologies spread through the industry.

To reduce the number and severity of traffic accidents, trucks on the most heavily used highways will be exiled to car-free lanes, and the separation will be enforced.

New hybrid car models will begin to gain significant market share from traditional gas guzzlers between 2010 and 2015.

Following European practice, even “legacy” air carriers in the United States will begin to replace the spokes of their existing hub-and-spokes system with high-speed trains for journeys of 100 to 150 miles.

By 2015, improved technologies and concerns about the long-term cost of energy will lead even the rail-resistant United States to begin modernizing its train system.

New aircraft navigation and safety technologies will reduce the number and severity of crashes.

By 2010, smart-car technologies will begin to reduce deaths due to auto accidents in Europe and, a few years later, the United States.

Cities increasingly will struggle to reduce auto congestion by limiting the use of private automobiles, as in Munich, Vienna, and Mexico City, by taxing auto use in congested areas, as in London, or by encouraging the development and use of mass transit, as in Copenhagen and Curitiba Brazil.

Technology may offer other alternatives. One proposal is “dual-mode transportation,” in which private cars would be used normally on short hauls but would run on automated guideways for long-distance travel.

Implications for Policing:

Safer automotive technologies should reduce the need for traffic enforcement and free resources to cope with other duties.

In the long run, automated transport systems could become a new target for sophisticated terrorists. The toll in lives and economic impact from a successful attack on a high-speed rail system or an automated highway could be significant.

Expert Comments:

CALLANAN: I think we have only scratched the surface of the investigative potential of satellite navigation for police forces. Congestion in urban areas will of course have implications for police forces, requiring remedial efforts such as greater and more extensive use of “emergency vehicle” lanes.

FORD: Law enforcement agencies face a growing need for more technically trained personnel to address technology issues. Staff will face almost constant retraining to keep up with technology. This comment also applies to Trend 32.

JACKSON: Increases in transportation safety, particularly automotive safety, will greatly impact police organizations. Police devote significant resources to enforcing traffic laws to prevent accidents and to managing accidents when they do occur. Depending on the technologies involved, police pursuit strategies and the liability risks associated with pursuits may change. Further, accidents are the largest cause of on-duty deaths among police officers. New auto safety technologies should reduce this trend.

KAPINOS: The big impact here is that future transportation technology could certainly reduce the numbers and severity of vehicle collisions, and traffic-related fatalities. As this occurs, the traditional role of state/local agencies in traffic enforcement may be reduced.

LIFFORD: Advances in transportation safety such as sensors to prevent drunk driving, and kill switch technology to stop fleeing vehicles eventually will reduce the need for traffic enforcement as a primary duty for the police.

ZETTLEMOYER: Advances in technology, such as the proliferation of GPS in automobiles, will provide police with a significant tool for tracking the movement of cars and will have uses for traffic control, enforcement,

and criminal investigation. At some point, it may become widely possible to disable a vehicle via satellite.

32. THE PACE OF TECHNOLOGICAL CHANGE ACCELERATES WITH EACH NEW GENERATION OF DISCOVERIES AND APPLICATIONS.

- In fast-moving engineering disciplines, half of the cutting-edge knowledge learned by college students in their freshman year is obsolete by the time they graduate.
- The design and marketing cycle—idea, invention, innovation, imitation—is shrinking steadily. As late as the 1940s, the product cycle stretched to 30 or 40 years. Today, it seldom lasts 30 or 40 weeks.
 - Almost any new consumer product can be exactly duplicated by Chinese factories and sold on e-Bay within a week after it is introduced.
- Some 80 percent of the scientists, engineers, technicians, and physicians who ever lived are alive today—and exchanging ideas real time on the Internet.

Assessment:

This trend will continue for many years. However, we may grow less able to perceive it.

Implications:

Subjectively, change soon will move so rapidly that we can no longer recognize its acceleration, save as an abstract concept.

All the technical knowledge we work with today will represent only 1 percent of the knowledge that will be available in 2050.

Industries will face much tighter competition based on new technologies. Those who adopt state-of-the-art methods first will prosper. Those who ignore them will eventually fail.

Products must capture their market quickly, before the competition can copy them.

Brand names associated with quality are becoming even more important in this highly competitive environment.

Lifelong learning is a necessity for anyone who works in a technical field—and for growing numbers who do not.

In what passes for the long run—a generation or two—the development of true artificial intelligence is likely to reduce human beings to managers. Rather than making new discoveries and creating new products, we will struggle to understand and guide the flow of novelties delivered by creations we cannot really keep up with.

Implications for Policing:

Owing to budget problems and the generally conservative nature of police management, law enforcement always will lag behind society in adopting new technologies. Departments eventually may have to employ specialists to help them keep track of emerging technologies that could be of use to them or to criminal operations. By requiring more education, many technologies may make it more difficult to recruit suitable candidates for law enforcement careers. We view this as one of the top ten trends.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: See comments on Trend 28.

FRASER: Second most significant: Police use of technology often will lag behind that used in general society. There will be a constant struggle to keep up and acquire new technology. Sophisticated law enforcement agencies will establish Chief Information Officer positions.

JACKSON: The complexity of the “techno-scape” makes planning increasingly difficult. Successful organizations must integrate foresight into their business practices, develop the info-structure to aggregate information rapidly, and reorganize to eliminate or severely reduce information filters. These requirements apply to police agencies just as they do to other organizations.

JENSEN: Seventh most significant trend for policing.

KAPINOS: Ever-shorter technology cycles create large problems for public safety agencies; they are still hampered in many areas by obsolete procurement procedures. Traditional government procurement mechanisms are slow, bureaucratic, and tend to favor “low bids.” By the time a new product purchase clears the bureaucracy, it is already obsolete in many cases. Public sector technology tends to run a few years behind what is available in the private sector, which can identify and buy new things more quickly.

VAN KLAVEREN: The pace of change is an important cause of personal stress, which can produce crimes of spontaneous violence, such as “road rage” and spousal abuse. Even faster change could make these crimes more frequent in the future.

33. IMPORTANT MEDICAL ADVANCES WILL CONTINUE TO APPEAR ALMOST DAILY.

- Genetic research has accelerated advances in medicine and in the growth of medical knowledge. Early results include possible cures for hemophilia, cystic fibrosis, familial hypercholesterolemia, a number of cancers, and AIDS. Eventually, some 4,000 hereditary disorders may be prevented or cured through genetic intervention.
 - At Sangamo Biosciences, in California, researchers have experimented with rewriting the patient’s own DNA, rather than replacing it, to correct hereditary errors. The technique may lead to practical therapies sooner than conventional gene splicing.
 - Also in the works: gene-based diagnostic tests that may identify cancer early and tell which drugs are most likely to benefit individual patients with heart disease, cancer, and other ills.
- A process called RNA interference, which deactivates individual genes, is quickly revealing the genes’ functions.

- It also may be used to disable disease-causing genes, perhaps making it possible to cure cancer, viral ills, and some hereditary disorders.
- One potential cure for HIV/AIDS is expected to be ready for human testing by 2010.
- In research performed outside the United States, stem cells promise to repair damaged brains and other organs. Embryonic stem cells have already been found to repair damaged heart muscle.
- Growing knowledge of biochemistry, aided by advanced computer modeling, has made it possible to design drugs that fit specific receptors in the cell.
 - Drugs created through this technology often are much more effective than natural derivatives and have fewer side effects.
 - Nearly four hundred anti-cancer compounds are being tested in people, almost all of them “designer drugs.” In 1995, only ten anti-cancer drugs were being tested, all either natural products or derivatives of existing drugs.
- Other transplanted tissues come from cloning and related technologies used to grow stem cells.
 - Radical new treatments for diabetes, Parkinson’s disease, perhaps Alzheimer’s, and many other disorders are expected to arrive within the next five to ten years.
 - Scientists at Wistar Institute, in Philadelphia, have found a strain of mice that can regrow severed limbs and damaged organs, including heart muscle. Liver cells injected into other mice enable the recipients to regenerate for at least six months.
- Brown fat, found in many animals and in human babies, is converted almost immediately to body heat; it does not cause obesity. White fat goes straight to the waist and other bulging body parts. Scientists at Boston’s Dana-Farber Cancer Institute have found the gene controlling brown fat production, perhaps opening the way to end the epidemic of obesity.

- Surgeons working via the Internet can now operate on patients in remote areas, using experimental robot manipulators to handle their instruments.
 - Nano-technology research is beginning to produce medically useful products, such as nano-particles that can carry medication into the cell. Much more complicated devices for both diagnosis and treatment are in the concept stage.
 - Scientists are beginning to understand the fundamental processes of aging, bringing the possibility of averting the diseases of old age, and perhaps of aging itself.

Assessment:

The flow of new medical advances will not slow in the next 40 years, and probably not in the next 75.

Implications:

In the next ten years, we expect to see more and better bionic limbs, hearts, and other organs; drugs that prevent disease rather than merely treating symptoms; and body monitors that warn of impending trouble. These all will reduce hospital stays.

Outside the United States, transplants of brain cells, nerve tissue, and stem cells to aid victims of retardation, head trauma, and other neurological disorders will enter clinical use by 2012. Laboratory-grown bone, muscle, and blood cells also will be employed in transplants.

Expect also the first broadly effective treatments for viral diseases, experimental regeneration of lost or damaged human tissues, and effective ways to prevent and correct obesity.

By 2025, the first nanotechnology-based medical therapies should reach clinical use. Microscopic machines will monitor our internal processes, remove cholesterol plaques from artery walls, and destroy cancer cells before they have a chance to form a tumor.

Forecasting International believes that cloning and related methods will be accepted for the treatment of disease, though not to produce identical human beings.

Even without dramatic advances in life extension, Baby Boomers are likely to live much longer, and in better health, than anyone now expects. However, this trend could be sidetracked by the current epidemic of obesity, which threatens to raise rates of hypertension, diabetes, heart disease, and arthritis among Boomers if a cure is not found quickly enough.

However, a significant extension of healthy, vigorous life—to around 115 or 120 years as a first step—now seems more likely than no extension at all.

High development and production costs for designer pharmaceuticals, computerized monitors, and artificial organs will continue to push up the cost of health care far more rapidly than the general inflation rate. Much of these expenses will be passed on to Medicare and other third-party payers.

Severe personnel shortages can be expected in high-tech medical specialties, in addition to the continuing deficit of nurses.

A growing movement to remove barriers to stem-cell research in the United States could speed progress in this critical field. This could be expected to produce new treatments for neurological disorders such as Parkinson's and Alzheimer's disease and many other illnesses now incurable or untreatable. It also would recover one aspect of America's lost lead in science.

Implications for Policing:

At FI, we believe that the growing cost of new drugs and medical technologies eventually will be more than repaid by the saving achieved through greater "wellness." If so, new medical technologies should improve the health of police officers and reduce the cost of health benefits. They also will save the lives of many people who are now lost to traffic accidents, gunshot wounds, and other trauma.

Expert Comments:

CALLANAN: Such advances could make the public more and more fearless, if there are fewer and fewer risks from what were previously seen as serious ailments or conditions. Medical advances could make people—including possible criminals—generally less prone to consider the possibility of physical assaults, car accidents, or even gunshot wounds.

FBI TEAM: New medical technologies that extend health and provide a longer life expectancy seem likely to raise medical costs for public agencies, which generally provide free health insurance and lifetime pensions for retirees. This raises doubt that states, counties, and municipalities will be able to honor the commitments they have made to public safety workers. The need to do so could ultimately compete for funding with core law enforcement responsibilities, to the cost of both.

JACKSON: Rising medical costs place considerable pressure on governments, including police departments. If medical advances can reduce the medical costs borne by employers, this trend will be positive for policing. Further, these advances may help to mitigate injuries suffered by officers. It may be necessary to restructure insurance benefits to account for changes in treatment.

KAPINOS: Enhanced medical technology will certainly result in more lives being saved re: critically-injured crime and traffic accident victims. This is obviously a positive development, but it could set up some dilemmas within the criminal justice system. Specifically, how should a jurisdiction prosecute defendants who attempt to commit murder, where the victim is saved by medical science? Criminal laws may need to evolve to focus more on the intent and potential lethality of a violent act than on the end result for the victim.

STERN: Our police forces and ancillary personnel will need much more training to be able to use the new medical technologies becoming available to them.

34. THE INTERNET CONTINUES TO GROW, BUT AT A SLOWER PACE.

- In mid-2007, Internet users numbered about 1.173 billion, up just less than one-fourth in three years.

- Most growth of the Internet population is now taking place outside the United States, which is home to only 19 percent of Internet users.
- U.S. Internet users now account for about 75 percent of the American population, a figure that has only crept higher for several years.
- In mid-2007, the most recent available data showed 162 million Internet users in China (12.3 percent of the population), 42 million in India (3.7 percent), and 86.3 million in Japan (67.1 percent.)
- Internet penetration is lagging badly in Africa, where only 3.6 percent of the population is online. Most Internet users are in the North African countries or in the republic of South Africa. In between, Internet connections are scarce.
- When it comes to percentage of broadband users, the United States ranks only 15th among the developed lands and 24th over all. About 47 percent of American Internet users have broadband service, compared with 90 percent in South Korea.
 - Americans also get poorer service, paying about \$35 per month for download speeds of 1.5mbps and only 256kbps upload speeds. Japanese Internet users pay about the same for 50mbps service.
- In mid-2007, there were 2.66 billion IP addresses on the Internet. Of these, nearly 1.4 billion were in the United States, 251 million in the U.K., 154 million in Japan, and 116 million in China.
- E-commerce is still growing, but not as quickly as it once did.
 - In the United States, total retail sales in the first quarter of 2007 came in at about \$999.5 billion, Internet retail sales at \$31.5 billion, just 3.2 percent of the total and growing by only 0.1 percent of the total for the last three quarters.
 - Total Internet sales are expected to reach \$116 billion for the year.

- Sales growth, as much as 25 percent per year in 2004, is expected to slow to 9 percent annually by 2010.
- Not long ago, the Internet was predominately English-speaking. In mid-2007, English and “Chinese” (we assume this combines mainland Mandarin, Taiwanese Mandarin, and Cantonese) were tied at 31.7 percent of Internet users.
 - More than 5 percent of Netizens spoke Spanish, Japanese, German, or French.

Assessment:

This trend will continue until essentially no one in the world lacks easy access to the Internet, about 30 years by our best estimate.

Implications:

Americans will continue to dominate the Internet so long as they produce a substantial majority of Web pages—but that is not likely to be very long.

Analysts believe that Internet growth will not accelerate again until broadband service becomes less expensive and more widely available. This is a matter of government policy as much as of technology or basic costs.

Demands that the United States relinquish control of the Internet to an international body can only gain broader support and grow more emphatic as Americans make up a smaller part of the Internet population.

Business-to-business (B2B) sales on the Internet are dramatically reducing business expenses throughout the Internet-connected world, while giving suppliers access to customers they could never have reached by traditional means.

The Internet has made it much easier and cheaper to set up a profitable business. An online marketing site can be set up with just a

few minutes' work at a cost of much less than \$100. This is fostering a new generation of entrepreneurs.

Internet-based outsourcing to other countries has only just begun. Growth in this field will accelerate again as overseas service firms polish their English, French, and German and find even more business functions they can take on.

Cultural, political, and social isolation has become almost impossible for countries interested in economic development. Even China's attempts to filter the Internet and shield its population from outside influences have been undermined by hackers elsewhere, who provide ways to penetrate the barriers.

Implications for Policing:

Internet crime will remain a growing concern for law enforcement. Criminal operations increasingly may be managed over the Internet, perhaps with encrypted communications, making them more efficient and harder to control. In compensation, the availability of large quantities of public records and other information over the Internet may bring new opportunities for investigation.

Expert Comments:

CALLANAN: See comments on Trend 5.

FORD: Policing the Internet is a major challenge for law enforcement. Limited in both trained staff and jurisdiction, most local police simply do not have the ability or resources to investigate most Internet-based offenses. Federal authorities, while capable, also have insufficient resources. The future will demand a major investment in enforcement on the Internet, if it is to remain viable.

Law enforcement increasingly will be required to retrain and update their staff. Supervisory and managerial staff will require advanced degrees. Subject-matter experts and highly trained technicians will become an important part of police organizations.

HODGE: Concurrently, with the astronomical growth of the information sphere, it will become more and more difficult to control and protect sensitive information (not necessarily "classified" in the traditional sense). Industry

will find it harder and harder to protect proprietary information. Trade secrets will hemorrhage over the Internet and the Internet underground.

Unsanctioned information wars and cyber wars will exacerbate the inability of nation states to control and contain crises. Governments will find it increasingly difficult to shut down media outlets during internal upheavals.

JACKSON: The social networking aspects of the Internet appear to be the truly transformation effects. Police adoption of social networking technologies will greatly improve the effectiveness and productivity of individual officers. This comment also applies to Trend 35.

KAPINOS: As the Internet continues to grow, the concern about Internet-related crime and fraud continues to grow as well. More law enforcement personnel are also using the Internet more extensively as an investigative tool.

SMYRE: The impact of social networking opens up the potential for using mobile communications to help alert law enforcement to potential problems before crimes are committed. Using transformative systems thinking, there is an opportunity to expand the concept of law enforcement into new segments of the overall community and lessen the impact of competition in the marketplace for law enforcement personnel.

STERN: More personnel must be recruited with more high-tech communications and networking skills, or trained in them, in order to police the Internet effectively.

YOUNGS: The Internet will have both positive and negative impacts on policing. While it offers more investigative tools and resources for officers, it also provides more sophisticated and efficient means of committing traditional crimes where the criminal can often remain anonymous. Most agencies do not have enough trained officers to handle the growing number of Internet-related crimes.

35. ADVANCED COMMUNICATIONS TECHNOLOGIES ARE CHANGING THE WAY WE WORK AND LIVE.

- The Internet is as much a communications medium as it is an information resource.
- Telecommuting is growing rapidly, thanks largely to e-mail and other high-tech forms of communication. About 80 percent of

companies worldwide now have employees who work at home, up from 54 percent in 2003. The number of telecommuters in the United States reached an estimated 20 million in 2006.

- AT&T says that 90 percent of its employees do some work away from the office, while 41 percent work at home one or two days per week. This saves the company a reported \$180 million a year.
- However, Millennials already have abandoned e-mail for most purposes other than communicating with “clueless” parents and grandparents. Most have adopted instant messaging and social-network websites to communicate with their peers.
- “Podcasting”—recording college lectures, news stories, business reports, and the like for playback on the Apple iPod—allows users to listen at their convenience.
- Better communications is a major goal of many government agencies, particularly in law enforcement and disaster services, which need to coordinate the activities of many different agencies under emergency conditions.
- So-called “Web 2.0” services are building communities nearly as complex and involving as those existing wholly in the real world.
 - Second Life is a 3-D virtual world entirely built and owned by its residents. Launched in 2003, by May 2007 it had 6.8 million residents, 1.75 million of whom had logged on in the previous two months. Here in the real world, designers earn substantial incomes creating fashions and other paraphernalia for Second Life characters. One resident was banned when his character raped another “avatar” in virtual reality.
 - MySpace and Facebook have a total of more than 180 million members who form communities of friends, most of whom have never met except on the Internet.
 - A number of people have taken to wearing a small Web camera, either recording their entire lives or broadcasting them over the Internet.

Assessment:

Again, this trend has only just begun.

Implications:

E-mail promised to speed business. Instead, it absorbs more time than busy executives can afford to lose. Expect the nascent reaction against e-mail to grow as many people eliminate mailing lists, demand precise e-communications rather than open-ended conversation, and schedule only brief periods for dealing with mail.

Instant messaging is likely to be even more destructive of time for the under-thirty set.

However, e-mail is a major contributor to globalization and outsourcing, because it eliminates many of the obstacles of doing business across long distances and many time zones.

Unfortunately, e-mail and other modern communications techniques also have made possible a variety of crimes, from online fraud to some forms of identity theft.

They also make it virtually impossible to retract ill-considered statements or embarrassing online activities. Once something exists on the Internet, it is all but immortal and nearly impossible to hide.

Implications for Policing:

We saw the penalties for relying on deficient communications systems during the 9/11 bombings and Hurricane Katrina. Modern technology will give public safety organizations more reliable communications and, perhaps even more important, the ability to cooperate much more effectively in time of need. This is one of the top ten trends for policing.

Unfortunately, modern communications technologies also have made it much easier for criminal organizations to coordinate their activities. Advances in cryptography will make it impossible, for any

practical purposes, to decrypt e-mail and other communications. This will reduce the utility of wiretaps and Internet “taps.”

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: See comments on Trend 5.

JENSEN: Eighth most significant trend for policing.

KAPINOS: Advanced communications technology is continuing to enhance and foster inter-operability, and cross-agency cooperation in the law enforcement community. Tradition-bound public safety agencies are still slow to recognize the advantages of telecommuting, which is very useful for personnel in administrative and support roles.

LIFFORD: Better communications will improve the ways in which the police communicate with each other and warn citizens of potential hazards. Through the use of GPS, all devices will be tracked. Furthermore, through miniaturization, “cop cams” soon will be placed on officers instead of in police cars, so we can monitor in real time or review later what they say or do, and what they see suspects saying or doing.

MILLETT: Because of this trend, police departments are likely to find a larger role in enforcing intellectual property rights, brands, product integrity, and related issues.

OSBORNE: As sophisticated communications technologies are enhanced and become more affordable and user-friendly, policing will benefit from working with experts from other agencies/disciplines on specialized cases/methods. Examples: gang recognition, explosive recognition, best practices to prevent crime, profiling.

SCHAFFER: Web sites such as Myspace and Facebook have raised many new legal questions. For example, if a paroled sex offender has contact with an underage girl on Myspace, has he committed a crime? Who is responsible for monitoring his actions? MySpace? Or someone else? If this is a crime, what constitutes legal evidence, and what procedure can be used to collect it? Some states already are seeking MySpace and Facebook usage information for sex offenders. They are just the earliest harbingers of a trend that will generate more questions than answers for years to come.

TRENDS IN LABOR FORCE AND WORK

36. SPECIALIZATION CONTINUES TO SPREAD THROUGHOUT INDUSTRY AND THE PROFESSIONS.

- For doctors, lawyers, engineers, and other professionals, the size of the body of knowledge required to excel in any one area precludes excellence across all areas.
- The same principle applies to artisans. Witness the rise of post-and-beam homebuilders, old-house restorers, automobile electronics technicians, and mechanics trained to work on only one brand of car.
- Modern information-based organizations depend on teams of task-focused specialists.
- Globalization of the economy calls for more independent specialists.
 - For hundreds of tasks, corporations increasingly turn to consultants and contractors who specialize more and more narrowly as markets globalize and technologies differentiate.

Assessment:

This process will continue for at least another 20 years.

Implications:

In an information age, each new level of specialization provides greater efficiencies, reducing the cost of doing business even as it creates new opportunities. This should continue to make global business more productive and profitable for so long as it continues.

This trend creates endless new niche markets to be served by small businesses and individual consultants.

It also brings more career choices, as old specialties quickly become obsolete, but new ones appear even more rapidly.

This is a major driver for Trend 37.

Implications for Policing:

Like the rest of society, policing is trending toward greater specialization. Many of the most highly specialized functions may be shared between agencies or outsourced to consultants.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: There is already a greater trend towards specialization in law enforcement. This may become formalized into more clearly defined career paths specializing in certain fields. However, as indicated elsewhere, there will still be a need for senior managers to have an understanding of a wide spectrum of activities across organizations.

DINE: Changing expectations and rules will have an impact on the police workforce. There is room to doubt that departments will be able to hire as they have in the past. This is the seventh most important trend for policing.

FORD: Law enforcement already is experiencing pressure toward specialization. Increasingly, officers must receive special training and be accredited to undertake certain law enforcement tasks. This trend probably will accelerate in the coming years as agencies adapt to new technologies.

KAPINOS: The law enforcement community continues to make greater use of consultants in technical/specialized areas, and many agencies are outsourcing these functions. More support positions that do not require sworn, armed law enforcement personnel to perform the functions, are civilianizing such positions. There has been a tremendous growth recently in consulting firms that serve law enforcement agencies exclusively.

LIFFORD: Changes in the profession will require more education and specialization. No longer will certain, highly specialized cops be loyal to their home agencies. Instead, advanced specialties will be hired short-term, for a specific duty, and then move on to another force. Examples probably will include computer forensics specialists, criminal profilers, and advanced forensic scientists. These observations also apply to Trend 37.

LUNNEY: This trend will have critical impact on human resource management. So will Trends 37, 40, 43, and 45—the decline of the work ethic, the rise of training and education, and retention of older workers.

OSBORNE: As communities are faced with increasingly limited resources to meet taxpayers' needs, and policing becomes more specialized due to technological developments. Agencies will begin to hire specialist civilians and contract out work that doesn't require basic police officer skills. This includes crime scene investigation, general investigations, crime and intelligence analysis, dispatch, and even some police manager roles that require specialized knowledge, such as information technology.

VAN KLAVEREN: Police agencies may need to put special effort into developing a cadre of generalists with the broad skills to become managers and leaders, much as private companies are beginning to do.

37. EDUCATION AND TRAINING ARE EXPANDING THROUGHOUT SOCIETY.

- Rapid changes in the job market and work-related technologies will require increased training for almost every worker.
- Knowledge turnover in the professions is a growing challenge that will require continuous retraining and lifelong learning.
 - A substantial portion of the labor force will be in job retraining programs at any moment. Much of this will be carried out by current employers, who have come to view employee training as a good investment.
- Of roughly 240 job categories classified by the U.S. Bureau of Labor Statistics to experience high growth from 2004 through 2010, 86 require a college degree, while 70 more require at least some college education.
 - All the rest call for work experience in a related field; on-the-job training, often for long periods; or a post-secondary vocational degree.

- In the next 10 years, close to 10 million jobs will open up for professionals, executives, and technicians in the highly skilled service occupations.
- We already are seeing a trend toward more adult education. One reason is the need to train for new careers as old ones are displaced or Boomers grow bored with them. The other is the need of healthy, energetic people to keep active during retirement.
 - Nearly half of Americans ages 25 and older—92 million people—take part in some form of continuing education.
- In the United States, education is moving rapidly to the Internet, as small, rural grammar and high schools supplement their curricula with material from larger institutions, while universities increasingly market their programs to distant students.
- In order to give those who cannot attend their classes a chance to educate themselves, the Massachusetts Institute of Technology has put its entire curriculum on the Internet, including class notes, many texts, and sometimes videos of classroom lectures. Other institutions are following suit.
- In Mexico, the entire curriculum for 10- and 11-year-olds has been digitized. Some 5 million students now receive all their instruction via the *Enciclomedia*, a computer system that projects any of 20,000 images, videos, and even commercial movie clips onto an electronic screen.
 - Teachers act largely as managers for the teaching system.
 - The goal is to improve educational quality, and teachers report that children pay closer attention and learn more than in traditional classrooms.
 - Delegations from India, China, and even the United States have visited Mexico to evaluate the *Enciclomedia* for possible use at home.
- American public schools face an extreme teacher shortage.
 - Some 40 percent of teachers say they will leave the profession within five years.

- In 2006, a poll found that half of all high-school teachers expected to leave by 2010.
- American schools will add 93,000 new teaching positions between 2004 and 2014, according to the U.S. Bureau of Labor Statistics. However, the need to replace teachers leaving the profession will mean that 169,000 job openings for teachers must be filled each year.

Assessment:

This is another trend at the beginning of its life.

Implications:

Over the next two decades, the growing demand for education and training is likely to transform our working lives and educational systems around the world.

In order to keep up with growing demands for education, schools will train both children and adults around the clock.

The academic day will stretch to seven hours for children so as to enable students to compete with their peers in other countries, who already devote much more of their time to learning, with predictable results.

Adults will use much of their remaining free time to prepare for their next job.

In knowledge-based economies, a region's growth prospects depend on its ability to generate and use innovation. This correlates roughly with the number of college-educated adults living there. Throughout the industrialized countries, this gives cities an advantage over rural and suburban areas. It is one reason upwardly mobile adults tend to move to the cities.

Skills are the most important factor in economic success today. Unfortunately, the people who need them most, the poor and unemployed, cannot afford schooling and therefore are least able to

obtain them. Helping people overcome this disadvantage is a natural role for government.

As the digital divide is erased and minority and low-income households buy computers and log onto the Internet, groups now disadvantaged will be increasingly able to educate and train themselves for high-tech careers.

Even the smallest businesses must learn to see employee training as an investment, rather than an expense. Motorola estimates that it reaps \$30 in profits for each dollar it spends on training.

Both management and employees must get used to the idea of lifelong learning. It will become a significant part of work life at all levels.

Implications for Policing:

The need for constant training has challenged the resources of many law enforcement agencies. It can only be a greater burden in the future.

Expert Comments:

CALLANAN: See comments on Trend 28.

KAPINOS: The need for constant training and education is present in Law Enforcement/Public Safety agencies as well. Many agencies are challenged to find adequate resources to fill this need. Often, cash-strapped agencies tend to regard all but the legally-mandated training as being truly optional, and as such, it becomes a casualty of tight budgets. There is also continual discussion about the value of college degrees for law enforcement personnel and the resultant ability of agencies to recruit and retain trained, educated personnel.

SMYRE: Adapt current curricula to integrate an understanding of how to identify trends, weak signals and their impact so that law enforcement personnel will develop a viewpoint, filter, and understanding of the transforming 21st century that is beyond their traditional context.

38. SERVICES ARE THE FASTEST GROWING SECTOR OF THE GLOBAL ECONOMY.

- Service jobs have replaced many of the well-paid positions lost in manufacturing, transportation, and agriculture. These new jobs, often part time, pay half the wages of manufacturing jobs. On the other hand, computer-related service jobs pay much more than the minimum—for workers with sound education and training.
- Service industries provide 79 percent of the GDP in the United States, 77 percent in France, 74 percent in Britain, 73 percent in Japan, and 70 percent in Germany. In each case, services are growing rapidly, other sectors less so.
- Service industries account for about 77 percent of private non-farm employment in the United States, up from only 70 percent in 1990. In the decade ending in 2010, services are expected to account for the entire net gain in U.S. employment.
 - In Britain, services provide 74 percent of jobs; in France, 72 percent; in Japan, 68 percent; in Germany, 64 percent. In each case, the percentage of service employment is rising.
- In the decade ending in 2014, the fastest job growth in percentage terms will be in technical and professional occupations, according to the U.S. Bureau of Labor Statistics.
 - Computer specialties, teaching, engineering, and similar fields will add 6 million new positions, more than 21 percent of the 19 million new jobs expected for the period.
 - In raw numbers, the fastest job growth is in the least-skilled occupations, such as cashiers and retail sales.
- Production and less-skilled jobs, in contrast, are disappearing. By 2014, the United States is expected to have more chief executives than machine tool operators, more lawyers than farm workers.

Assessment:

We foresee no obvious end to this trend.

Implications:

In the United States, the growth of service industries is helping to deplete the middle class, as well-paid jobs in manufacturing are replaced by relatively ill-paid service positions, leaving a country of “have-a-lots” and many “have-nots,” but relatively few “have-enoughs.”

Services are now beginning to compete globally, just as manufacturing industries have done over the last 20 years. By creating competitive pressure on wages in the industrialized lands, this trend will help to keep inflation in check.

The growth of international business will act as a stabilizing force in world affairs, as most countries find that conflict is unacceptably hard on the bottom line.

Implications for Policing:

In a world of ill-paid service jobs, careers in law enforcement may come to seem much more inviting. This could help to ease staffing problems for police departments. However, it may mean that departments must offer significant remedial education to recruits who once would not have been hired.

Expert Comments:

KAPINOS: Job growth in the services sector could be ultimately a good thing for law enforcement; more low-skilled workers may be able to gain and keep regular employment. That could mean fewer people likely to resort to crime when unemployed. In addition, with a reasonable investment in some additional education, many relatively low-skilled workers could potentially qualify for public sector jobs, thus addressing some of the issue described in Trend 37.

39. WOMEN'S SALARIES ARE APPROACHING EQUALITY WITH MEN'S—BUT VERY SLOWLY.

- In the 1980s and '90s, women's overall income in the United States was catching up with that of their male co-workers. More recently, it has stagnated.
 - In 1995, university educated women earned 75.7 cents for every dollar earned by men, on average. In 2005, it had fallen to 74.7 cents.
 - During the same period, lower-income women continued to gain on their male peers, though very slowly.
 - One reason may be that women are less interested than men in working 70 hours or more per week during their prime reproductive years, and growing numbers have chosen to stay home and rear their children. This may reflect the scarcity of childcare services in the United States,
 - Women also appear to be less likely to choose and pursue a career on the basis of income. In one recent survey, 60 percent of employed mothers preferred part-time work, though only 24 percent actually worked part-time.
- Studies that attempt to compensate for differences in factors such as education, occupation, experience, and union membership find much smaller differences. One reported that women receive about 91 percent as much as men. Another held that incomes are virtually equal when measured with appropriate rigor.
 - Some studies also suggest that the pay gap has largely disappeared for women in the newest cohort of workers. This would make sense, given the nearly total gender blindness of the Millennials.
- However, women's salaries have reached numerical parity with men's in only five fields, nearly all of them areas where women have broken into trades long dominated by men: hazardous material removal workers, telecommunications line installers and repairers,

meeting and convention planners, dining room and cafeteria workers, and construction trade helpers.

- According to the European Commission, women on the Continent earn 15 percent less than men, on average, down from 17 percent in 1995.
 - In Germany, the pay difference has actually grown 1 percent over the period, to 22 percent.
 - In Britain, the gap was 20 percent, down from 26 percent.
 - The U.K. itself reports a gap of only 12 percent in average hourly salary in early 2007. However, women's net earnings are lower because they are paid for fewer hours each week than men are.
- Japan is an exception to this trend. The gender gap there remains near 35 percent.

Assessment:

In the United States, this trend may be in its last generation, thanks to the gender-blind values of the Millennials. In other countries, and particularly Japan, it may have another 30 years to run.

Implications:

The fact that women's salaries are lagging despite higher academic achievement than men suggests that many college-educated women may be underemployed. Whether this is by their choice or occurs for some other reason has yet to be determined.

More new hires will be women, and they will expect both pay and opportunities equal to those of men.

Women's average income could exceed men's within a generation. College graduates enjoy a significant advantage in earnings over peers whose education ended with high school. In the United States, some 65 percent of young men and women enroll in college after high school,

but women are more likely to graduate. About 58 percent of college graduates are women.

To the extent that experience translates as prestige and corporate value, older women should find it easier to reach upper-management positions. This will blaze the trail and help raise the pay scale for women still climbing the corporate ladder.

Competition for top executive positions, once effectively limited to men, will intensify even as the corporate ladder loses many of its rungs.

The glass ceiling has been broken. One-fourth of upper executives today, and nearly 20 percent of corporate board members, are women—far more than in any previous generation. Look for more women to reach decision-making levels in government and business.

However, the remaining obstacles to women's advancement may explain why women now start businesses at roughly twice the rate of men.

Implications for Policing:

Law enforcement agencies have adapted to having female officers in most areas of operation. As more women rise to senior positions, any lingering residue of prejudice against female officers should fade away.

Expert Comments:

KAPINOS: With regard to the issue of pay equity for women; public sector jobs (including those in law enforcement) could be fairly attractive to women, since pay scales are normally fixed, and not gender-specific. Public safety may be seen by more women as an area of equal opportunity—if those issues described in Trend 15 above are addressed.

40. THE TRADITIONAL AGE OF RETIREMENT IS LOSING ITS SIGNIFICANCE.

- OECD data show that people are retiring earlier in the developed world. In 2004, less than 60 percent of the 54 to 60 age group in the OECD countries had a job. This varied from 50 percent in the earliest-retiring nations to 76 percent in the latest.
- According to Pew Research, as of 2006 the average American worker planned to retire at age 61 but actually did so at 57.8.
- These “retirements” may not be permanent. Americans in particular often return to work and delay complete retirement for several years. About one in five people, and 40 percent of seniors, say they plan to continue working until they die.
 - A study by Putnam Investments found that one-third of Americans who retire are back on the job two years later, usually in the same kind of job they left and at the same level of responsibility. Though two-thirds said they had returned to work out of choice, this decision may reflect economic need. Some 60 percent still carried a mortgage, and few had much in the way of savings or investments.
 - The U.S. Bureau of Labor Statistics reports that the percentage of men and women still working at age 55 and above has been rising steadily since 1993. From age 62 to 64, more than half of men and 40 percent of women continue to work. At age 75 and above, 13.5 percent of men and 7.1 percent of women are still employed.
- In a recent poll, 70 percent of American Baby Boomers said they expected to continue working into their 70s—not because they could not afford to retire, but because they could not stand to be both healthy and inactive.
 - Yet nearly two-thirds doubt that retirement is possible for anyone with only a middle-class income.

Assessment:

In the United States, this trend will be complete in a generation. Where social safety nets are stronger, it is likely to continue through at least 2030.

Implications:

Given the widespread shortage of retirement savings and investments, most Americans will delay retirement until they can no longer work, whether they wish to or not.

Since the penalty on earnings of Social Security recipients has been rescinded, more American retirees will return to work, and those not yet retired will be more likely to remain on the job.

This trend will spread to other industrialized countries as the retirement-age population grows and the number of active workers to support them declines.

People increasingly will work at one career, “retire” for a while (perhaps to travel) when they can afford it, return to school, begin another career, and so on in endless variations. True retirement, a permanent end to work, will be delayed until very late in life.

By 2015, we expect the average retirement age in the United States to be delayed well into the 70s. Benefits may also continue their decline, and they will be given based on need, rather than as an entitlement.

Even though the Social Security program has been the “third rail” of American politics, within five years, the retirement age will be moved back at least to 70 for early retirement and full benefits at 72.

Older workers will partially make up for shortages of entry-level employees. The chance to remain in the workplace will reduce the risk of poverty for many elderly people who otherwise would have had to depend on Social Security to get by.

Retirees will act as technical aides to teachers, especially in the sciences.

In the long run, it may prove impossible to maintain the tradition of retirement, except through personal savings and investment.

Implications for Policing:

The tendency to remain on the job longer and the availability of retirees for second careers in law enforcement should help to reduce staffing problems for many police departments. However, longer times in service may make it difficult to promote younger officers into senior positions. The growing prevalence of older officers also could raise health-care budgets in many departments.

Expert Comments:

JACKSON: Many police officers retire to pursue second careers in corporate security or consulting. These fields are comparatively well rewarded and are less pressured than policing. They will compete with law enforcement agencies for second-career officers. This comment also applies to Trend 42.

KAPINOS: Delayed retirement among Boomers is affecting law enforcement in two ways. First, our own employees are working longer and retiring later, which is delaying the long-projected exodus of veteran officers who were hired in the post-Vietnam years. This means that years of experience will not be irretrievably lost by an agency when an employee reaches the normal retirement age. However, this development is frustrating rising Generation X personnel, who see their upward career mobility being stymied. Secondly, we have the opportunity to cultivate volunteer help from a growing number of seniors who are retired, but wish to stay active and contribute time and expertise. Generally, this trend is positive for law enforcement.

LIFFORD: The retirement age will become meaningless in policing as well, as cops will receive one pension and then begin a second career in a different state. This will flood the recruiting ranks with retired officers from different areas.

MORTIMER: Law enforcement agencies now lose many officers at the ages of 50 to 55. With a little flexibility and imagination, they could easily be put back to work. This may help to offset problems in hiring younger recruits.

SMYRE: Recruit semi-retired law enforcement personnel with traditional experience and have them trained in emerging specialties to broaden the promotional track for Generation Xers and Millennials.

41. LABOR UNIONS ARE LOSING THEIR POWER TO SECURE RIGHTS FOR WORKERS AND TO SHAPE PUBLIC POLICY IN REGARD TO WORKPLACE ISSUES.

- Union membership has been falling for the past two decades.
 - In the United States, some 20 percent of workers were union members in 1983. In 2006, just 12.0 percent of employed wage and salary workers were union members, down from 12.5 percent a year earlier.
- Public-sector workers in the United States are nearly five times as likely to be unionized than private-sector employees. Local government workers had the highest rate of union membership, nearly 42 percent. Financial activities had the fewest union members, just 1.9 percent.
- This trend also is seen in many other countries.
 - In Britain, where the Thatcher government broke union power in the 1980s, union membership has declined almost continuously, to 28.4 percent in December 2006.
 - In South Korea, where organized labor once was invincible, no more than 11 percent of workers are union members.
- One reason for this decline is that companies are freely seeking and finding nonunionized workers around the world. They also contract out a growing proportion of business activities to nonunion firms.
- Increased automation can cut a company's work force by up to one-third. The surviving workers tend to be technicians and other comparatively well-educated semiprofessionals, a population that has always tended to resist union membership.
- Globalization has done even more to strip unions of their power. Workers in the developed lands now compete directly with low-wage workers in the developing countries. Unions are forced to accept concessions from management or see their jobs go overseas.

Assessment:

In spite of determined, and occasionally successful, recruiting efforts in formerly non-union industries, union memberships and power will continue to decline for the next 15 years—until organized labor is little more than a fringe phenomenon. The trend will be reversed only if Washington and other national governments rescind pro-business labor laws and policies enacted in the last 20-plus years.

Implications:

For large companies, this trend promises continued stability in employee wages and benefits.

Unions eager to regain their membership will target any substantial industry or firm with less-skilled employees to organize. This could raise labor costs for companies that unions once would have considered too small to organize.

In 10 to 15 years, American labor unions will compete with AARP to lead the battle for the rights of late-life workers and for secure retirement benefits. They face an inherent conflict between the interests of workers in what once would have been the retirement years and those of younger members, who rightly see the elderly as having saddled them with the cost of whatever benefits older generations enjoy.

Unions' political strength is also diminishing and is increasingly being surpassed by powerful blocs such as AARP, Hispanics, and African Americans.

The old paradigm of unions vs. corporations is obsolete. In today's economy, workers negotiate alongside management, winning shared bonuses.

Implications for Policing:

Police departments are one field in which unions have not lost their power. Departmental management will still have to take union rules

and policies into account for some time. However, in the long run even public-service unions will find their influence waning. This is not one of the ten most important trends for policing—but it is in the top 12.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: While the comments made here may be true for the private sector, if the United States is anything like Ireland, I suspect that unions will continue to be influential and in many ways will be a major problem for government agencies in general, including policing.

CONSER: Labor unions are very powerful in many agencies but it varies from region to region in the US. They will lose some influence and benefits as the public learns more about their contracts and begin to object to many of the clauses. Especially as the private sector job market declines and tax bases erode.

DINE: Benefits will be changing for all parts of society, including police forces. Police unions will continue to play an important role in this process. This is the eighth most important trend for policing.

FORD: Police unions will remain a fact of life in law enforcement and will gain strength in the American South and West.

KAPINOS: Public sector unions are still able to have influence, as they still have some political leverage with local and state governments, due to their ability to control and deliver blocs of votes. But there is a trend among many such governments to operate in ways similar to corporations. In a variety of ways, they can preempt union demands by offering different types of benefits. The voting public also has limited tolerance for consistently generous pay and benefit packages for public employee unions—when it is the taxpayers who ultimately foot the bill. As I will note in the next trend—even in LE, fewer employees are staying with an agency for a full career course to retirement. Since they will be jumping from job to job more frequently, they are not necessarily going to rely on their union to get them a better deal—they'll find it themselves. This will eventually cause the power of even public-sector unions to wane.

OSBORNE: Strongly unionized police agencies will struggle very hard to adapt to new technologies, methods, and organizational structures. Cities with this type of workforce will lag farther and farther behind their peers in more progressive cities with more adaptable systems.

42. SECOND AND THIRD CAREERS ARE BECOMING COMMON, AS MORE PEOPLE MAKE MID-LIFE CHANGES IN OCCUPATION.

- Americans born at the tail end of the Baby Boom (1956 to 1964) held an average of ten jobs between ages 18 and 38, according to the U.S. Bureau of Labor Statistics.
 - These job jumpers continue with short-duration jobs even as they approach middle age: 70 percent of the jobs they took between ages 33 and 39 ended within five years.
- Among these late Boomers, college-educated women tended to hold the most jobs over all (11.1) between ages 18 and 38, but their job switching occurred primarily in their youth. By their middle 30s, they held on average just 2.2 jobs between the ages of 33 and 38, compared with 2.5 jobs on average for all the late boomers, and 2.7 jobs for males with less than a bachelor's degree.
- In the United States, 23 percent of workers surveyed in 2004 reported being dissatisfied with their careers and considering a change of occupation. Of these, 61 percent expressed a desire “to do something more fulfilling” such as entering a “helping profession.”
- Seventy percent of Irish workers surveyed in 2004 said they hoped to make a career change soon. Women and the 26-to-35 age group were most likely to report the desire to change careers. “Personal fulfillment” was the biggest reason cited for making the change.
- Based on anecdotal data and personal observation, Forecasting International believes that Americans now change entire careers on average every ten years. Career changing is likely to increase as new technologies make old occupations obsolete even while opening new ones to replace them.

Assessment:

This trend will not disappear unless the pace of technological change slows dramatically—or we reach the so-called “singularity,” when

man's inventions grow so intelligent themselves that they entirely displace human beings from the workforce.

Implications:

Boomers and their children will have not just two or three careers, but five or six, as dying industries are replaced by new opportunities.

“Earn while you learn” takes on new meaning: Most people will have to study for their next occupation, even as they pursue their current career.

In many two-earner couples, one member or the other will often take a sabbatical to prepare for a new career.

Self-employment is becoming an increasingly attractive option, as being your own boss makes it easier to set aside time for career development. This is especially true for Generation Xers and Millennials.

Growing numbers of retirees will start their own businesses, both to keep occupied and to supplement their meager savings with new income. This trend has already begun.

Retirement plans must be revised so that workers can transfer medical and pension benefits from one career to the next—a change that has long been needed. We believe this will occur soon after the Baby Boom generation begins to retire in 2011.

Implications for Policing:

Law enforcement may find itself losing officers in mid-career as they move on to other employment. However, in compensation, many who have tired of other occupations, or found themselves displaced by technology or global competition, may enter law enforcement as their second or third careers.

Expert Comments:

CALLANAN: See comments on Trend 28.

CONSER: This may be beneficial in changing the current police culture. It may actually improve professionalism with an infusion of new officers.

FORD: We can expect more recruits to come to policing later in life, as second careers. Departments will accept them due to the continuing scarcity of quality recruits in many jurisdictions.

KAPINOS: While most public safety employees still stay with one agency for a career (due to solid defined-benefits pensions), more and more are engaging in mid-career changes. This is because many local and state governments are moving away from offering the defined-benefits pensions to newer employees, but are instead setting up defined-contribution 401K accounts for more recent hires. As these are portable, employees feel freer to “jump” to new employers and/or new careers. The real impact here is that law enforcement agencies are not able to fully develop their future leadership cadre over time. Agencies will be forced to look outside their own ranks for even mid-level managers (this is already happening).

OSBORNE: This trend will have a significant impact on police retention of experienced staff: Officers will leave for other opportunities. This will pave the way for growing civilianization and privatization of law enforcement. Since investigations can be carried out by non-sworn officers, we may see law enforcement agencies contracting out major portions of their workload to private firms.

43. THE WORK ETHIC IS VANISHING.

- More than one-third of U.S. workers reported calling in sick when they were not ill at least once in the past 12 months, and 10 percent had done so at least three times, according to a 2004 survey by CareerBuilder.com.
- Job security and high pay are not the motivators they once were, because social mobility is high and people seek job fulfillment. Some 48 percent of those responding in a recent Louis Harris poll said they work because it “gives a feeling of real accomplishment.”
- Fifty-five percent of the top executives interviewed in the poll say that erosion of the work ethic will have a major negative effect on corporate performance in the future.

- Ethics at the top are no better. Enron, WorldCom, Tyco International, Adelphia Cable, and ImClone just begin the list of companies implicated in deceptive accounting practices, looting of corporate assets, and other misdeeds. And the number of American political leaders either under investigation for corruption or convicted of it grows almost daily.
- Seeking the root of such problems, a Zogby International poll of college seniors found that 97 percent said that their studies had prepared them to act ethically in the future. However, 73 percent said that professors had taught them that right and wrong are not susceptible to uniform standards, but depend on individual values and cultural norms.

Assessment:

There is little prospect that this will change until the children of today's young adults grow up to rebel against their parents' values.

Implications:

Both employers and voters must do their best to find candidates who can be trusted, but must expect to fail in their search. This makes safeguards against wrongdoing, both at work and in public life, more important than ever.

The new generation of workers cannot simply be hired and ignored. They must be nurtured, paid well, and made to feel appreciated or they will quickly look for a friendlier, more rewarding workplace.

Training is crucial. Without the opportunity to learn new skills, young people will quickly find a job that can help them prepare for the rest of their many careers.

Implications for Policing:

This may make it difficult for law enforcement to recruit and retain personnel willing to accept the rigors of a police career. This trend rounds out the top 12 for policing.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: This could be expected to have human resource policy implications for police forces and law enforcement agencies.

FORD: The decline of the work ethic can be seen in the younger members of police agencies, who are much more likely to switch jobs and will leave unless they receive job enrichments.

FRASER: Sixth most important trend: Senior law enforcement managers are already finding it harder to motivate younger employees. There will be more conflict between generations inside agencies. As more and more younger people move up to supervisory and management positions, some agencies will become more reactive and less likely to engage in proactive operations. Many internal processes will atrophy because they will be seen as too much trouble and work to maintain.

HALAL: People can be more committed to hard work than ever, if the conditions encourage active participation instead of the passive following of orders. This will require significant management changes in law enforcement, as in all other organizations.

JENSEN: Ninth most significant trend for policing.

KAPINOS: This trend has essentially the same implications as Trend 42: Younger law enforcement officers do not grow and maintain the same loyalty to the profession and their agency that was typical of previous generations. I have heard many veteran officers lament that the esprit d'corps that they knew years ago seems to be missing from many of the younger officers.

MORTIMER: This trend can only make for hiring and personnel problems.

YOUNGS: A decline in the work ethic is already prevalent. Younger officers do not have the same loyalty, dedication, and commitment as previous generations. Training and communication between co-workers and between supervisors and employees already is experiencing the challenges of different values and commitments. Currently, Recruitment of new officers and retention are huge challenges and will continue to be a growing problem for law enforcement agencies.

44. TWO-INCOME COUPLES ARE BECOMING THE NORM IN MOST OF THE INDUSTRIALIZED LANDS, THOUGH IN THE UNITED STATES THE TREND TOWARD GREATER EMPLOYMENT AMONG WOMEN IS SLOWING.

- The percentage of working-age women who are employed or are actively looking for work has grown steadily throughout the industrialized world.
 - In the United States, it has grown from 46 percent in 1970 to about 66 percent in 2005, compared with 77 percent of men.
 - In Japan, a majority of households have included two earners since at least 1980.
 - The lowest fractions are found in Italy and Spain, with just 44 and 49 percent of working-age women employed respectively, according to the Organization for Economic Cooperation and Development.
- In the United States, both the husband and the wife worked in 50.9 percent of married-couple families in 2003, according to the U.S. Bureau of Labor Statistics' Current Population Survey. This has declined since 1997, when it was 53.4 percent.
 - However, families in which only the woman worked rose for the third straight year, to 6.8 percent, in 2003.
- In 2006, about 78 percent of American mothers worked or were actively looking for work, down from a peak of 80 percent four years earlier. Among mothers with children under age 18, the fraction is stable at about 65 percent.
- The number of working mothers with young children has declined in the last few years, but the dip is extremely small. In 2006, about 79 percent of American mothers and 64 percent of mothers with pre-school age children held down jobs—down no more than a percent or two since the peak in 2002.

Assessment:

In the industrialized nations, this trend has just about played out, as the number of two-income households has begun to stabilize. However, it will be a growing force in India and other industrializing lands for many years to come.

Implications:

This emphasis on work is one big reason the richest 25 to 50 percent of the U.S. population has reached zero population growth. They have no time for children and little interest in having large families.

Demand for on-the-job child care, extended parental leave, and other family-oriented benefits can only grow. In the long run, this could erode the profitability of some American companies, unless it is matched by an equal growth in productivity.

Two-career couples can afford to eat out often, take frequent short vacations, and buy new cars and other such goods. And they feel they deserve whatever time-savers and outright luxuries they can afford. This is quickly expanding the market for consumer goods and services, travel, and leisure activities.

This also promotes self-employment and entrepreneurialism, as one family member's salary can tide them over while the other works to establish a new business.

Expect to see many families that usually have two incomes, but have frequent intervals in which one member takes a sabbatical or goes back to school to prepare for another career. As information technologies render former occupations obsolete, this will become the new norm.

Implications for Policing:

This is one more cultural norm that separates conservative Muslim immigrants from the dominant cultures of their host countries. Because it threatens to "infect" Muslim women with a nontraditional sense of

independence, it is particularly offensive to many Muslim men and can be a source of resentment capable of helping to inspire terrorism.

Expert Comments:

FORD: Two-income couples are common in police departments. In many cases, both spouses work for the department. This can be difficult to manage.

45. GENERATION X AND THE MILLENNIALS WILL HAVE MAJOR EFFECTS IN THE FUTURE.

- There are approximately 50 million people in Europe between the ages of 15 and 24; 30 million more are between 25 and 29. The under-30 cohort represents about 22 percent of the European population.
- Members of Generation X—roughly, the 35-plus cohort—and especially of the Millennial generation, now in their 20s, have more in common with their peers elsewhere than with their parents' generation. Their values and concerns are remarkably uniform throughout the world.
 - The under-20 cohort is remaining in school longer and taking longer to enter the workforce than before.
 - Generation X should be renamed “Generation E,” for entrepreneurial. Throughout the world, they are starting new businesses at an unprecedented rate.
 - The younger Millennial generation is proving to be even more business-oriented, caring for little but the bottom line. Twice as many say they would prefer to own a business rather than be a top executive. Five times more would prefer to own a business rather than hold a key position in politics or government.
 - Many in the new generations are economically conservative. On average, those who can do so begin saving much earlier in life than their parents did in order to protect themselves against unexpected adversity. Generation X made money in the stock

market boom of the 1990s, then lost it in the “dot-bomb” contraction, but they have left their money in the market. The Millennials are following their lead. For these generations, time is still on their side.

Assessment:

As trends go, this is an evergreen. In ten years or so, we will simply add the next new generation to the list.

Implications:

In values, cultural norms, political issues, and many other ways, this change of generations will be every bit as transforming as the transition from the World War II generation to the Baby Boomers.

Employers will have to adjust virtually all of their policies and practices to the values of these new and different generations, including finding new ways to motivate and reward them. Generation X and the Millennials thrive on challenge, opportunity, and training—whatever will best prepare them for their next career move. Cash is just the beginning of what they expect.

For these generations, lifelong learning is nothing new; it’s just the way life is. Companies that can provide diverse, cutting-edge training will have a strong recruiting advantage over competitors that offer fewer opportunities to improve their skills and knowledge base.

Generations X and Millennial are well equipped for work in a high-tech world, but they have little interest in their employers’ needs. They have a powerful urge to do things their own way.

As both customers and employees, they will demand even more advanced telecommunications and Internet-based transactions.

Implications for Policing:

The younger generations’ ruthless dedication to the bottom line—their own bottom line—will bring both negatives and positives for

police departments. New recruits will be less likely to remain with the department, because they will change jobs at the first opportunity for better pay, benefits, or working conditions. However, while they remain they are likely to be dedicated to doing their jobs efficiently, cooperating with others in ways that were not natural to their Boomer seniors.

The most unfortunate aspect of the younger generations has nothing to do with tomorrow's recruits and everything to do with its opponents. The common values of Generation X and the Millennials are essentially Western, materialistic, and liberal, and young people tend to share them around the world. This is anathema to conservative, "fundamentalist" Islam. To many Muslim parents, what seem to be American values threaten the piety of their children—endanger their very souls. This perceived threat is one of the critical factors that inspires Muslim hatred of America and the West.

Expert Comments:

MORTIMER: Agencies need to change their hiring practices and marketing efforts, focusing on how these new age groups view the world.

OSBORNE: The pace of technological development will cause problems between young, tech-savvy law enforcement personnel and older officers, who generally are less comfortable with technology and are slow to adapt. In compensation, younger personnel will better understand the possibilities of current and emerging technologies, and they will be able to demonstrate real innovation in a profession that is very slow to take advantage of progress. We will learn to work smarter, not harder.

SMYRE: Understand that Millennials are motivated by the sum total of their individual experiences and must feel they have meaning for the greater good as well as meeting individual needs. This opens up new opportunities for how policing at the local level can be defined and seeded in totally new ways which will provide a win-win-win for communities and the law enforcement profession.

46. TIME IS BECOMING THE WORLD'S MOST PRECIOUS COMMODITY.

- In the United States, workers spend about 10 percent more time on the job than they did a decade ago. European executives and non-unionized workers face the same trend.
- In Britain, an Ipsos MORI study found that 32 percent of people who had not visited a museum in the previous year reported having too little time to do so. In 1999, only 6 percent had cited that reason.
- Computers, electronic communications, the Internet, and other technologies are making national and international economies much more competitive.
- In this high-pressure environment, single workers and two-income couples are increasingly desperate for any product that offers to simplify their lives or grant them a taste of luxury—and they can afford to buy it.
- China's rapid economic development means its workers also are experiencing faster-paced and time-pressured lives. In a recent survey by the Chinese news portal Sina.com, 56 percent of respondents said they felt short of time.
- Technical workers and executives in India are beginning to report the same job-related stresses, particularly when they work on U.S. and European schedules.

Assessment:

This trend is likely to grow as changing technologies add the need for lifelong study to the many commitments that compete for the average worker's time. As it matures in the United States, it is likely to survive in other parts of the world. It will not disappear until China and India reach modern post-industrial status, around 2050.

Implications:

Stress-related problems affecting employee morale and wellness will continue to grow. Companies must help employees balance their time at work with their family lives and need for leisure. This may reduce short-term profits but will aid profitability in the long run.

As time for shopping continues to evaporate, Internet and mail-order marketers will have a growing advantage over traditional stores.

That 64 percent said they were never late and were intolerant of other people's tardiness suggests a new cultural challenge to the traditional Chinese concept of a leisurely existence.

China, India, and other developing countries can expect consumer trends similar to those in the United States as workers seek out convenience foods, household help, and minor luxuries to compensate for their lack of leisure time.

Implications for Policing:

This trend has no obvious significance for policing.

Expert Comments:

LUNNEY: Time relates to productivity. Productivity improvement will be a major challenge for police executives.

MANAGEMENT TRENDS

47. MORE ENTREPRENEURS START NEW BUSINESSES EVERY YEAR.

- In the United States, about 9 percent of men and 6 percent of women are self-employed. These fractions have been growing in about two-thirds of the OECD countries.
 - Women comprise a growing proportion of the self-employed in the United States, up from about 27 percent in 1976 to 39 percent three decades later, according to the U.S. Bureau of Labor Statistics.
 - Many women are leaving traditional jobs to go home and open businesses, even as they begin a family. At least half of the estimated 10.6 million privately held firms in the United States are owned by women, employing 19.1 million people and generating \$2.46 trillion in sales annually.
- Workers under 30 would prefer to start their own company, rather than advance through the corporate ranks. Some 10 percent are actively trying to start their own businesses, three times as many as in previous generations.
 - Most simply distrust large institutions and believe that jobs cannot provide a secure economic future in a time of rapid technological change.
- For the 14 years ending in 2003, the most recent year for which data is yet available, small businesses (those with less than five hundred employees) created 92 percent of the net new jobs in the United States, according to the Census Bureau. The smallest companies, those with fewer than twenty employees, created 85 percent.
 - However, jobs also disappear fastest from small companies, which are much more likely to fail than larger concerns.

Assessment:

This is a self-perpetuating trend, as all those new service firms need other companies to handle chores outside their core business. It will remain with us for many years, not only because it suits new-generation values but because it is a rational response to an age in which jobs can never be counted on to provide a stable long-term income.

Implications:

It is driven as well by the attitudes and values of Generation X and the Millennials and by the rapid developments in technology, which create endless opportunities for new business development.

Specialty boutiques will continue to spring up on the Internet for at least the next 15 years.

This trend will help to ease the poverty of many developing countries, as it already is doing in India and China.

Implications for Policing:

To the extent that this trend expands the gap between the rich and poor in developing countries, it will erode the social fabric and make the society more vulnerable to terror-prone extremist movements. This is particularly true where there are strong conflicts between religious groups.

Expert Comments:

CONSER: We in policing underestimate the impact of a growing private security/safety industry. Also, as more and more consumers protect their own properties with private technology, policing duties will focus increasingly on protecting the poorer communities and residents.

JACKSON: Some police functions are ripe for displacement by entrepreneurs. In particular, investigative tasks could largely be outsourced. When police deliver services below the levels of expectation, those who can afford to do so will pursue private solutions.

MILLETT: I see a big potential for growth in corporate, private, and even personal security forces. Some might be so large as to become private armies. This will offer retired and semiprofessional police big opportunities for lucrative second careers.

48. INFORMATION-BASED ORGANIZATIONS ARE QUICKLY DISPLACING THE OLD COMMAND-AND-CONTROL MODEL OF MANAGEMENT.

- The typical large business has reshaped itself or is struggling to do so. Soon, it will be composed of specialists who rely on information from colleagues, customers, and headquarters to guide their actions.
- Upper management is giving fewer detailed orders to subordinates. Instead, it sets performance expectations for the organization, its parts, and its specialists and supplies the feedback necessary to determine whether results have met expectations.
- Management styles are changing as upper executives learn to consult these skilled workers on a wide variety of issues. Employees in turn are gaining new power with the authority to make decisions based on the data they develop.
- Information-based organizations require more specialists—employees who are found in operations, not at corporate headquarters. R&D, manufacturing, and marketing specialists therefore increasingly work together as a team on all stages of product development rather than keeping each stage separate and distinct.

Assessment:

This is a well-established trend. At this point, many large corporations have restructured their operations for greater flexibility, but many others still have a long way to go. This trend will continue in the United States for at least the next 15 years. The developing world

may largely bypass this step in its new organizations and go straight to networked management structures.

Implications:

This management style suits Generation Xers and Millennials well, as it tends to let them work in whatever fashion suits them so long as the job gets done.

Downsizing has spread from manufacturing industries to the service economy. Again, this process encourages the entrepreneurial trend, both to provide services for companies outsourcing their secondary functions and to provide jobs for displaced employees.

Many older workers have been eliminated in this process, depriving companies of their corporate memory. Companies have replaced them with younger workers whose experience of hard times is limited to the relatively mild recession since 2000. Many firms may discover that they need to recruit older workers to help them adapt to adversity.

This too is driving the entrepreneurial trend. Many older workers find themselves self-employed by default, as they need income and cannot find work in their accustomed fields.

Implications for Policing:

This new, small-unit business organization closely resembles the cell-style structure of traditional underground organizations. Major terrorist operations have quickly adapted it to their needs. This has made them more efficient and harder to stop.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: Changes from “command-and-control” management to more modern management methods have proven very difficult in more traditional and especially rank-based organizations, such as police forces or the military.

I suggest police forces and law enforcement agencies will be highly resistant to this trend.

FORD: There is limited evidence of this trend within police organizations. However, Compstat [a statistical analysis program that enables NYC police to identify trouble spots and send resources where they are most needed] has basically integrated information management with the police command-and-control system. It will be interesting to see how this emerging hybrid model fares.

JACKSON: IT has drastically reduced the cost of information. Some observers note a transition from information scarcity to information abundance. Over the long term, the optimal organizational size will move toward the lower limit of one. This will place additional pressure on police organizations to move away from hierarchical structures.

LIFFORD: Police field operations are based on the command-and-control model. This is becoming a lost art. If the employees cannot accept this method of operation, we will need to develop other tactics.

OSBORNE: Swift application, adaptation to, and use of new technology in progressive, non-unionized police departments and non-federal agencies will lead to a gap between agencies who can be flexible and innovative, thus more effective in new crime environments and those who are mired in bureaucracies and traditional hierarchical policing. These changes will be driven in large part by the arrival of younger officers who are more comfortable with technology than their elders and much less inclined to respect the limits of bureaucracy.

ZETTLEMOYER: The top down approach of the federal government toward the issue of homeland security will continue to lessen the involvement of local law enforcement in the homeland security effort. Since information flows from local communities, served by the local police, the result will be a severely diminished ability to gather actionable intelligence and a less secure country.

49. ORGANIZATIONS ARE SIMPLIFYING THEIR STRUCTURES AND SQUEEZING OUT PERSONNEL.

- Computers and information-management systems have stretched the manager's effective span of control from six to twenty-one subordinates. Information now flows from front-line workers to

higher management for analysis. Thus, fewer mid-level managers are needed, flattening the corporate pyramid.

- The span of control could stretch again if computer science finally delivers on its long-delayed promise of artificial intelligence.
- However, in order to preserve an effective corporate memory, many companies are finding it necessary to bring back older workers,.
- Opportunities for advancement are shrinking, because they come within the worker's narrow specialty, rather than at the broader corporate level. By 2001, only one person in fifty was promoted, compared with one in twenty in 1987.

Assessment:

In the United States, downsizing, restructuring, reorganization, and cutbacks of white-collar workers will continue at least through 2025. Its pace will slow as most organizations accomplish the necessary changes.

Implications:

A typical large business in 2015 will have fewer than half the management levels of its counterpart in 1995, and about one-third the number of managers.

Information-based organizations have to make a special effort to prepare professional specialists to become business leaders. Broad experience of the kind needed by a CEO no longer comes naturally during an executive's career.

Top managers must be computer-literate to retain their jobs and must make sure to oversee the increased spans of control that computers make possible.

Finding top managers with the broad experience needed to run a major business already has become difficult. It can only grow more so as the demand for specialization grows. This will reduce promotion

from within and encourage companies to seek upper-level execs from other firms, and even industries.

Executives increasingly will start their own companies, rather than trusting the old-fashioned corporate career path to provide advancement.

Implications for Policing:

This trend has no obvious application to policing.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: Equally, changes to reduce the number of middle-level managers in organizations such as police forces have proved difficult to implement, even in areas where there are clearly too many “chiefs” and not enough front-line “indians.”

CONSER: Restructuring in many police organizations is overdue, but is fraught with union, tradition, and control issues. Until better accountability systems and pay/reward systems are developed, restructuring (becoming flatter) of management levels is doubtful.

FORD: Police are in their way outsourcing services. They are outsourcing parking tickets to parking attendants, consolidating dispatch centers, privatizing alarm boards, closing lockups, and transporting prisoners directly to jails. This trend should accelerate.

MEYER: We do not see much delayering in police departments and other parts of the public sector. Instead, law enforcement agencies have been hiring because so many Baby Boomers will retire between ages 55 and 60.

50. GOVERNMENT REGULATIONS WILL CONTINUE TO TAKE UP A GROWING PORTION OF THE MANAGER’S TIME AND EFFORT.

- In 1996, the U.S. Congress passed regulatory reform laws intended to slow the proliferation of government regulations. Nonetheless,

by 2001 more than 14,000 new regulations were enacted. Not one proposed regulation was rejected during this period.

- In 2004, the *Federal Register*, which records regulations proposed and enacted, ran to more than 75,600 pages. To keep up with the flow, it is published daily. It has not missed a day since its first edition in 1936.
- The Brussels bureaucrats of the European Union are churning out regulations at an even faster rate, overlaying a standard regulatory structure on all the national systems of the member countries.
- The growth of regulations is not necessarily all bad. A study by the Congressional Office of Management and Budget estimated that the annual cost of major federal regulations enacted in the decade ending September 2002 amounted to between \$38 billion and \$44 billion per year. However, the estimated benefits of those regulations added up to between \$135 billion and \$218 billion annually.

Assessment:

If the future will bring an end to this trend, it is not yet in sight.

Implications:

Regulations are necessary, unavoidable, and often beneficial. Yet it is difficult not to see them as a kind of friction that slows both current business and future economic growth.

The proliferation of regulations in the developed world could give a competitive advantage to countries such as India and China, where regulations that impede investment and capital flow are being stripped away, and health, occupational safety, and environmental codes are still rudimentary or absent.

However, there is a significant penalty for the kind of risk that comes from inadequate regulation. China pays an estimated risk penalty of 6.49 percent for international borrowing. Per capita GDP, access to capital, foreign direct investment, and other measures of a country's

economic health all decline directly with a rising Opacity Index, which is heavily influenced by the lack of effective regulations to guarantee a level playing field for those doing business there. As a result, lands such as Russia will remain at a competitive disadvantage until they can pass and enforce the regulations needed to ensure a stable, fair business environment.

Implications for Policing:

This trend has no obvious application to policing.

Expert Comments:

CALLANAN: This will affect police forces and law enforcement agencies as it does other organizations. The current European Union statute book, known in EU jargon as the *acquis communautaire*, now runs to 100,000 pages.

CONSER: There will be unintended consequences in policing of the many regulations passed/created by legislative/administrative bodies. There will eventually be a backlash—non-enforcement, or ignoring them completely. Then society will become more involved in their creation and hopefully, bring some balance back to the process.

FRASER: Seventh most important trend: This will have some impact on police internal operations with bureaucracy increasing and have a greater role in stifling innovation and change. Local police agencies will be expected to play an even larger role in enforcement of a wide variety of regulations, as is happening with federal immigration law and in localities that pass their own anti-illegal immigration ordinances.

STERN: Because of the new regulations, law enforcement personnel will need in-depth training and simulation to cope with the demands being placed on them.

INSTITUTIONAL TRENDS

51. MULTINATIONAL CORPORATIONS ARE UNITING THE WORLD AND GROWING MORE EXPOSED TO ITS RISKS.

- The continuing fragmentation of the post-Cold War world has reduced the stability of some lands where government formerly could guarantee a favorable—or at least predictable—business environment. The current unrest in Iraq is one example.
- Multinational corporations that rely on indigenous workers may be hindered by the increasing number of AIDS cases in Africa and around the world. Up to 90 percent of the population in parts of sub-Saharan Africa reportedly tests positive for the HIV virus in some surveys. Thailand is almost equally stricken, and many other parts of Asia show signs that the AIDS epidemic is spreading among their populations.
- One risk now declining is the threat of sudden, extreme currency fluctuations. In Europe, at least, the adoption of the euro is making for a more stable financial environment.

Assessment:

This trend will continue for at least the next 30 years, as companies in the developing world diversify into less developed markets.

Implications:

It is becoming ever more difficult for business to be confident that decisions about plant location, marketing, and other critical issues will continue to appear wise even five years into the future. All long-term plans must include an even greater margin for risk management. This will encourage outsourcing rather than investment in offshore facilities that could be endangered by sudden changes in business conditions.

Countries that can demonstrate a significant likelihood of stability and predictable business outcomes will enjoy a strong competitive advantage over neighbors that cannot. Witness the rapid growth of investment in India now that deregulation and privatization have general political support, compared with other Asian lands where conditions are less predictable.

Although Russia has continued to attract Western investment, particularly in its energy industry, increasingly autocratic governance by the Putin regime and any successors could eventually discourage foreign companies from doing business there or require much more favorable terms to justify accepting the associated risks.

Major corporations also can help to moderate some risks in unstable countries, such as by threatening to take their business elsewhere.

Implications for Policing:

The spread of international companies to less stable, less well-defended countries provides more easy targets for terrorism and thereby raises the number of attacks and the loss of lives and money in terrorist incidents.

It also gives terrorist organizations an incentive to establish themselves in economically significant countries that otherwise might not attract their attention.

Expert Comments:

No comments were received for this trend.

52. INTERNATIONAL EXPOSURE INCLUDES A GROWING RISK OF TERRORIST ATTACK.

- State-sponsored terrorism has nearly vanished, as tougher sanctions have made it more trouble than it was worth. However, some rogue states may still provide logistical or technological support

for independent terrorist organizations when opportunities present themselves.

- Nothing will prevent small, local political organizations and special-interest groups from using terror to promote their causes. These organizations have found inspiration in the successes of Al Qaeda, and many have found common cause.
- Until recently, attacks on U.S. companies were limited to rock-throwing at the local McDonalds, occasional bombings of bank branches and of U.S.-owned pipelines in South America, and kidnappings. Since September 11, U.S.-owned hotel chains have experienced major bombings, in part because U.S. Government facilities overseas have been effectively hardened against terrorist assault.
- As the United States has been forced to recognize, the most dangerous terrorist groups are no longer motivated primarily by specific political goals, but by generalized, virulent hatred based on religion and culture.
- Terrorism has continued to grow around the world as the Iraq war proceeds, even as the rate of violence in Iraq itself has, at least temporarily, declined.
- Risks of terrorism are greatest in countries with repressive governments and large numbers of unemployed young men.
- On balance, the amount of terrorist activity in the world will continue to rise, not decline, in the next 10 years. This was seen in corrections to the State Department's April 2004 report on terrorism, which originally seemed to show a sharp drop in terrorist incidents. In fact, terrorist attacks had risen sharply since the invasion of Iraq, both in number and in severity.

Assessment:

This trend is unlikely to change in the next decade and relatively unlikely to change in the next 20 years. A permanent end to the international terrorist threat would require a broad philosophical

and cultural change in Islam that makes terrorists pariahs in their own communities. No such change is on the horizon.

Implications:

Terrorism against the West is likely to grow, not decline, when fighters trained and blooded in the Iraq war are able to turn their attention elsewhere.

Western corporations may have to devote more of their resources to self-defense, while accepting smaller-than-expected profits from operations in the developing countries.

Like the attacks on the World Trade Center and Pentagon, the American embassies in Kenya and Tanzania before them, and the bombings of the Madrid rail system and London subways since then, any attacks on major corporate facilities will be designed for maximum destruction and casualties. Bloodshed for its own sake has become a characteristic of modern terrorism.

Where terrorism is most common, countries will find it difficult to attract foreign investment, no matter how attractive their resources.

Though Islamic terrorists form only a tiny part of the Muslim community, they have a large potential for disruption throughout the region from Turkey to the Philippines.

The economies of the industrialized nations could be thrown into recession at any time by another terrorist event on the scale of 9/11. This is particularly true of the United States. The impact would be greatest if the incident discouraged travel, as the 9/11 attacks did.

The U.S. economy is being affected already by American anti-terrorism measures. Since Washington began to photograph incoming travelers and to require more extensive identification from them, tourism to the United States is off by some 30 percent. The number of foreign students coming to American universities has declined by a similar amount.

Implications for Policing:

As Western targets proliferate around the world, terrorists will strike them more often, causing more damage and more deaths. The incidents of the past few years are just the beginning of a long-term problem. This trend is first cousin to Trend 9; squeeze it into a baker's dozen of top trends as number 13.

In the absence of sufficient additional funding, antiterrorism activities and incident-oriented emergency preparations compete for budget money with conventional policing and emergency services. To the extent that they compete successfully, they are likely to degrade performance in the conventional activities. To the extent that they do not, antiterrorism and emergency preparations will suffer.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: Obviously, there are security implications here for police forces and law enforcement agencies. The private security industry could emerge as a significant employer and a significant sector of the economy.

DINE: This rates as the third most important trend for policing.

LIFFORD: With terrorism an ever-present reality, communities need to commit more money to defend against attacks upon the infrastructure. Furthermore, this can be extended to COOP planning in response to a host of natural or man-made events in case facilities or command staff are lost.

53. CONSUMERS INCREASINGLY DEMAND SOCIAL RESPONSIBILITY FROM COMPANIES AND EACH OTHER.

- Companies increasingly are being judged on how they treat the environment.
 - Many are changing their business practices as a result. For example, home-improvement retailers Home Depot and Lowe's

have stopped buying wood from countries with endangered forests.

- Safety testing of children's products also enforces corporate responsibility.
 - Several companies recently have been forced to recall toys and other products because the makers had used excessive lead paint.
 - The venerable Easy-Bake Ovens were recalled because children's hands or fingers could get caught in the door, exposing them to severe burns.
- With 5 percent of the world's population and 66 percent of the lawyers on the planet, American citizens do not hesitate to litigate if their demands are not met. Other countries, such as India and China, are beginning to see more legal actions on behalf of citizen's causes.
- In an effort to get ahead of this trend, companies are now trying to make good citizenship part of their brand. Unlike traditional "good works," this movement aims for profit and long-term corporate success, not just reputation-polishing.
 - Nike now publishes its discoveries of worker abuse by offshore suppliers. Chase, Citicorp, Goldman Sachs, and JPMorgan now consider the environmental consequences of their loans and investments. Costco offers much better benefits than its competitors—and has half the employee turnover rate as a result.
 - In addition to traditional performance measures, *Fortune* now ranks its 500 companies according to "how well they conform to socially responsible business practices."
 - In a 2005 survey of nearly 1,200 companies, 81 percent of companies—and 98 percent of large firms—said corporate citizenship is a priority; 84 percent said that being socially responsible has improved their profits.

Assessment:

This trend is well established in the industrialized world, but only beginning in the developing world. It can be expected to grow more powerful as the no-nonsense, bottom-line-oriented Generation Xers and Millennials gain influence.

Implications:

Once the current, business-friendly administration leaves Washington, government intervention will supplant deregulation in the airline industry (in the interest of safety and services), financial services (to control instability and costs), electric utilities (nuclear problems), and the chemical industry (toxic wastes).

In the United States, frequent incidents of political corruption may spread the demand for greater responsibility into the field of government and public service, although that is not yet clear.

As the Internet spreads Western attitudes throughout the world, consumers and environmental activists in other regions will find more ways to use local court systems to promote their goals. Litigation is likely to become a global risk for companies that do not make the environment a priority.

Implications for Policing:

This trend has no obvious implications for policing.

Expert Comments:

CALLANAN: Like all government agencies, police forces and law enforcement agencies can be expected to have to follow this trend.

FORD: Consumers of police services increasingly demand transparency in police dealings and accountability for the actions of police officers and forces.

SMYRE: Because blogging is creating an emerging seamless approach to ethics (if someone does something unethical, there is a good chance it will be on a blog somewhere immediately.) Have law enforcement work with youth

on new types of networking that will take the place of “clubs,” yet will serve the same function in a dynamic society. This will appeal to Millennials in the law enforcement profession.

54. ON AVERAGE, INSTITUTIONS ARE GROWING MORE TRANSPARENT IN THEIR OPERATIONS, AND MORE ACCOUNTABLE FOR THEIR MISDEEDS.

- Many different forces are promoting this change in various parts of the world.
 - In the United States, the wave of business scandals in 2004, the exposure of child abuse within the Catholic Church, and other perceived offenses by large organizations have inspired demands for greater transparency and accountability.
 - China, rated by Kurtzman Group as the most opaque of the major nations, was forced to open many of its records as a precondition for joining the World Trade Organization.
 - In India, a country often regarded as one of the world’s most corrupt, the Central Vigilance Commission has opened the country’s banking system to more effective oversight. Lesser “vigilance commissions” now oversee many parts of the Indian economy and government.
- More generally, wars against terrorism, drug trafficking, and money laundering are opening the world’s money conduits to greater scrutiny. They also are opening the operations of nongovernmental organizations that function primarily as charitable and social-service agencies but are linked to terrorism as well.

Assessment:

There are roughly as many reactions against this trend as there are governments, agencies, and individuals with something to hide. Yet, the benefits of transparency are so clear that the general decline of barriers to oversight is likely to continue until societies develop

a consensus about how much—or little—secrecy is really necessary. We give this trend at least 20 years of continued vigor.

Implications:

Countries with high levels of transparency tend to be much more stable than more opaque lands. They also tend to be much more prosperous, in part because they find it easier to attract foreign investment.

Greater transparency reduces the operational effectiveness of the world's miscreants. It impedes drug traffickers and terrorist organizations, as well as dishonest governments and corrupt bureaucrats.

Implications for Policing:

Greater transparency in policing will reduce the friction between both officers and departments and the communities they serve. It may be the only factor apart from community policing that is capable of reducing the suspicion with which police are viewed by immigrants from countries with repressive governments and traditionally corrupt officials. Make this first runner-up to our baker's dozen of significant trends, the 14th most important trend.

Demands for greater transparency in security operations could impair the efficiency of antiterrorist efforts, according to some observers. However, it is not at all clear that such suggestions are well grounded.

Expert Comments:

BUCHANAN: This is one of the dozen most significant trends for policing.

CALLANAN: While corporate scandals are driving greater transparency in government, private companies, and NGOs, globalization and the freeing up of the movement of capital is a countervailing trend. Freer movement of capital has made law enforcement more difficult in areas such as money laundering and tax evasion.

FRASER: Fourth most significant trend: Demands for police accountability will dramatically increase. Most agencies will have civilian review boards, and chiefs and sheriffs will turn over at a greater rate because of pressure related to misconduct by officers and deputies. Law enforcement organizations will spend increasing amounts of their resources on internal inspections and audits, internal affairs, integrity testing, and training.

JACKSON: Many in policing are agitating for greater transparency between the department and the public and between command and the line.

LUNNEY: Transparency of operation will be a major influence on how police managers go about their business and how information is shared with the public. Chiefs will be increasingly accountable.

OSBORNE: As data becomes digitized in the various criminal justice systems and it becomes easier to study the larger system, the intersections and processes of different elements of the system will become more transparent. Inefficiencies, inequities, and incompetence will become apparent, and demands for reform will lead to significant changes. Criminal justice education and training will be revised with a focus on learning from the system and devising new ways to address crime and disorder.

55. INSTITUTIONS ARE UNDERGOING A BIMODAL DISTRIBUTION:

THE BIG GET BIGGER, THE SMALL SURVIVE, AND THE MID-SIZED ARE SQUEEZED OUT.

- Economies of scale enable the largest companies to win out over mid-sized competitors, while “boutique” operations can take advantage of niches too small to be efficiently tapped by larger firms.
- By 2012, there will be only five giant automobile firms. Production and assembly will be centered in Korea, Italy, and Latin America.
- The six largest airlines in the United States today control 65 percent of the domestic market, leaving roughly one-third to be divided among many smaller carriers. Many of these are no-frills carriers with limited service on a few routes where demand is high or competition is unusually low.

- Where local regulations allow, mergers and acquisitions are an international game. Witness the takeovers of the U.S. company MCI by WorldCom in the United Kingdom, of IBM's personal computing division by China's Lenovo, and of Chrysler—temporarily—by Daimler-Benz. The continuing removal of trade barriers among EU nations will keep this trend active for at least the next decade.
- We are now well into the second decade of micro-segmentation, as more and more highly specialized businesses and entrepreneurs search for narrower niches. These small firms will prosper, even as mid-sized, “plain vanilla” competitors die out. This trend extends to nearly every endeavor, from retail to agriculture.
- "Boutique" businesses that provide entertainment, financial planning, and preventive medical care for aging baby boomers will be among the fastest-growing segments of the U.S. economy.

Assessment:

Thanks in part to technology, this trend is likely to be a permanent feature of the business scene from now on.

Implications:

No company is too large to be a takeover target if it dominates a profitable market or has other features attractive to profit-hungry investors. No niche is too small to attract and support at least one or two boutique operations.

Thus far, industries dominated by small, regional, often family-owned companies have been relatively exempt from the consolidation now transforming many other businesses. Takeovers are likely even in these industries in the next decade.

This consolidation will extend increasingly to Internet-based businesses, where well-financed companies are trying to absorb or out-compete tiny online start-ups, much as they have done in the brick-and-mortar world.

However, niche markets will continue to encourage the creation of new businesses. In Europe as of 2006, no fewer than forty-eight small, no-frills airlines in twenty-two countries had sprung up to capture about 28 percent of the continental market share. Only fifteen offered more than fifty flights per day.

Implications for Policing:

This trend has no clear applications to policing.

Expert Comments:

FORD: Some consolidation of police services can be expected. However, unless there are major economic problems to drive this trend, this will be a relatively slow process.

FRASER: Tenth most important trend: Trends toward mergers and consolidation of police departments will accelerate. Large regional police department will become more remote from the people they serve and take on aspects of small regional armies.

OSBORNE: As communities are faced with increasingly limited resources to meet taxpayers' needs, the one-person and small police departments will be incorporated into other entities. Regional police and other modes of policing, including privatization will emerge. Data gathering requirements for intelligence led policing may require a system wherein commanders and analysts are regionalized while ground troop officers are localized.

CONCLUSIONS

“The 21st century is when it all changes, and you’ve got to be ready!” one television program declares as part of the introductory sales pitch repeated at the beginning of each episode. Although the program is science fiction, the observation probably will turn out to be simple fact. The transformation of the world between 1900 and 2000 is likely to seem astonishingly small when reviewed after the century of change we recently began.

There is no way to anticipate how policing will evolve over that century, and that may be just as well. The changes we can foresee in the next decade or so are enough for anyone to deal with. This is especially true of policing. Many of the most important changes in the years ahead will require responses from the law enforcement community, and many of those adaptations may be difficult for institutions as conservative by nature and inclination as police agencies—and as dependent on public funds.

As we have seen throughout this report, a variety of forces will affect policing. These include new technologies, demographic changes, evolving values, and continuing concerns over the threat of terrorism.

The obvious benefits for policing all come from a single source. As we have seen, technology will make law enforcement both more efficient and more demanding. In the near future; officers will gain access to a wealth of information unavailable even today. This will include still and video images of most urban areas in the country. At first, these will be useful mostly for forensic reconstruction of crimes, but artificial intelligence systems eventually will be able to analyze the images in real time and notify their human colleagues of crimes in progress. At the same time, these and other automated systems will take over much of the traditional traffic-enforcement role, freeing personnel for other duties. Police agencies also will have virtually unrestricted access to the Internet, to national and international criminal databases, and to all manner of computerized data with little delay and much fewer privacy restrictions than they traditionally have faced. All this

will make it easier to ensure public safety and respond effectively to all manner of crime.

However, this new efficiency will come at a cost. In fact, there will be more than one price to pay. For example, criminals also will have access to some high-tech tools. The most important may be virtually unbreakable cryptography, which will make business records impossible to read and telephone calls and e-mail impossible to tap. Only amateurs will leave documentary evidence of their crimes.

At the same time, having near universal surveillance may be uncomfortable for some departments whose personnel are accustomed to relative autonomy. We all have seen too many incidents in which police misconduct has been caught on the cellphone camera of a passerby. In the future, these misdeeds also will be caught on urban video surveillance systems. In a time when society is holding government more accountable for its actions, and when some people are angered by the loss of traditional privacy, this automatic oversight is likely to result in more prosecutions for undue force and other infractions that might once have gone unchallenged. This can only be rated a net positive if the threat of observation improves the professionalism of some departments.

Other changes coming to law enforcement will result from a combination of trends in society. These include new demands for service, staffing problems, and—inevitably—tighter budgets.

As the American population changes, growing both older and more diverse, police and related agencies will see more of the familiar demands for help with problems that beset the aged. These include fraud, elder abuse, robbery, and random violence. However, less familiar problems also will proliferate. We already have seen the consequences of immigration, both legal and undocumented, from Latin America in the conflicting demands of community policing and border enforcement. Many more such problems lie ahead.

Some of the thorniest of these problems will arrive from the Middle East. Immigration from Muslim lands will bring activities that are customs in some countries but crimes here. Urban departments

especially can expect to deal with cases of forced marriage, female genital mutilation, and the occasional murder of women for infidelity or premarital sex. In a country still suffering from shock after the 9/11 attacks, but also faced with the real threat of future terrorism, the spread of Islam—the fastest growing religion in the United States—will require police to build close ties with unfamiliar, and even suspect, communities. This will be an uncommonly delicate task for a profession that has not always been known for delicacy.

Yet, some of the most difficult challenges are likely to appear in the most mundane areas, such as staffing. The new, high-tech policing will make much greater demands on the officer's basic education and professional training. So will the growing need for skill with foreign languages and cultures. Personnel capable of mastering the necessary skills will be in demand from private industry, which is likely to offer better pay and less stressful working conditions. This can only drive up the cost of hiring and training law enforcement personnel. It also may encourage departments to share their specialists and to outsource some duties to consultants or private companies, even where sworn officers are required. These changes will be even more difficult for departments whose jurisdictions are gaining population and thus require more officers.

At the same time, the ongoing operations in Afghanistan and Iraq show no sign of ending. This means that the military will continue to compete for recruitment-age young men who otherwise might choose a career in law enforcement. This problem can only grow more severe if proposals to attack Iran, and even Syria, are carried out. The Army already has been forced to relax its standards and to offer substantial enlistment bonuses in order to recruit enough manpower. Law enforcement would find it difficult to make similar adjustments.

Not only are recruits likely to be harder to attract, they will be different from those of previous generations. Generations X and Y and the Millennials display a number of uncomfortable characteristics that grow more powerful with each cohort. These include a mistrust of authority that the Boomers abandoned as soon as they gained authority themselves; a laudable, but often ruthless, determination to accomplish whatever job they take on; an absolute commitment to their own

bottom line, combined with a basic lack of loyalty to their employers; and unrestrained acceptance of diversity in all things. Motivating and retaining such recruits will not be easy.

Nor will accepting the practical changes that these values imply. More recruits are likely to be in committed relationships outside marriage and to expect spousal benefits for their partners. More will demand leave for new fatherhood. More will be openly gay. These and many other changes will be difficult for fundamentally conservative institutions to accept. Yet it will be necessary to adjust to them in the next decade.

Finally, new technology, better pay and benefits, and new duties all cost money, and this is one more resource that will be hard to come by. In a period of tight public budgets, law enforcement agencies will be forced to compete for funding with many other government services, including the military. This will make it difficult to obtain new equipment or take on new functions when they are needed. Police departments and ancillary agencies will find themselves continually playing catch-up with the demands placed on them. But this, at least, is one aspect of the future that most will find all too familiar.

These are just a few of the challenges that today's trends are preparing for tomorrow's law enforcement agencies. However, we believe that these forces—technology, demographics, and changing values—will be the three most important facing the police community in the near future.

To help cope with the coming changes, police forces and other law enforcement agencies will have to prepare well. At least three specific measures seem likely to help:

1. Develop contingency plans to take advantage of funding and authorities that are currently unavailable but could become available after a major terrorist attack or a natural disaster. Improving emergency communications is one obvious use for such a future budget windfall.
2. Partner with societies that already cope with the problems the United States could face in the future. Israeli law

enforcement has more experience with modern terrorism than anyone else in the world. Any big-city police force would benefit from joint planning sessions, exercises, training, and rotations with their counterparts in Jerusalem or Tel Aviv. There is ample precedent in U.S. military exercises with American allies.

3. Plan for tomorrow's retirees—this may be the most pressing need. Future pension and medical needs already are well understood, but the opportunities represented by former officers may not be. How can retirees be used as auxiliaries, paid or unpaid, in an emergency response force? What skills can each individual provide when they are needed? (These would have to be catalogued on a regional or national basis, because retirees so often move away from their home territory.) What could retirees in other fields offer? Would retired dentists or accountants attend a weekend or summer training program, as reserves do, and devote some of their time to identifying corpses or puzzling out financial crimes? This would have the added benefit of making the public more aware of the risks of policing, so politicians might be more comfortable proposing needed budget increases or other improvements while facing re-election.

These are, of course, just a few of the most critical preparations for the years ahead. The world of policing ten years forward will be even more complicated and demanding than it is today, with many more changes still to come. Almost any community will present specific needs to be planned for, and sometimes events will present urgent requirements that no one anticipated.

All this reminds us of the apocryphal Chinese curse, "May you live in interesting times." The years ahead will be interesting times for the nation's public safety agencies. But if law enforcement can successfully anticipate even some of the challenges ahead, it will be much more efficient and effective and much better attuned to the needs of the public they serve.

