

Policing 2020:

Exploring the Future of Crime,
Communities, and Policing

Joseph A. Schafer, Ed.



A Word from the Chairman

The Futures Working Group (FWG) was created in the winter of 2002. The hearts and minds of many worked to establish this but perhaps no one was as energetic and passionate about this as the former Chairman of the FWG and now retired Supervisory Special Agent Carl J. Jensen, III. Much of what I have to offer to both the FWG and to the world of futurists comes from the privilege of working with Dr. Jensen for almost 10 years. As such, much of the introduction to this latest product of the FWG can be found in the previous words of Chairman Jensen (see e.g. Homeland Security 2015). Under his guidance, the FWG has been very successful in its effort to examine the pressing issues confronting the future of law enforcement. In addition to regular meetings of this group, several articles, at least two books, numerous training events, and many conference appearances devoted to the topic of futures have resulted. Through these efforts, the FWG has continually examined what futurists term the “possible, probable, and preferable” futures. As I attempt to fill the shoes of the previous chairman and begin my tenure as Chairman of the FWG, I have but one singular mission: to further the efforts of the FWG in promoting the notion that by examining future possibilities we may be able to “create” the future rather than simply waiting for it to unfold.

The present volume was inspired by the many activities of the Futures Working Group and found its roots in the numerous discussions, white papers, and thought-provoking works that the FWG has produced since its creation at the beginning of the second millennium. Its aim is to examine social, economic, political, and cultural changes and their influences on the state of police operations and agencies that are pertinent to the future of policing. While the title suggests the time frame of 2020 as a reference point, many works contained herein are not as much predictions of events tied to this time frame but analysis of trends and patterns that likely will play a role in the future of policing by 2020.

Given the state of the world and the policing profession in early 2007, we could not have envisioned a timelier topic than that of policing in the year 2020. To be sure, much has been written about policing; however, little has concerned itself with the future of this vocation. As you will see in this volume, it is clear that many possible futures exist in regard to this very important area. This volume is an attempt to consider some of them and, further, to articulate strategies to bring about the best of all possible futures.

As you read the works contained herein remember that the goal of futurists is to inspire thought and provocative ideas that these works encourage. These arguments may both challenge your consciousness and confirm your sensibilities pertaining to the future of policing. Some of these notions may also incense you. Contemplating our future often yields these outcomes. Examining new, yet challenging, ideas often brings forth such passions. In the end, you may agree with some perspectives offered and disagree with others. You may feel somewhat unnerved by what has been written. This is expected and characteristic of much of what futurists have to offer. As similarly expressed in prior FWG volumes: “Ultimately, our fervent desire is that this work will motivate you to devise ways to create your own preferred future.” By doing so, we hope that not only you, but also the communities agencies you serve, will benefit from the exercise of considering the future of law enforcement.

John P. Jarvis, Ph.D.
Senior Scientist
Behavioral Science Unit, FBI Academy
Chairman, Futures Working Group

Quantico, Virginia
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The opinions and statements contained in this volume are those of the individual authors and should not be considered an endorsement by the FBI or the Department of Justice for any policy, program or service.

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Communities, and Policing

Edited by Joseph A. Schafer

To Ellie & Andrew
For whom the future holds unlimited promise.

To Harjit Sidhu
7/22/74 – 12/02/86
Whose future was tragically stolen.

And to Shelby
My past, present, and future.

Policing 2020: Exploring the Future of Crime, Communities, and Policing

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This book would not have been possible without the many efforts of Supervisory Special Agent Dr. Carl Jensen III (Federal Bureau of Investigation) and Dr. Bernard “Bud” Levin (Blue Ridge Community College and Waynesboro, VA, Police Department). In the summer of 2004, I received a call from Carl and Bud asking me to help bring a “little” project to fruition. Over the past two years, they have provided invaluable insight, guidance, support, and advocacy for this project. Without their vision and hard work, you would not be reading this book. They deserve much of the credit, but none of the blame, for the book’s contents. Carl and Bud have done much to advance futures research in policing and have served as the fearless leaders of the Futures Working Group. I know I speak for my fellow “FWGers” when I thank them for all they have done on our behalf. Further thanks to Dr. John Jarvis (Federal Bureau of Investigation) for patiently and skillfully stewarding this project through the editorial and production processes.

Policing 2020 is largely a product of Police Futurists International (PFI) and the Futures Working Group (FWG), a collaborative partnership between PFI and the Federal Bureau of Investigation. PFI was created in 1991 after a decade of work and visionary

leadership. Founded by then-Supervisory Special Agent Dr. William Tafoya (FBI), PFI was established to advance the study of how future issues will impact on policing. In the spring of 2002, PFI signed a Memorandum of Understanding with the FBI to create the Futures Working Group. The mission of the FWG is “to develop and encourage others to develop forecasts and strategies to ethically maximize the effectiveness of local, state, federal, and international law enforcement bodies as they strive to maintain peace and security in the 21st century.” As a part of that mission, FWG seeks to create and disseminate knowledge that will enhance the future development of policing. This book is one example of such efforts. My thanks to the FBI for supporting FWG by agreeing to publish this text.

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Dr. Sandy Boyd, College of Marin†
Dr. Susan Braunstein, Barry University
Thomas Cowper, police executive †
Dr. Chuck Cychosz, Ames (IA) Police Department
Dr. Stephen Hennessey, St. Cloud State University*
Dr. Sameer Hinduja, Florida Atlantic University
Dr. Beth Huebner, University of Missouri- St. Louis
Lt. Geoff Huff, Ames (IA) Police Department
Dr. John Jarvis, Federal Bureau of Investigation and Futures Working Group chair†
Supervisory Special Agent Dr. Carl Jensen III, Federal Bureau of Investigation and
past Futures Working Group chair†
Stephanie Kennerley, Federal Bureau of Investigation
Capt. Gerald Konkler, Tulsa (OK) Police Department (Ret.)* †
Dr. Brandon Kooi, Lakeland College
Dr. Bernard Levin, Blue Ridge Community College, Waynesboro (VA) Police
Department, and Futures Working Group vice-chair†
Merle Manzi, Florida Department of Law Enforcement (Ret.)
Thomas J. Martinelli, Ferris State University
Chief Alberto Melis, Waco (TX) Police Department†
Assistant Commissioner R. Earl Moulton, Royal Canadian Mounted Police (Ret.)
Chief Richard Myers, Appleton (WI) Police Department*†
Dr. Andreas “Olli” Olligschlaeger, TruNorth Data Systems†
Dr. Justin Patchin, University of Wisconsin- Eau Claire
Chief Alicia Powers, Hercules (CA) Police Department (Ret.)*
Jeri Roberts, Federal Bureau of Investigation
Chief Todd Sigler, Southern Illinois University Police Department
Dr. William Tafoya, Federal Bureau of Investigation (Ret.) & University of New Haven
Dr. Sean Varano, Northeastern University
Division Chief Al Youngs, Lakewood (CO) Police Department (Ret.)* †

* Past-president, Society of Police Futurists International

† Member, Futures Working Group

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A Note on Internet Resources and Products Mentioned

Chapter contributors have drawn upon a wide range of information to develop and support their work. This includes the use of resources available on the internet. Web addresses (URLs) are found in many reference lists. These addresses were current at the time contributors finalized their chapters. The dynamic nature of the internet means that, unfortunately, some sources will not be found at the listed URL.

Some chapters also make reference to specific companies and their products. In all instances, these references are provided purely for illustrative purposes. The inclusion or omission of a specific company or product does not constitute an implicit or explicit endorsement by the authors, editor, publisher, or the U.S. Department of Justice.

ABOUT THE AUTHORS

Alan Beckley is an expert in corporate governance, ethics, risk and contingency planning in the police service, and comparative legal and policing studies. He served over 30 years as a police officer in the UK, retiring at the rank of Chief Inspector. Alan has published widely on topics including emergency planning, police ethics, human rights, and police liability. He is the Managing Editor of two quarterly professional journals—*Police Research & Management* and *Professional Consultancy*. Alan has a Master of Science in Educational Management and Leadership (MSc. Ed., University College Worcester) and a Master of Laws (LLM, Wolverhampton University).

Sandy Boyd is Professor of Administration of Justice at College of Marin in Kentfield, California. Dr. Boyd is also adjunct faculty for Excelsior College, teaching undergraduate Criminal Justice, Psychology and Sociology. For Capella University, Dr. Boyd teaches in the doctoral program in Education. Dr. Boyd is a member of Police Futurist International and the Futures Working Group.

George Burruss is Assistant Professor in the Center for the Study of Crime, Delinquency, and Corrections at Southern Illinois University Carbondale. He received his Ph.D. in criminology and criminal justice from the University of Missouri-St. Louis. He has conducted research on the legal representation of juveniles, policing and security at the 1996 Atlanta Olympic Games, police gun-seizure programs, and policing reform in Northern Ireland. Currently, he is researching the impact of offender treatment programs. Before getting his graduate degree, Dr. Burruss served as a criminal investigator with the Office of the Missouri Attorney General. He investigated cases involving consumer fraud, antitrust, and public corruption. He has published in *Justice Quarterly*, *Policing*, and the *Journal of Criminal Justice*.

Susan Braunstein is Associate Professor of Communications at Barry University, Miami, Florida, and is the Regional Vice President, Southern Region, of the International Association of Chiefs of Police Public Information Officers Section. She is a former journalist who writes, lectures, and consults on organizational communications. In addition to newspaper and radio journalism, her other writing credits include books, articles and films. In work specifically related to law enforcement, she has authored textbook chapters and numerous articles in law enforcement publications. She is the editor of *Best Practices in Law Enforcement Public Information* published by the International Association of Chiefs of Police (Alexandria, VA: 2005).

Michael E. Buerger is Associate Professor of Criminal Justice at Bowling Green State University in northwest Ohio. He has been a municipal police officer in New Hampshire and Vermont, and directed police research projects in Minneapolis and New Jersey. Dr. Buerger is a member of the Futures Working Group.

Jeffrey M. Cancino is Assistant Professor of Criminal Justice at Texas State University-San Marcos. His research interests include police culture and violence, data driven policing, social disorganization theory, homicide, and Latino studies. He has worked

with members from the San Antonio Police Department's Strategic Analysis and Mapping Unit. Recent publications have appeared in *Policing: An International Journal of Police Strategies and Management*, *Criminal Justice Policy Review*, and *American Journal of Criminal Justice*.

James Conser is Faculty Emeritus for the Criminal Justice Department at Youngstown State University in Youngstown, Ohio. He has held academic and university administrative positions at since 1974. During a leave of absence, he was appointed by the Ohio Attorney General to serve as Assistant Executive Director of the Ohio Peace Officer Training Commission (from January of 1999 through December of 2002). He then he returned to YSU to resume his instructional duties with the Criminal Justice Department. Dr. Conser earned a Baccalaureate degree in Law Enforcement Administration from Youngstown State University, a M.S. degree in Criminal Justice from Michigan State University, and the degree of Ph.D. in Higher Education Administration from Kent State University. Additionally, Dr. Conser is a Certified Protection Professional, awarded through ASIS. He is also a co-author of textbooks entitled *Law Enforcement in the United States, 2nd Edition* (2005) and *Police Personnel Systems* (1983) as well as numerous articles and professional presentations. Furthermore, he is a lifetime member of the Police Futurist International and the National Academy of Criminal Justice Sciences as well as a member of ASIS International, the World Futures Society, the Ohio Criminal Justice Education Association and the Midwest Criminal Justice Association.

Thomas J. Cowper is a 23-year law enforcement veteran who has held various patrol, administrative, training, management, and executive positions within his agency. Since 1995 he has been involved with technology procurements for law enforcement and the management of public safety radio system programs in his state. He is a member of the Futures Working Group. He is a graduate of the FBI National Academy, has a BS in Mechanical Engineering Technology from LeTourneau University, and a master's degree in Public Administration from Marist College. He speaks and writes extensively on issues concerning technology and its impact on law enforcement and government.

Roger Enriquez received his J.D. from the University of Iowa and is currently Assistant Professor of Criminal Justice at the University of Texas-San Antonio. He has extensive experience representing defendants in criminal proceedings. Mr. Enriquez research agenda includes emerging police technology and its impact on privacy. Mr. Enriquez has worked with the Minnesota Public Defender's Office and has received special appointment to provide assistance to indigent clients in Bexar County, Texas. Recent publications have appeared in *Policing: An International Journal of Police Strategies and Management* and the *Journal of Gender, Race, and Justice*.

Gordon Frissora is Assistant Professor of Criminal Justice at Youngstown State University in Youngstown, Ohio. He was a former Teaching Fellow in the Sociology Department at Kent State University. Dr. Frissora earned a Baccalaureate of Arts degree in Law Enforcement from Mercyhurst College, a M.S. degree in Criminal Justice

Administration from Youngstown State University, and a Ph.D. in Sociology from Kent State University, where he was awarded the Dissertation of the Year. He is a retired police officer and was certified as a Crime Prevention Program Specialist by the Commonwealth of Pennsylvania. His research interests include futuristics, technology aided crime, policing, and comparative analysis. He is the author of several papers and is a member of the Academy of Criminal Justice Sciences.

James Glass is Manager of the San Antonio Police Department Strategic Analysis and Mapping Unit. He has worked within the SAPD for over five years overseeing the development of their crime mapping and analysis programs. Prior to working with the SAPD Mr. Glass worked for 9 years with the Illinois State Police in Springfield, Illinois. Mr. Glass is a graduate of the University of Illinois at Springfield. Mr. Glass is also President of the Texas Association of Crime and Intelligence Analysts.

Carl Jensen is a Supervisory Special Agent currently assigned to the FBI's Behavioral Science Unit. In addition, he is the Chairman of the Futures Working Group, a collaboration between the FBI and the Society of Police Futurist International. In his career with the FBI, Dr. Jensen has served as a field agent in the Atlanta and Youngstown, Ohio, offices and as a Forensic Examiner in the FBI Laboratory. Prior to joining the Bureau in 1984, he served in the Weapons Department aboard a nuclear fleet ballistic missile submarine.

William R. King received his Ph.D. in 1998 from the University of Cincinnati, Division of Criminal Justice and is Associate Professor of Criminal Justice at Bowling Green State University in Ohio. His research focuses on applying organizational theories (particularly life course theory) to the study of police organizations, and understanding discretionary decision-making by criminal justice actors. Professor King is currently examining the organizational capacity of the criminal justice system in Trinidad and Tobago to process physical evidence in violent crime cases.

Bernard Levin is department head/psychology at Blue Ridge Community College. He has worked in laboratory, law enforcement, correctional and other organizational settings, and has led a variety of professional and civic organizations. At present, he is director, research and development, of the Society of Police Futurist International and vice chairman of the Futures Working Group. He also serves as visiting scholar at the FBI Academy and is commander, policy and planning, at the Waynesboro Virginia Police Department.

Edward Maguire is Associate Professor of Administration of Justice at George Mason University. He received his Ph.D. in Criminal Justice from SUNY Albany, and he has held previous academic and research positions at the University of Nebraska, the Office of Community Oriented Policing Services, and the United Nations. His primary professional interest is testing organizational theories in police agencies. He is currently working on a number of projects, including a comprehensive reform effort designed to reduce violent crime in the nation of Trinidad and Tobago.

Richard W. Myers is Chief of Police for the Colorado Springs (CO) Police Department. He has previously served as police chief for communities in Wisconsin, suburban Chicago and his native state of Michigan. He began his career in policing in 1977 and has held varying appointments, such as police officer, deputy sheriff, public safety officer (police and fire), and Medical Examiner Investigator. Myers is a graduate of Michigan State University (BA and MA), the FBI National Academy (156th Session, 1989), and the FBI LEEDS Seminar (26th Session, 1992). His leadership experiences include past Presidencies of the Wisconsin Chiefs of Police Association, the Society of Police Futurist International (PFI), and the Wisconsin Police Executive Group. Myers was a Charter Member of PFI, as well as an original member of the Futures Working Group.

Joseph Schafer is Associate Professor in the Center for the Study of Crime, Delinquency, and Corrections at Southern Illinois University Carbondale. He is a graduate of the University of Northern Iowa and Michigan State University. Dr. Schafer is actively involved in researching police organizations, police behavior, and police operations. He is the author of *Community Policing: The Challenges of Successful Organizational Change* (LFB Scholarly: 2001). Dr. Schafer is President of Police Futurist International and a member of the Futures Working Group.

Sean Varano is Assistant Professor in the College of Criminal Justice at Northeastern University. His research interests include juvenile justice policy, homicide reduction strategies, and aspects of technology in the criminal justice system. Dr. Varano previously worked for the Office for Domestic Preparedness where he served as a member of a research team evaluating security efforts at the Salt Lake City Winter Olympic Games in 2002. His recent publications involve exploring changing characteristics of homicide events and gang suppression strategies in Detroit, Michigan. Dr. Varano is currently working with the U.S. Attorney's Office, Massachusetts District on Project Safe Neighborhoods, a federally funded research initiative focused on firearm reduction strategies.

Alan Youngs is a former division chief of the Lakewood, CO police department, where he served for 33 years. He is currently a practicing attorney and a law enforcement and security consultant residing in Colorado. He is past-president of Police Futurist International and a member of the Futures Working Group.

Chapter One

THINKING ABOUT THE FUTURE OF POLICING¹

Joseph A. Schafer

“The purpose of futures studies is not to know the future but to make better decisions today.”

- Jerome C. Glenn

Introduction to the Futures Research Methodology Series, 1994

Anticipating the future is a challenging process. The very nature of forecasting involves a certain risk of error. Consider weather forecasts. How often do you dress in preparation for one type of weather, only to be ill-prepared for the actual conditions? We carry an umbrella that we do not use. We wear shorts, when we need a parka. We wear snowshoes, when we need sandals. The accuracy of weather predictions also tends to diminish as they seek to look further into the future. On Monday the weekend forecast looks gorgeous, so we plan a three-day weekend hoping to enjoy the weather, engage in recreation, and catch up on yard work. In the end, we spend the weekend inside, avoiding the undesirable conditions. It is common folklore to joke about the inaccuracy of weather forecasts and meteorologist are the targets of much derision. In reality, however, weather forecasts tend to be fairly accurate; we lose sight of this fact all too often, focusing on their errors and mistakes.

Similar observations can be made about the subject of this book, forecasting the future of issues influencing policing in 2020. Weather conditions are the result of a complex mix of circumstances; a change in any one circumstance can modify our

¹ Thanks to Dr. William Tafoya for his helpful comments and ideas for further developing this chapter.

expectations of future conditions. Analogously, the structure and practice of policing are shaped by the complex convergence of social, economic, cultural, political, and legal forces. The accuracy of forecasts and predictions made in 2000 were radically modified by the 9/11 terrorist attacks. Many forecasts, predictions, and ideas discussed in this volume will be correct; others will be wrong, either because unanticipated forces emerged or because expected forces did not materialize in the expected manner. Further, a proportion of the prediction errors made by the authors are inaccurate estimates of timing, not of change. Some anticipated events may not occur by 2020, but they will emerge at some point.

Having made these observations, why bother studying the future of a dynamic enterprise such as policing? If error cannot be avoided, is the process of seeking to better understand the future worth the effort? Authors who have contributed to this volume would argue that studying the future is a worthwhile and vitally important process, despite the risk of error. Although we know they involve a measure of inaccuracy, most of us routinely observe the weather forecast in planning our activities and adornments. Likewise, when properly prepared, forecasts for the future of policing will, more often than not, lead us to take appropriate actions and make needed decisions. The issues considered in this book have tremendous implications for the future of policing: the problems agencies will confront; the communities they will serve; the personnel they will employ; the structures and techniques they will use to police; and, the efficacy of police interventions and efforts. These translate into matters that shape the future health and safety of communities.

This chapter provides a brief overview of the process of developing forecasts and assessments of the future. Although limited in scope, this overview will help readers understand how the authors developed their visions and forecasts of the future. With some caution, I also discuss the barriers to futures thinking in policing. There are a number of good reasons why police leaders and organizations have historically done a poor job preparing for the future. At the same time, leaders may use these forces as a “crutch” to legitimize inaction and inattention. Additionally, the chapter provides a short review of the goals, vision, and content of the book.

STUDYING THE FUTURE

At the onset, it is important to note that studying the future is not merely a process designed to forecast future events (the probable future). Futures research also seeks to identify a range of events and circumstances that could occur (the possible) and to make choices about events we hope will occur (the preferable). This book contains information about all three forms of futures. First, authors seek to explain the range of events and forces that might possibly influence the future of policing. Second, the authors seek to explain those events and forces that seem most likely to emerge. Third, the authors attempt to describe the opportunities the field of policing has to shape its own destiny. As reflected in the Jerome Glenn quote at the beginning of the chapter, these latter dimensions are important reasons for studying the future. Individuals and organizations are not relegated to passively await the arrival of a pre-defined future; they have the ability to identify the future they would like to see and to work toward bringing that vision

to fruition. We know change is inevitable; rather than being *resisted*, Futurists believe change should be *embraced* (Tafoya 2006).

The distinctions between possible, probable, and preferable futures are quite important. These are not mutual exclusive categories²; futures research often seeks to identify multiple futures within a given area of consideration (i.e., policing). What these categories tell us is that we should not approach futures research solely with the intent of understanding “what’s going to happen.” Futures research seeks to answer this important question, but it also seeks to consider *how we can shape* what is going to happen. This provides us with a much more dynamic view of the future and our ability to shape its direction. The future is not a static, pre-ordained state; there are many possible futures (Masini 1993) and many ways in which police leaders can act to influence the future of their organization and community.

The future always contains an element of uncertainty (Bell 1997); we can make forecasts but we are never perfectly correct. We must not think of future studies as an effort to accurately forecast what will be; rather, it is a process of considering what is probable and examining the changes we should make to deal with those probabilities. For example, George Burruss provides an excellent chapter on studying the future of crime. He suggests that we should think not about what will happen, but what is likely to occur and how confident we are in those forecasts. We should not lock ourselves into a

² Alvin Toffler’s innovative book *Third Wave* (1980) uses the metaphor of ocean waves to explain the complexity of forecasting the future. As one stands on the beach and watches the ocean, it is difficult to determine where and when a given wave begins and ends. Waves overlap, merge, and separate; as one wave is receding back into the ocean, another is crashing over its top and onto the beach. Future trends function in a similar manner, complicating the task of forecasting. Different trends may overlap, converge, diverge, and work against each other. Trends are not discrete; they are difficult to view in isolation. A wave that begins on the horizon may look very different when it finally reaches the shore. Likewise, the timing and nature of a trend we forecast for the future may look very different upon its actual arrival (if it is not subsumed by some other trend).

single response based on the assumption that our forecast is correct. Rather, we should consider what is probable and what contingencies should be in place.

In the summer of 2005, would anyone have realistically forecast that on August 29, New Orleans would be the target of a devastating and deadly hurricane that would compromise the community's man-made protective systems? Such a detailed forecast would be improbable before a specific storm threat was identified. In the aftermath of Hurricane Katrina, however, we have heard about forecasts scientists have been making for years. These forecasts and assessments suggested New Orleans was a highly vulnerable metropolis and that its existing hurricane defense systems were insufficient to withstand storms above a certain magnitude.

There are many parallels between the Hurricane Katrina experience and future studies. Our objective should not be to forecast exactly where hurricanes will strike in a given year. There are too many variables and too much randomization to make such forecasts.³ Instead, our objective should be to identify vulnerable areas, to study systems that will protect life and property, and to plan how various systems will react if a hurricane threatens and affects a given region. Parallels can be drawn to future studies in policing. If our objective is to forecast our future crime rate, budget, staffing level, or resource demands, the likelihood of error increases the further we look into the future. Instead, our focus should be three-fold. First, we should seek to understand the trends

³ Although our forecast accuracy, of course, improves as a developed storm nears land. As we compress the future we seek to understand, our abilities are often enhanced because trends are more obvious and are less likely to significantly change direction. It is harder to forecast the timing and nature of a wave viewed on the distant horizon; accuracy is likely greater if the wave is close to shore. Ocean waves are the result of a complex mix of tides, currents, natural influences, and human-made forces; some are visible to the naked eye standing on the beach, while others occur under the surface of the water. Likewise, the future is the result of a complex mix of forces and factors. Forecasts attempt to account for known and anticipated influences, but we are ultimately limited in our capacity to assess the unknown, as well as the complexity of inter-relationships between forces (Tafuya 2006).

and forces that could influence police officers, organizations, administration, and the communities we serve. Second, we should attempt to determine which of these trends and forces are more likely to occur. Doing this allows us to develop well-planned, proactive responses, rather than waiting for the future to arrive and rushing to react to circumstances and situations that we could have foreseen. Third, we should attempt to identify the future we would like to bring to fruition. This is the pinnacle of futures studies as it allows us to exercise control over our destiny. We certainly can err or fail in our efforts to realize a preferred future. Such failure, however, can be considered akin to the cliché that it is better to have loved and lost, than never to have loved at all. It may be better to strive for a future that did not arrive, than to simply view the future of policing as a force outside of our control.

BARRIERS TO FUTURES THINKING IN POLICING

Future studies seek to empower individuals and organizations. By considering events that are likely to occur, proper planning can be undertaken to either avert a problem or enhance responses. By seeking to direct the flow of the future (even on small dimensions), preferable situations can be brought to life. Despite the many potential benefits of futures thinking within policing, few police leaders or organizations routinely engage in such undertakings.⁴ Why do we note an absence of a future orientation in

⁴ This statement is predicated by noting that there is a distinction between planning for an immediate pressing situation and truly planning for the future. Police departments are skilled at planning for the problems associated with upcoming major events (for example, preparing the likelihood of large-scale celebrations in the aftermath of a local professional or college sports team competing for a national title). Many also do a good job preparing for general critical incidents. These efforts, however, are different than what is often considered to be futures studies. The latter often has a longer horizon (looking 3 or more years into the future) and often seeks to focus not on responses to specific events, but on responses to broader forces that may have a large-scale impact on multiple dimensions of agency operation. Examples could include planning for emerging criminal opportunities, dealing with anticipated staffing turnover, and exploring probable shifts in community composition.

policing? In part, this is a function of a general failure of society to place importance on such considerations. Perhaps it is human nature to focus more on today than tomorrow. In addition, unique aspects of police organizations and environments also passively discourage futures thinking.

Few police departments or police leaders have developed the ability or inclination to conduct analysis of broad future issues and considerations. Policing has historically been a reactive enterprise. Officers engage in some proactive work, however the bulk of police efforts (particularly of patrol divisions, the “backbone” of an agency) are focused on responding to citizen requests for services. When agencies do look into the future, it is often focused on narrow analysis of specific issues in a short timeframe (1-3 years). Policing at the state and local levels is heavily structured to meet reactive demands for service. Personnel are allocated across space and time based upon past requests for police interventions. Recent ideas such as community policing, problem-oriented policing, and COMPSTAT (among other innovations) have attempted to move policing into a proactive, analytic, prescriptive, future-oriented process. The extent to which fundamental transformations have been achieved is debatable.

By and large, policing is still mired in the challenges of today, while carrying the baggage of the past.⁵ Police officers are conditioned to focus on the current demands for their services; “the radio” dictates how officers spend any given day. Officers become accustomed to defining their obligation as the management of demands for their services (most often received via 911 emergency lines) during the hours they are on duty.

⁵ This assessment was advanced by Dr. William Tafoya (FBI, ret.), founder of the Society of Police Futurists International, in a 1983 paper delivered at the annual meetings of the Academy of Criminal Justice Science.

Today's problems are handled with an appreciation of micro-level history; what is the officer's prior experience with an individual, an area, or a particular problem.

Historically, officers are conditioned to do their job efficiently in order to be available for the next call for service (Manning 1997; Reuss-Ianni 1983; Skolnick 1994). Although ideas such as community policing encourage agencies to think proactively and to allow officers to do their job with an eye for the (short-term) future (Trojanowicz, Kappeler and Gaines 2002), the reality is that most agencies are still structured to maximize efficiency in responding to emergency calls for service (see Maguire 2003).

On many levels, this orientation is rational and appropriate. As a society, we expect the police to quickly respond to our requests for assistance (Bittner, 1990). Although they represent a relatively modest proportion of calls to the police, true emergencies requiring immediate response (i.e., crimes in progress, serious traffic accidents, threats to public safety, etc.) are still prevalent and agencies need a capacity to respond quickly and with sufficient personnel resources. Unfortunately, police chiefs usually begin their careers as patrol officers and never fully abandon their proclivity to focus on the immediate concerns of today. The political nature of policing forces police chiefs and other police leaders to spend much of their energy focused on "putting out the fires" associated with the crises of the day. Police leaders are rarely acculturated out of their present orientation and they do not operate in a work environment that supports such a shift.⁶

⁶ In defense of police leaders, they are pressured to meet the demands, requests, and expectations of political leaders, the public, and the media. These demands tend to focus on the crisis/issue/concern of the day, further rationalizing that the job of a police leader is to fight the day's fires. Members of the Society of Police Futurists International and the Futures Working Group often have difficulty attending meetings and participating in conference calls. Their employing organizations often envision their involvement with these groups as being far less important than their immediate obligations to present concerns.

POLICE FUTURISTS INTERNATIONAL

One of the challenges we confront in pursuing futures thinking in policing is that the collective cultures of both western societies and police organizations rarely support a futures orientation. Futures research only emerged as an organized field in mid-20th century (Tafoya 2006) and its following in most parts of the world is modest. In 1982, an effort emerged to create a cultural shift toward futures thinking in policing. Dr. William Tafoya, then a Supervisory Special Agent with the Federal Bureau of Investigation (FBI) began teaching an elective course on “Futuristics in Law Enforcement.” The course was offered within the FBI’s National Academy, an educational program for police leaders from around the world. Dr. Tafoya began to cultivate a group of NA graduates and others interested in future applications in policing. In the spring of 1991, his vision led to a week-long international symposium on the topic, hosted by the FBI. Dr. Tafoya had long been an advocate of the need for a professional society that could serve as a vehicle to introduce futures research in policing environments, bring together like-minded individuals, and generate work products on emerging and future trends in policing.

This vision came to life in the summer of 1991 when conference attendees chartered the Society of Police Futurists International (PFI). PFI is an organization of police practitioners, educators, researchers, private security specialists, members of private industry, students, and others dedicated to improving social and criminal justice through the professionalism of policing.⁷ The primary tool PFI uses to advance police professionalism is the development and application of futures research and the cultivation

⁷ <http://www.policefuturists.org>.

of dialogue and knowledge about emerging and future trends. PFI works to build an understanding of and appreciation for futures thinking in policing. Members share ideas, produce knowledge, and advocate for the importance of a futures orientation within their community and beyond.

THE CONTEXT OF THIS BOOK

This text is largely the result of PFI, including the Futures Working Group (FWG) a collaborative project between PFI and the FBI. Most of the contributors to this project are affiliated with PFI and many are also members of FWG. All are committed to advancing professionalism in policing. This book represents an effort to create and disseminate knowledge about the possible, probable, and preferable state of policing in 2020; chapters not only attempt to analyze this future, but many discuss the road to that future. As the old saying goes, it is not just about the destination, but also the journey. So it goes in studying the future of policing—what is important is not just thinking about where we will be in 2020, but considering how we will arrive at that point.

Even in the academic community, the study of policing and criminal justice futures is not always taken seriously. Most policing texts address futures issues in a few pages, if at all. In reality, discussions tend to be more focused on contemporary issues (drugs, gangs, community relations, extremist groups, and, more recently, terrorism) rather than actual future concerns. When true futures considerations are seen, they typically are relegated to a few pages and deal very generally with very predictable topics (technology, population shifts, and personnel changes). In effect, authors focus on

probable/possible futures, ignoring preferable futures. This is a critical failure of the academic study of policing. Introductory policing and police administration texts have the opportunity to plant the seed of alternative visions of the police in the minds of the leaders of tomorrow; by and large, this opportunity is squandered.

THE CONTENT OF THIS BOOK

The balance of this book is a series of chapters that explore both the future of society in 2020 and specific aspects of policing in 2020. The authors provide their forecasts for how changes will directly and indirectly influence the way police agencies operate. Our intent is to begin to fill the void of futures research noted in both practitioner and academic literature on policing.

Consideration of policing in 2020 begins with three chapters studying broader issues that all influence the structure and practice of policing. Carl Jensen and Bernard Levin provide an overview of communities, culture, and social change that will shape America by 2020. Such forces influence who polices, who is policed, and the social, economic, political, and legal issues that define our nation's culture. Thomas Cowper considers emerging technologies that redefine how we live, how officers police, and the problems they confront. His chapter discusses key concepts about the accelerating speed of technical and social change. The importance of such matters cannot be overlooked; one need only consider the rapid ways in which cellular telephones and MP3 players have spread and redefined how we live in a matter of years. George Burruss considers the future of crime. His discussion reinforces a central idea in futures research; the

forces and factors pushing the direction of any particular issue are multiple and complex. Caution must be used in placing too much faith in highly specific forecasts. Despite this situation, futures research tools can help us to make sense of possible, probable, and preferable futures, and to act accordingly.

The remaining eleven chapters all consider more focused aspects of police agencies and operations in 2020. Susan Braunstein examines how technical and social changes will continue to reshape the ways police communicate and share information with the public. Her analysis is a good illustration of how trends can be changed by historical events. Greater openness and transparency have been the hallmark of government operations in recent years. At the time this book is being written, however, that trend has been disrupted by efforts to combat terrorism and protect national interests.

James Conser and Gordon Frissora provide a broad look at the nature of police operations and how they will change by 2020. Their discussion builds on earlier chapters by considering how patrol officers will be affected by technical and social changes. These transformations have the potential to enhance officer safety and police efficacy, while also complicating the crimes officers confront and the responses they utilize. Alan Youngs provides a similar consideration in the realm of the investigations function. He forecasts changes in criminal methods and how agencies will respond (or fail to respond) to this changing criminal environment. If even some of these patrol and investigations forecasts hold true, police officers in 2006 will be confronting very different challenges with very different tools in 2020.

Since the 9/11 terror attacks, there has been considerable discussion and debate over how police agencies can better utilize information and intelligence to both combat

terrorism and more local crime problems. David Carter and Joseph Schafer review the current state of law enforcement intelligence and describe its preferable future.

Intelligence is not solely focused on matters of terrorism and homeland security; a well-structured intelligence function can also help agencies more effectively respond to local and regional crime problems. Sean Varano, Jeffrey Cancino, James Glass, and Roger Enrique discuss information management and analysis. They offer a number of preferred futures assessments to which agencies should aspire to enhance how they use available information. Recent decades have witnessed a clear trend toward the better use of information within police agencies; a clear preferable future is to nurture this trend to make policing more responsive, more information-driven, and more effective in responding to a wide range of community and national concerns.

Alan Beckley presents a set of preferred futures for the future of emergency planning. His perspective and experiences are deeply rooted in British efforts to improve responses to critical incidents. Considering what is being done in the US and the UK, along with what still needs to be accomplished, he illuminates a path toward more creative and innovative ways to provide for the safety and security of our communities. Edward Maguire and William King present an analysis of common changes we have seen in the structure of police organizations, exploring their dissolution, growth, and complexity. From this analysis, we can understand how various social forces can shift the structure and organization of the American policing industry in a very different direction. If their possible future becomes a reality, by 2020 we will be advancing in a direction that will redefine how policing services are provided in many locales.

One of the issues we see emerging from the book's early chapters is that the human side of policing is one of the areas in which change can be expected. This applies not only to communities, offenders, and victims, but also to who polices and how they are managed. Joseph Schafer and Sandy Boyd consider education and training for police officers in 2020. They describe a preferable future for how agencies might use technology to more effectively and efficiently train officers for the emerging complexities of police work. Bernard Levin explores how agencies can more effectively manage officers and better utilize their skills and abilities. His analysis illustrates why it is crucial to identify and work toward preferable futures. The growing complexities of policing and our world are making prevailing personnel management systems increasingly troublesome. If management trends are not shifted in new directions, the abilities of the police are likely to be compromised.

Michael Buerger presents a trend in policing that, in many ways, harkens back to early policing systems. Using the notion of "third party policing," Buerger illustrates one way in which police agencies are adapting (and may continue to adapt) to new and different pressures. Buerger identifies how the trend to have other individuals and agencies assume responsibility for traditional police concerns may be more effective and rational. Finally, Richard Myers presents a vision of the future of police organizations. He forecasts a possible (and preferable?) future that would fundamentally redefine every aspect of how police agencies are structured, supervise personnel, and perform their duties. His chapter offers a very creative and provocative image of how the police may have to redefine their operations in order to remain viable in an increasingly complex world influenced by accelerating technological and social developments.

CONCLUDING THOUGHTS

The objective of this text is to make an initial effort at expanding the dialogue about policing futures. Readers will have to judge the extent to which chapters achieve that objective. Some chapters discuss issues that are clearly on the horizon; these matters already consume our attention and will continue to be the subject of debate and action. Other chapters challenge readers to rethink very basic assumptions about police organizations and the policing enterprise; they seek to push us from our normal ways of envisioning policing and demand that we question the validity of traditional assumptions. Readers may not be persuaded by all of these arguments, but it is my hope that these ideas are still of value if they encourage you to rethink your views in even a small way. Perhaps the greatest benefit of undertaking futures studies is that it pushes us to see the world and our possible future in novel, innovative, creative, and visionary ways (Tafoya 2006).

Policing has been widely criticized as being too reactive, failing to be self-reflexive, and assuming that the *status quo* is ideal; there is a strong tendency to look at our failures and short-comings as virtues and necessities.⁸ One of the greatest benefits of futures thinking is not the outcome, but the benefits of the process. The act of undertaking a consideration of the future pushes us to think differently, critically, and analytically; it pushes us to question assumptions, expand horizons, and contemplate alternatives. In the context of policing, futures analysis encourages us to overcome the analytical and cognitive short-comings that have typified too much of this profession.⁹ Certainly

⁸ Credit for this idea goes to a quote attributed to J.W. Gardner's and published in a 1968 anthology of his speeches and writings edited by Helen Rowan (*No Easy Victories*, New York, Harper & Row).

⁹ Thomas Cowper provided a lucid argument along these lines during a discussion in the winter of 2005. While the words are largely mine, he deserves full credit for making this important point.

advances have been realized since the 1960s. Police organizations and leaders of today are far more open to examining the outcomes of prevailing practice. Nonetheless, more improvements are needed. We have achieved a tentative willingness to consider policing today; what remains to emerge is embracing the practice of working to understand and shape policing tomorrow.

I believe this is one of the greatest assets of this book. The authors have done the difficult task of engaging in an analysis of the future for their given topic. The challenge for the reader is to use this text as a tool that can help challenge assumptions and provide alternative visions of policing. While you may not agree with or be convinced by some of what you read, it is my hope that your thinking will be changed, your vision of policing expanded, and that you will develop an understanding of the tremendous potential we have to make policing more efficient, effective, and equitable.

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EXECUTIVE SUMMARY

While predicting “the” future is best left to fortune tellers and soothsayers, trends and forecasts provide the basis for many important decisions. The present chapter summarizes some demographic and cultural trends that have been judged likely to emerge by the year 2020.¹

Projected Demographic Trends

The number of elderly people in western societies will increase markedly. Implications for the police include: increased calls for service for both real and perceived victimizations, different types of crime, and a new potential class of perpetrators (e.g., senior criminals). It will also provide opportunities, such as a new pool of police volunteers and employees as well as “allies” with a great deal of wealth and political clout.

Native-born birth rates will likely remain low in developed countries. This suggests that immigration from areas experiencing “youth bulges” (increasingly, Africa and the Middle East) will be required to make up for the shortfall of workers. Because a good proportion of the immigrant population will be young and poor, its members may find themselves overrepresented in the criminal justice system, especially for those crimes requiring only rudimentary skills. While the overwhelming majority of immigrants will be law abiding, obvious challenges for the police include immigrant criminal gangs, closed and distrustful communities, imported ethnic

¹ The authors have used government sources, such as the U.S. Census Bureau and the National Intelligence Council (NIC), to obtain forecasts. It is noted where other sources have been utilized.

rivalries and feuds, different types of crime (e.g., human trafficking), and a lack of understanding with regard to host country laws and customs. Less obviously perhaps, poverty and exclusion breed anger, which may lead some to acts of extreme violence (see Sageman's (2004) analysis of the roots of the 9-11 attacks).

Possible Cultural Shifts

Globalization will continue as one of the most significant trends of the first part of the 21st century. This will have economic (e.g., the outsourcing of jobs and the emergence of new world powers)² and social/cultural ramifications. The net-centric nature of the 21st century will continue to force businesses to re-tool from large hierarchical structures to flexible, swift, networked ones. As well, loyalties may be challenged when what is perceived to be good for one's country may not be good for one's company. This may lead to significantly less support for public governance, including the police.

Emerging industrial nations will demand a greater share of scarce resources, such as oil. This can produce new types of crime (e.g., energy smuggling rings) as well as the need for new police deployment strategies (e.g., parking police cruisers and depending more on ubiquitous cameras, sensors, and computers). The cultural dominance of the West will be challenged through globalization; new fads and cultural paradigms, spawned in the East and popularized through the Internet, may take hold in the U.S.

The biggest change that the Information Age may bring about is the redefinition of boundaries. The boundaries between criminal syndicates, terrorist groups, and gangs will continue to disappear. Alliances between seemingly disparate and unrelated organizations should

² The NIC asserts that two of the biggest "winners" over the next several years will be China and India.

be expected. Physical boundaries will be replaced by electronic and philosophical ones as individuals discover new virtual communities. The Internet will also serve to empower individuals or special interests, providing transparency on an almost unfathomable level.

Finally, the sheer volume of information that becomes available daily threatens possible overload. The difficulty inherent in the Information Age for policing leaders will be separating the wheat from the chaff: obtaining the information necessary to run agencies and protect the citizenry.

Thriving in Chaos: Navigating the Information Age

With challenge comes opportunity and the Information Age will offer plenty of each.

- The obvious superiority of networks over hierarchies will increase. Agency heads must constantly struggle to develop net-centric organizations (Cowper 2005) that shift power to the front-line troops.
- At a time when “community” may be increasingly difficult to define, where the potential for inter-group rivalry and conflict runs deep, the police may find themselves more and more thrust into the role of “peacemaker.” Police managers should welcome the opportunity to have every member of their organization exert this kind of leadership and should encourage, train, and equip their personnel accordingly (see Anderson 1998).
- Transparency is a reality that will only increase. The police should recognize this and use it to their advantage—for example, the Boston Police Department has started its own blog, where it posts information and solicits input from its readers (BPDNews.com n.d.). The world of 2020 will experience quantum levels of change on a weekly basis; viability will depend upon constant learning. Education and alliances with colleges and universities will pay multiple dividends.
- Immigration and shifting cultural paradigms will force police departments to develop an international perspective. A significant function of the police in 2020 will consist of coalition building: tying together disparate elements of increasingly complex communities
- In a rapidly changing world, those who play catch-up ball will never catch up. Until and unless policing moves from tactical to strategic visioning, its practitioners will never develop the skills necessary to successfully traverse the 21st century.

As a profession, policing has a choice: it can attempt to understand and prepare for the future or it can remain more or less as it has, with perhaps a few new toys. One way offers hope, the other leads to sure irrelevance. The preferred path forward seems obvious.

INTRODUCTION

I confess that in 1901, I said to my brother Orville that man would not fly for fifty years. Ever since, I have distrusted myself and avoided all predictions.

Wilbur Wright, 1908 (in Wells 1995)

Like Wilbur Wright, many Futurists refrain from predicting **the** future and instead talk about “alternative” or “created” futures. This is due in no small part to the difficulty that arises when one tries to divine order from a chaotic and complex universe (see Jensen 2001).

And yet, projections and forecasts are a part of everyday life and provide the basis for many important decisions:

Population forecasts produced by the Census Bureau are used widely, informing researchers, planners, legislators, and many others, on the future course of population change. (Mulder 2002, 1)

In this section, the authors outline projected demographic changes as forecast by U.S. government agencies.³ These demographic trends, along with economic and cultural shifts, as well as emerging technologies (see Cowper’s chapter elsewhere in this volume), have the potential to significantly affect the world in which we live, the world we have to police. Some of these projected trends include: a shrinking birth rate and increasing elderly “bulge” for developed

³ The major sources of information are the U.S. Census Bureau and the National Intelligence Council (NIC), which describes itself as “a center of strategic thinking within the US Government, reporting to the Director of National Intelligence (DNI) and providing the President and senior policymakers with analysis of foreign policy issues that have been reviewed and coordinated throughout the Intelligence Community” (National Intelligence Council 2005).

countries, enhanced rates of immigration from poor to wealthy countries, a projected growing economic gap between haves and have-nots, the continued importance of globalization (increasingly influenced by non-western actors), the decrease in importance of the nation state, and the redistribution of minority groups.

Most criminal justice texts produced in the United States exclude international trends and tend to deal almost exclusively with what is expected to occur domestically; we think this is a mistake. Globalization, ubiquitous communications, and staggering levels of immigration are increasingly rendering physical boundaries obsolete. To that end, police managers who lack an international perspective may find themselves overcome by situations and events for which they are totally unprepared. As such, the present chapter will be a broad overview of what some expect to unfold on the world stage and the manner it will affect policing by the year 2020. While the authors suggest some trends they deem obvious or likely, readers are encouraged to consume actively; that is, decide for themselves which trends will emerge and how they will alter policing's future.

DEMOGRAPHIC CHANGE

Population Trends

The Census Bureau is the governmental body within the United States entrusted with formulating population projections. It conducted the first national-level census in 1790, when marshals on horseback counted 3.9 million inhabitants. Prior to that, the British Crown had attempted to keep track of its citizens in the new world (the earliest discovered census in the Americas was conducted in the early 1600s in what was then the colony of Virginia)

⁴The Census Bureau draws a distinction between “forecasts” and “projections” (Mulder 2002). No such distinction will be made in this chapter and the terms can be interpreted as interchangeable.

(U.S. Census Bureau n.d.). Census projections are based primarily on three variables: projected rates of mortality (death), projected rates of fertility (birth), and projected rates of migration.⁴ Each is an estimate based in part on historical trends as well as the analysts' best guess of future shifts (e.g., the increasing average life span in the United States is factored into mortality estimates) (Mulder 2002).

Misestimating any of the three variables noted above can introduce error into population projections. Of the three, immigration is the most susceptible to meddling from without: one need only perform a cursory analysis of U.S. immigration policy over the last 100 years to see how politics, economics, xenophobia, and other factors have combined in ways that have undermined even the most elegant forecasts.⁵ Fertility and mortality projections are generally considered more accurate than those for immigration (Mulder 2002). This does not mean, however, that they are perfect. For example, series forecasts in 1947 and 1949 severely underestimated fertility rates, thereby not recognizing the beginnings of the post-World War II "baby boom" (Mulder 2002). Interactive effects can be seen as well: mis-estimating the Asian and Hispanic immigration rate will affect fertility projections, given the higher average rates of birth found in those groups. In spite of these shortcomings, the Census Bureau has made strides in recent years in refining its techniques. Learning from past errors, analysts now believe that their current projections more closely model "real life" (Mulder 2002).

Demographic Trends: Global

The National Intelligence Council (NIC) estimates that by the year 2020, the world will be populated by some 7.8 billion people, up from 6.1 billion in the year 2000 (National

⁵ See Briggs 2001; see also Mulder 2002 for empirical support that immigration projections have historically been plagued with high rates of error.

Intelligence Council 2004). In spite of this increase in overall population, the rate of growth will slow in developed nations and increase in those considered “developing” (National Intelligence Council 2004). Fertility rates in developed countries are expected to decline as well: those who enjoy affluence will choose to have few children. On the other hand, expected increasing life spans among the wealthy, largely as a result of improved health care, will offset a potential negative population trend. This will lead to an aging population in western countries (that is, one in which the median age increases). While this may be welcome news for those who are aging, it does not necessarily bode well for a country’s economy. Among other things, there will be fewer workers available to support greater numbers of retirees.⁶ These workers have to come from somewhere — since birthrates in developed countries are falling, the only likely source of additional labor will be found in immigrants, both legal and illegal, from overpopulated countries.⁷ The Middle East and Africa, with their high birthrates and lackluster economies, will likely take up the slack, providing cheap, immigrant labor to the developed world (National Intelligence Council 2004). Current projections hold that 95 percent of global population growth is expected to occur in the more developed countries, with a large portion of the populace living in “mega-cities”⁸ (e.g., New York, Los Angeles, Sao Paulo). By 2020, it is projected that Mumbai (formerly Bombay), India will be the most populated city in the world, with over 28,500,000 inhabitants (Burdett 2000).

⁶One need only consider the brouhaha concerning projected Social Security shortfalls that are engulfing debate in the United States at this writing (the spring of 2006).

⁷The need for “live” labor will be offset to some degree in technologically advanced countries through the increasing use of robotics and related technologies.

⁸ Defined as those cities with a population in excess of 10,000,000. The NIC projects that 400 million people will live in mega-cities by the year 2020 (National Intelligence Council 2004).

Some countries, notably India and Pakistan, are expected to have explosive growth rates. Others may actually have decreases in overall population: in Africa, for example, countries ravaged by AIDS will likely experience negative growth. As well, increasing mortality rates and declining fertility rates will combine to decrease the populations of Russia and some other former Soviet-bloc countries (National Intelligence Council 2000, 2004). With regard to other areas:

North America, Australia, and New Zealand (the traditional magnets for migrants) will continue to have the highest rates of population growth among the developed countries, with annual population growth rates between 0.7 percent and 1.0 percent (National Intelligence Council 2004, 19).

While populations in the developed world will age, other countries will experience future youth bulges:⁹

Youth bulges are expected to be especially acute in most Middle Eastern and West African countries until at least 2005-2010, and the effects will linger long after (National Intelligence Council 2004, 81).

In addition, immigration, both legal and illegal, is expected to account for at least 15 percent of the population of more than fifty countries within the next several years (National Intelligence Council 2000).

Demographic Trends: United States

According to the most recent Census projections, total population in the United States is expected to reach 335.8 million by 2020. Currently, whites (excluding Hispanics) make up approximately two-thirds of the U. S. population. By 2020, however, the white portion of the population will decrease while that of African-Americans, Hispanics, and Asians

⁹ A “bulge” is defined as a large increase in a particular cohort; hence, a country with a youth bulge would be one in which the young population was unusually large.

will increase. The largest minority community in the United States will continue to be Hispanic (see Figure 1). Mortality rates will decline as well. The projected average life expectancy in the United States is seen in Figure 2. If these projections are correct, both males and females will live on average seven years longer than they do today (although females will continue to live longer than males).

Figure 1. U.S. Population Projections by Percentage.

[Created by authors using data from U. S. Census Bureau (2004a)].

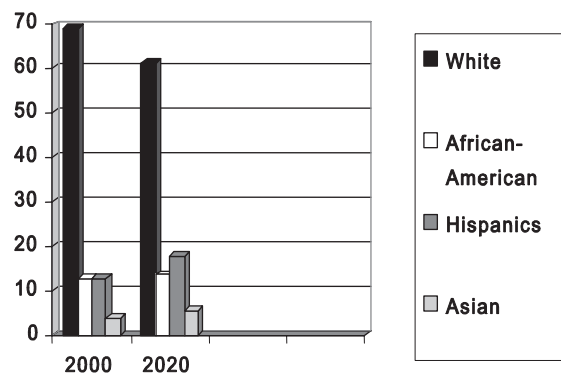


Figure 2. U.S. Projected Life Expectancy in Years.

[Created by authors using data from U. S. Census Bureau (2004a)].

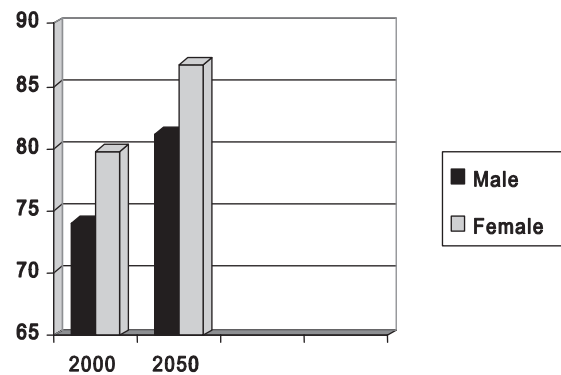


Table 1. Projected Population Change in the United States by Age and Sex: 2000-2020 (in thousands except as indicated).

Sex and Age	2000-2010		2010-2020	
	Numerical Change	% Change	Numerical Change	% Change
<i>Total</i>				
Total	26,811	9.5	26,869	8.7
0-4	2,208	11.5	1,506	7.0
5-19	479	0.8	4,146	6.7
20-44	369	0.4	4,189	4.0
45-64	18,573	29.7	2,641	3.3
65-84	3,326	10.8	13,243	38.8
85+	1,856	43.5	1,145	18.7
Male				
Total	13,404	9.7	13,278	8.7
0-4	1,116	11.4	769	7.0
5-19	169	0.5	2,082	6.6
20-44	438	0.8	2,234	4.2
45-64	9,121	30.0	1,464	3.7
65-84	1,857	14.1	6,267	41.6
85+	702	56.7	462	23.8
Female				
Total	13,407	9.3	13,591	8.6
0-4	1,092	11.6	737	7.0
5-19	310	1.0	2,064	6.8
20-44	-69	-0.1	1,955	3.8
45-64	9,451	29.5	1,177	2.8
65-84	1,469	8.4	6,975	36.6
85+	1,154	38.1	684	16.4

Source: US Census Bureau (2004a)

By 2020, those over the age of 65 will make up 16.3 percent of the U.S. population; in 2000, that figure was 12.4 percent. Expressed another way, the number of 65-84 year-olds in the population will increase by almost 15 percent from 2000 to 2010; between 2010 and 2020, it will nearly double. The over 85 population will record significant growth as well, increasing by 56.7 percent between 2000 and 2010 and by 23.8 percent between 2010 and 2020 (U. S. Census Bureau 2004a). By contrast, the native born U.S. youth/young adult

demographic (5-44) will increase more slowly (see Table 1). Put simply, the U.S. is an increasingly aging society, at least among its native born population. While birth and death rates are relatively easy to forecast, the wild card in demographic projections is immigration. That is because there are so many variables that affect the immigration rate (e.g., government decision-making, law enforcement efforts). In order to deal with this, the Census Bureau projects immigration figures in three series (low levels of immigration, middle levels of immigration, high levels of immigration) (see Table 2).

Table 2. Projected Migration by Race and Hispanic Origin, 1999 to 2025
Migration to the U.S.A

Race and Hispanic Origin	Lowest Series		Middle Series		Highest Series	
	1999	2025	1999	2025	1999	2025
Total	1065	628	1236	1270	1435	2569
White	670	334	771	655	893	1280
Black	131	92	153	126	181	419
American Indian	8	4	9	8	10	15
Asian	256	198	304	411	351	855
Hispanic	455	170	530	364	620	740
White, Non-Hispanic	257	183	290	391	329	618
Black, Non-Hispanic	102	79	120	169	142	365
American Indian, Non-Hispanic	2	1	2	3	2	6
Asian, Non-Hispanic	248	195	294	409	341	841

Source: U.S. Census Bureau (2002).

As noted previously, an aging population requires a workforce to support it. Birth rates tend to be highest in the least developed nations. Those same nations tend to have high mortality levels, low educational levels, “challenging” infrastructure quality and quantity, low average family income, and formidable social instability. Thus, there is a strong tendency

for such nations to have a low average age and high pressure to emigrate. At present we see the “guest worker” phenomenon in old Europe as well as high rates of illegal Hispanic immigration to the U.S. Given the reality of elderly and youth bulges, one cannot rule out immigration to the United States at the highest levels, particularly from those regions wracked by poverty and brimming with surplus youth (the Middle East and Africa) (National Intelligence Council 2004).¹⁰

Levin (1998, 7-8) notes other projected trends with regard to the U.S. population:

The number of persons per household is expected to decrease. While this will likely occur across all ethnic groups, whites will have the fewest residents per household followed respectively by African-Americans and Hispanics.

The number of men and women living alone will continue to increase.

The number of households containing a married couple will decrease; this will include households with and without children.

These numbers portend great potential changes for America. Numerous studies suggest that living alone is less healthy than cohabitating (see Levin 1998).¹¹ Fewer bonds also suggest potential problems for communities (Putnam 2000).

¹⁰ In fact, individuals in technical fields will increasingly remain in their native countries while performing jobs throughout the world. Some readers may have already witnessed this phenomenon (e.g., calling the “local” telephone company, only to find that the call is being answered in another country). To that end, the proportion of immigrants occupying low-paying, low-skilled jobs will likely increase.

¹¹ Although one recent study has found evidence that cohabitating may be less healthy than marriage; in the six months following the 9-11 attacks, New York City residents who were married were less affected by Post Traumatic Stress Disorder (PTSD) than those who cohabitated (Bonnano, Galea, Bucchiarelli, & Vlahov 2006).

Demographic Trends: Summary

On a global scale, it is expected that world population will increase between now and 2020; the rate of increase, however will slow from the current rate, primarily as a result of disease in the third world and lower fertility rates in developed nations. In fact, many experts believe that demographic changes in the next ten years will dramatically differ between first and third world societies. In the former, native born populations will continue to age through better medical care and improved diet and lifestyles. This, in turn, will necessitate an influx of labor that may well be provided by regions experiencing youth bulges (e.g., the Middle East and Africa). By and large, it is expected that richer countries will continue to prosper while the poorer ones will fall deeper into poverty. The factionalism, war, and religious and social strife that disproportionately afflicts the poorest countries will only exacerbate this situation.

Trends in the United States will likely mirror those of the rest of the world: a) the native born population will continue to age and, b) the white population as a percentage of the total population will shrink while minority groups (African American, Hispanic, and Asian) will increase. The U.S. may see immigration levels at an all-time high, in large part due to low birth rates of the native population and the need to import labor to economically support the burgeoning retired class. Hispanics will continue to be the largest minority group in the U.S., displacing other minority groups in some areas and increasing their already majority status in others. The nature of the American household appears to be changing as well, with fewer individuals populating homes, fewer children being born to affluent parents, and more single mothers heading households.

Economic Trends

Two forces that were supposed to unify the world are actually helping nations to splinter: The Internet and the global economy.

(Baker, 1999, 1)

What is good for the country is good for General Motors, and what's good for General Motors is good for the country.

Charles E. Wilson, U.S. Secretary of Defense, 1952 (Lil-Abner.com n.d.)¹²

Friedman (2000) notes that globalization¹³ will likely be the most pervasive global influence for the first part of the 21st century. The global economy will continue to profoundly affect the manner in which individuals, companies, and nation-states do business. It must be remembered, however, that in many endeavors where there are winners, there are also losers. The winner in the next several years may be the global economy itself, which is projected to grow to record proportions (National Intelligence Council 2004). If that is the case, the big loser will likely be the nation-state.

Consider Wilson's pronouncement cited above: it was once axiomatic that what was good for an "American" company like General Motors was good for the U.S. Is that still the case when General Motors automobiles are currently assembled in 32 countries worldwide (General Motors n.d.)? The question, to be sure, has economic ramifications (e.g., balance of trade, loss of domestic revenues through outsourcing). It has less obvious, non-economic ramifications as well.

¹² But see Al Capp's famous take on the situation: "What's good for General Bullmoose is good for the U.S.A." (Lil-Abner.com n.d.)

¹³ A comprehensive definition of globalization is beyond the scope of this chapter. One can conceive of it as a globally-linked economy, with companies manufacturing and selling goods throughout the world, operating freely across borders. See Friedman (2000) for an excellent discussion of globalization and its potential ramifications.

In the industrial age, strong, domestic industry served as the economic engine of the country. It shaped both domestic and international policy through a natural symbiosis between corporate and national governance. Globalization has changed that. An international economy requires less national-level support; as well, individuals who found it easy to offer allegiance to both their country and their company simultaneously may now find their loyalties torn when the two conflict. In that instance, to whom will one offer primary allegiance, her company or her country? This is not a trivial question; ultimately, the fate of nation-states as we understand them may hang in the balance.

Nevertheless, things do not usually change overnight. It appears unlikely that a radical transformation in the manner in which we govern ourselves will occur by the year 2020. Rather, we are more likely to see realignment in the relative economic health of nations. Two countries that are currently thriving and will likely challenge the economic dominance of the United States and Western Europe by 2020 are China and India. According to the NIC:

The likely emergence of China and India, as well as others, as new major global players — similar to the advent of a united Germany in the 19th century and a powerful United States in the early 20th century — will transform the geopolitical landscape, with impacts potentially as dramatic as those in the previous two centuries (National Intelligence Council 2004, 9).

The implications of this extend beyond a mere redistribution of wealth between nations. The NIC (2004) notes that developing nations will increasingly require resources to fuel their industrial engines. This could result in “energy wars” in which the price of oil spikes dramatically as emerging countries compete with established ones to obtain scarce resources.

While the world in general is projected to prosper, benefits will likely not be evenly distributed. As often happens, those countries with already robust economies, heavy investment in emerging technologies, and superior education, will be the big winners. Those currently struggling just to get by will likely fall further behind. Couple this gap with a shrinking global middle class (National Intelligence Council 2004) and the aforementioned youth bulges in the poorest countries, and a “perfect storm” of instability could result. Finally, the “face” of globalization could change. While the West currently leads the way in styles, fads, entertainment, and other social trends, China and India, with their massive populations, will increasingly exert influence in these areas through their particularized desire for products and services, delivered in a familiar way (National Intelligence Council 2004).

Economic Trends: Summary

It is expected that globalization, which some commentators have called the most significant trend of the early 21st century, will continue to expand; however, given the rapidly evolving strategic, economic, and political importance of countries such as India and China, it is expected that globalization will no longer be dominated by western companies, tastes and trends. Instead, Eastern influences will likely play a significant role in the global economy’s look and feel. The influences of India and China will extend beyond setting trends. The expected growth of their economies and consumer markets will produce a demand for raw materials and energy, placing them in even greater competition with the West for these items.

As the global economy grows, it will likely not bestow rewards evenly. Even as the rich get richer, some predict that the poor will get poorer (National Intelligence Council 2004), opening up a chasm that is already wide. Finally, there may be a direct relationship between

increasing globalization and the decline of the nation-state. As individuals increasingly become “world employees,” their national identities may begin to suffer.

Blurring Boundaries

In addition to the mere numbers, there are other factors, most notably the Internet, that foster allegiance to tribes, religions, and ethnic groups, often at the expense of loyalty to a host country. As we approach 2020, the Internet and computing will become, for nearly all intents and purposes, ubiquitous, at least in the developed world.¹⁴ Information, tailored specifically for the end-user, will be readily available. Consider the effect this may have on our world:.

In addition to disseminating information, recruiting members, and concentrating power, the emotional appeal of (Internet) messages may stir fervor through the social dynamics of the cyber-sense of group... Members of religious and ethnic groups can be united in cyberspace regardless of where they happen to reside. Therefore, although the Internet may make national boundaries less important, it may make ethnic and religious divisions more pronounced and more important to individuals (Jensen 2001, 924).

The year 2020 will likely witness the confluence of several factors. As previously mentioned, in order to support the economies of aging societies (U.S., Europe) or those whose population policies have put them at a disadvantage economically (e.g., China’s decision to limit the number of children in a family), mostly young individuals from those parts of the world with excess population (Middle East & Africa) will emigrate for mostly entry-level work. Even though they will live outside their native countries, they can still be tied together ethnically, tribally, and/or religiously. This happens both physically and virtually. Many cities,

¹⁴ To be sure, poverty and government control will limit Internet access in some areas. In spite of this, initiatives are underway to improve worldwide connectivity (Spice 2004).

large and small, have enclaves of immigrants (think Chinatown or Little Italy) where native customs and language are preserved. Increasingly, the Internet will provide social support and acceptance, much the way physical communities historically have. Assimilation becomes less necessary if one can enjoy familiar surroundings in any location on the planet.

Geopolitical boundaries have been disappearing for some time (Levin 2004). That's true in both cyberspace, where people can now carry on meaningful relationships with folks they've never met, and in the world of political divisions (consider the European Union). This trend, spurred on by the Internet, will likely continue and expand. Historically, geopolitical boundaries have limited social interaction. This has led to a certain amount of intra-state homogeneity that is good for the consensus necessary for the survival of the state. However, in a virtual world, interactions are no longer limited by physical proximity. Regardless of what interest an individual may wish to pursue, he/she will no doubt find many others with those same interests on the 'Net. And it is quite likely that the same dynamics that play out in physical groups (e.g., social facilitation, polarization, Groupthink) will occur online as well.

The manner and extent to which cyber-induced behavior will manifest itself in the physical world is unknown. However, consider the extent to which a relatively small number of individuals with anti-social proclivities has altered our world: the 1993 bombing of the Murrah Building in Oklahoma City, the assaults on various abortion clinics, the bombings of mass transit in Madrid and London, the two World Trade Center bombings, and even the Washington, D.C. sniper case remind us of the effect that a few highly motivated individuals can have on our society. Sadly, many such individuals abound. What may have held many of them in check over the years has been their inability to communicate across physical

boundaries; that limitation has disappeared. Now, within a matter of seconds, anyone with a grudge or grievance (and a computer) will find any number of allies to support “the cause.” By definition, fringe groups perceive that the inadequacy of legitimate remedies compels them to act so that right prevails. Our future will be full of such actors and events. While only a few individuals or groups will likely generate mass destruction, many will create problems for law enforcement and threats to civil society.

Recently, many were shocked by the fact that the London bombings (summer 2005) were allegedly carried out by British citizens loyal to al Qaeda (Gardiner 2005). And yet, this is entirely consistent with the “blurring boundaries” one can expect to find in the Information Age. Unlike the Cold War, which pitted two political ideologies against each other, the 21st century is rife with many different competing ideologies, often on different planes. Politics becomes meshed with religion while economics affects each. Perhaps one major social theme of the 21st century will be chaos. Unlike the nice, neat distinctions of the last century, individuals will have the capacity to define themselves in many different ways, making and breaking social networks as the need arises. There will be no shortage of ideas and each will compete for our attention and support. Consider the following: some have estimated that by the year 2010, the amounts of information in the world will double every 75 days (Robinson n.d.). Those seeking a new tribe or even just some suggestions on how to “stir things up” will not have far to look.

As its name implies, the chaos model will not unfold neatly or uniformly. Kurzweil (2001) notes that the rate of technological change is itself changing, speeding up in a remarkable fashion:

An analysis of the history of technology shows that technological change is exponential, contrary to the common sense “intuitive linear” view. So we won’t experience 100 years of progress in the 21st century — it will be more like 20,000 years of progress (at today’s rate).

Technological change brings with it social and cultural change. Compare the world of ten years ago to the world today. Try to imagine it ten years hence. Think of the manner in which individuals communicate with loved ones, obtain news, or entertain themselves. One small example: in ten years or so, newspapers might exist only as quaint artifacts. People instead may obtain their news from a “media-scape” a totally hooked-in system in which everyone participates. Using data mining, personal assistants might electronically cull information for individuals from myriad sources, re-writing it in a style specifically designed for the individual (see Museum of Media History n.d.)

Designer news will provide the recipient with only the news she wants to hear, presented in the manner and tone she prefers. No longer will an individual have to bother with opinions that diverge from her own. If all of this sounds slightly discomforting, it should. Being around diversity is good. The 20th century neighborhood, for all its homogeneity usually had its characters and personalities, individuals we could not help but encounter. New ideas challenge us, and that helps us grow. If the 21st century is going to be the designer century, we are going to have to work at finding sufficient diversity. It will be most ironic if, at a time when access to information has never been easier, we find ourselves saturated in fluff and starving in substance.

CULTURAL CHANGE, SOCIAL CHALLENGE, AND THE POLICE

The trends noted above will produce cultural and social shifts. Some are just over the horizon and will have significant implications for American policing. The authors have outlined a few of the more interesting ones below.

Seniors

In the U.S., at least, the elderly will continue to be the most rapidly growing population cohort, as the aging baby boom bubble moves along. This group will be quite similar to the existing elderly: it will be the group most afraid of street crime, yet least likely to be victimized. Instead, the types of crime most likely to victimize the elderly will continue to be “grifting” and other frauds of various sorts (Jordan 2002). What will change somewhat are the details of the offenses committed. The new class of seniors will bring with them acquired practices such as use of computers, cell phones, and ATM/credit/debit cards, each providing numerous points of vulnerability. Theft of social security checks, like theft of food stamps, will be supplanted by virtual attacks such as identity theft, virtually-oriented frauds and swindles. Phishes, phreaks, and hacks will go where the money can be found; increasingly, that will be the elderly, who may find themselves targeted for crimes as sophisticated as theft of intellectual property and as mundane as the fraudulent manipulation of automated roadway toll collection devices.

Fraud is not the only sort of crime that befalls the elderly. Increasingly, the police have recognized the potential for physical abuse and neglect of seniors, by both institutions and care-givers (Payne, Berg, and Toussaint 2001). The above suggests that many agencies may consider establishing elderly victim task forces. Unlike their counterparts in the drug and gang arenas, these groups will likely include a good number of non-sworn personnel, primarily those

engaged in medical and social-help professions. As well, the elderly may represent a new potential criminal class. Historically, their frequency of offending has been low with the preferred offense being of the larceny-theft variety, primarily shoplifting (Jordan 2002). If the past is prologue, we can expect this to continue. However, at least some have noted an alarming increase in the amount of crime, including violent crime, being committed by the elderly (Price 2000). Considering the fact that the senior population is expected to increase dramatically by 2020 and that older people are living longer and healthier lives, could we witness the emergence of an entirely new criminal class—one made up primarily of functional but bored or disenfranchised octogenarians? The threat, at least, seems plausible.

And yet, the rise in the elderly population may be one of the brightest spots in the policing universe for years to come. Yes, they will continue to be conned and grifted in greater numbers than their younger counterparts; however, as many veteran police leaders understand, the older segments of society tend to be the greatest friends the police have. It is likely a combination of their fear of victimization and generally more positive attitude toward authority that drive these feelings. Police leaders would be well advised to remember their friends; seniors provide a ready source of volunteers for the astute chief or sheriff. Whether in the reserves or auxiliaries, communications or intelligence bureaus, or in some other capacity, the elderly offer a lifetime of experience and talent — in many cases, they are only waiting to be asked. It is important to remember that seniors, and particularly males, are financially better off than stereotypes imply (e.g., U.S. Census Bureau 2004b). Households in which the householder is over 55 years of age are by far the wealthiest (U.S. Census Bureau 2005). Thus the elderly population may be a significant source of funding for law enforcement not-for-profit foundations as well as a significant source of political support. That is, if we bother to ask them.

Young & Immigrant Populations: Melting Pot or Salad Bowl?

Politicians like to say that diversity is our greatest strength...That is B. S. Diversity simply is. The core question is how do we extract its assets while minimizing its liabilities?

Ron Wakabayashi, Executive Director of the Los Angeles County Commission on Human Relations, quoted in Booth (1998a).

The notion of America as a melting pot has its genesis in Israel Zangwill's 1908 play of the same name, when America was going through a heavy wave of immigration. Its message was an optimistic one of assimilation: Those fortunate enough to reach the United States would transform — linguistically, socially, and culturally — from their former selves into “Americans” (Booth 1998b). Many now question whether that melting pot, if it ever did truly exist, has become a “salad bowl,” an amalgam of different languages and cultures where diversity, rather than assimilation, rules. The present section combines both immigrants and the young because the two are intertwined. America now finds itself in another wave of immigration. With an aging native population its status as a world leader depends upon an influx of youth. Indeed, immigrant populations tend to be young and full of energy and new ideas. Sometimes, that energy and the new ideas do not conform well to existing social expectations.

If NIC population forecasts are correct, a large portion of the young male population that will emerge in the U.S. in the next ten years will come from Africa and the Middle East. This may mean several things. In the first place, traditional crime is not going to disappear. While computer and white collar violations may continue to supplant more traditional activities, in 2020 the police can expect to still be investigating burglaries, simple thefts, assaults, vice crimes, and the like. As previously discussed, a good proportion of the immigrant population will be young and poor. Since youth and poverty are criminogenic factors, it would not be

surprising to see a fair number of immigrant violators. This, in turn, could feed into already-existing stereotypes that immigrant communities are criminal communities.¹⁵ Should this happen, a rise in ethnically motivated hate crimes may emerge, as happened in the United States just after the 9-11 attacks.

To appreciate one possible consequence of this, consider Sageman's (2004) analysis of al Qaeda members — most were not poor, were married, had good educations, and had not been engaged in radical religious activities. What seemed to tie many of them together was their largely negative experiences in foreign countries where they had gone to find employment; feeling marginalized by the society at large, many had simply “drifted” into radical mosques.

Terrorism, of course, is not the only concern for police leadership. More traditional policing problems associated with large levels of immigration may also rise to the fore. For example, diverse communities occasionally do not interact well with one another:

A poll by the National Conference, a nonprofit organization that promotes racial dialogue, found that minorities tend to share bitter feelings toward whites, whom they call bigoted and bossy. But the national survey found that minorities often harbored even harsher views of one another...Nearly half of Latinos and 40 percent of African Americans agree that Asian Americans are “unscrupulous, crafty and devious in business.” Only one in four whites agrees with that statement. More than two out of three Asian Americans and half of African Americans and whites believe Latinos tend to “have bigger families than they are able to support.” Meanwhile, Latinos are almost three times as likely as whites to believe that blacks “aren't capable of getting ahead” even if given the opportunity, the poll found (Booth, 1998a).

¹⁵ At least one study suggests that when poverty and other crime producing factors are taken into account, immigrants are less rather than more likely to engage in criminal behavior than their native-born peers (Martinez & Lee 2000).

Tensions between groups already beset with animosity can lead to frequent, and violent, confrontations; consider the widespread looting of Korean groceries by African-Americans in Los Angeles following the Rodney King trial in 1992 (Chang n.d.)

Immigration provides obvious benefits; it often brings with it unwelcome elements as well. For instance, MS-13 is an uncommonly violent gang, tailor made for a world of disappearing boundaries, with members routinely moving from El Salvador to the U.S. and back. MS-13 was fostered by a period of violent instability in El Salvador in the 1980s, and now has spread throughout Central America and the U.S. As strong as it appears to be, MS-13 will have a difficult time remaining competitive when faced with successor immigrant waves. It has adapted well so far, but will face challenges from increasing Asian, Middle Eastern and African groups.

In addition to more traditional crimes, immigrant communities may bring with them different types of crime as well. For example, human trafficking/smuggling, well-entrenched in many countries, is one of the fastest growing crimes in the world (U. S. Department of State 2005). By 2020, U.S. law enforcement agencies may find themselves providing personnel for human trafficking task forces, much as they provide personnel to drug or terrorism task forces today. In addition, immigrant groups likely have different notions of what constitutes “crime.” Consider the many divergent cultural perspectives on proper relations within families—to what extent will these perspectives conform to domestic violence laws in the United States? The refrain “but officer, I didn’t know it was against the law,” generally disregarded by most in policing, may reflect genuine confusion on the part of those whose cultural and ethnic values are at great odds with the laws of the U.S. Finally, immigrants don’t represent just potential perpetrators; they will no doubt become victims as well. Indeed, the police will likely face

tremendous challenges gaining the trust of communities which historically (and usually for good reason) have negative opinions of the police (Howell 2004). While many agencies have faced these challenges with Hispanic communities, given the likely patterns of future immigration, they will be facing it with African and Middle Eastern populations as well.

Compounding this problem—the native-born U.S. population often does not treat new arrivals well. When the majority feels threatened by the minority, it often lashes out in a violent and extra-legal fashion. The Ku Klux Klan provides an instructive example; in the 1920s, at a time of unprecedented immigration, its numbers were estimated to be in the millions. In addition to its historic hatred of African-Americans, it adopted a strong anti-Catholic and anti-Semitic platform (Columbia Encyclopedia 2005). Lest one consider the Klan but an historical blip, consider the sharp rise in ethnic hate crimes against Muslims and Arabs that followed the 9-11 attacks (Federal Bureau of Investigation 2002).

On the other hand, challenges also offer opportunities. If the police are serious about affecting future crime rates and shaping communities for the better, they should begin with the most junior members of the population. It has been suggested that those children who are “unwanted” are more likely than their peers to engage in criminal behavior (Jensen, Levin, and Royster 2001). Reducing the “unwantedness quotient” among children already here (e.g., through the sponsorship of mentoring programs) or for those yet unborn (e.g., by promoting programs that encourage sexual abstinence or, more controversially, those that promote birth control) may prove to be the most effective and efficient crime prevention strategies for future generations.

Whether one accepts the philosophy of “community policing” (however defined) or not, policing is a people business. In spite of technological, cultural, and social change, it will

remain a people business. The implication here is clear — the police have to interact with the populace. Increasingly, this will be a populace that does not speak English and does not understand (or share) Western cultures and values. The stakes of failing in this arena for the police are enormous. This begs the question: What responsibility does a policing leader have in tying a community together through non-policing means? Will homeland security increasingly be defined as system stability rather than merely community protection (see Levin and Jensen forthcoming)? These questions will become more, rather than less, complex as we enter into the 21st century — and more, rather than less, important.

Blurring Boundaries and Globalization

The aforementioned MS-13 and other criminal organizations are evolving into Information Age adversaries. No longer constrained by traditional physical boundaries ethnically-based gangs and organized crime factions are springing up in places where their presence would once have never been considered (see Insert 1). Gangs such as MS-13 are hardly alone in their ability to traverse national boundaries. Much of the rest of organized crime is now perceived as transnational in nature. The internationalization of the economy has fomented parallel changes in the structure of crime. While traditional street crime remains and will remain, the power of the internationalized economy and its effect on organized crime must not be underestimated. This requires policing to expand its horizons and adopt the strategic view that geopolitical borders are permeable to a wide range of malefactors.

Gang activity has traditionally been a function of immigration and labor-migration patterns. Today, with those patterns changing -- with unskilled jobs shifting from cities to rural regions, with sprawl pushing suburbs and exurbs deeper into the countryside -- gangs are cropping up in unexpected places: tiny counties and quaint villages, farming communities and cookie-cutter developments, small towns and tourist

resorts. In Toombs County, Ga., for instance, 10 Hispanic gangs roam an area marked by cotton, tobacco and onion fields, according to Art Villegas, who tracks gang activity there for the sheriff's office.

The blue-collar jobs that do not require much training or fluency in English are increasingly found in the countryside. Thanks in part to the explosive growth of the fast-food industry and the huge agro-conglomerates that service it, giant food factories now dot pastoral America. The plants actively recruit south of the border and in poor Hispanic neighborhoods on both coasts of the United States, drawing legions of immigrants to places barely big enough to register on state maps.

Source: Brzezinski (2004)

Regardless of whether the concern is terrorism, trans-national gangs, or organized crime (the boundaries among which will fade considerably), the police will be involved. The days when oceans and physical borders protected America from both traditional and criminal armies have passed. Gone, too, are the days when the enemy could be envisioned as a single, autonomous structure, easily classified as "terrorist" or "gang-banger" (see Levin 2004). Recent media reporting (disputed by some) alleges that members of al Qaeda met with members of MS-13 in Honduras in 2004 to facilitate easy access for terrorists across the Mexican-American border (Seper 2004). This may be incorrect in the short term; Futurists, however, concern themselves with what *could* be. The Information Age will no doubt produce interesting, non-traditional, and sometimes threatening alliances. Indeed, in many ways, the Information Age is all about the making and breaking of temporary relationships as it suits one's purpose.

The significance for law enforcement in these areas is immense. In the first place, new threats require a heightened degree of sophistication and knowledge. In order to properly deal with international threats, the police need to gain an international perspective. If one wants to be successful in thwarting MS 13, knowledge of Salvadorian history and culture would be

most helpful (as would a rudimentary Spanish speaking ability). Likewise, consider threats from such diverse actors as Russian organized crime factions - an intelligence pipeline from Russia on their activities in that country would be not just ideal, but absolutely necessary for law enforcement. Some agencies recognize that, as with the criminals, boundaries for the police are melting away. For example, the New York City Police Department currently has detectives stationed in Tel Aviv, London, and Lyon, France. Their mission is to serve as an early warning system for possible acts of terrorism in New York (Weissenstein 2003).

Most small agencies cannot afford such drastic measures; the good news is, they do not have to. Today, the Internet provides an opportunity for officers from across the world to access information and network with one another with little effort, easily and quickly sharing information, ideas, and opinions (see Levin and Jensen 2005). Law enforcement also has to get better at gathering, analyzing, and, most importantly, sharing information and intelligence. In the wake of the 9-11 attacks, the International Association of Chiefs of Police created the National Criminal Intelligence Sharing Plan.¹⁶ While this effort is a work in progress, it is a good first step toward getting federal, state, and local law enforcement agencies on the right foot, at least headed toward the Information Age.

This permeability will extend beyond physical boundaries; increasingly it will include the dispersal of information. In some cases, this will work for the greater good—consider the case of Jody Williams, who won the 1997 Nobel Peace Prize for her highly successful efforts at ameliorating the damage caused by landmines. Of note, she was able to organize an international constituency almost single-handedly, largely through her use of e-mail and the

¹⁶ <http://it.ojp.gov/global>

Internet (Nobel Foundation n.d.). On the other hand, the motives of others may not be so pure. Ubiquitous communications empower special interests, regardless of their intentions. Criminal organizations, terrorist groups, lone wolf operators, and those with political agendas have already used the Internet to their advantage and will continue to do so. Equally important, many such groups and interests will emerge, often in breathtakingly short periods of time. Knowing what is going on in any particular jurisdiction will be well beyond the reach of many current police agencies, as long as they continue to operate using Industrial Age techniques. Sadly, many police organizations have yet to enter the Information Age in any meaningful way. To remain behind the information curve all but guarantees future irrelevance.

The globalized economy will offer potential challenges as well. If China and India emerge as competitors to the United States and the predicted “energy wars” come about, policing may be affected in any number of ways. To what extent can traditional patrol withstand \$8.00 per gallon gasoline costs? Police managers may find themselves forced to consider different options, such as video cameras and the use of robotic devices to “patrol” their jurisdictions. As well, such potential scarcity and its likely profit potential may well motivate criminals to “go where the money is.” Serial energy theft rings may operate in 2020 much as serial bank robbery gangs do today.

Another unintended consequence of globalization, and one that does not bode well for community safety, concerns the predicted growing gap between the rich and the poor. Unequal conditions provide ripe opportunities for the development of a wide-range of potential adversaries, be they nation-states, terrorist elements, criminal syndicates, or large numbers of desperate individuals. Should the police find themselves unable to adequately deal with threats

(both real and perceived),¹⁷ those with sufficient resources will increasingly go elsewhere, the most likely benefactor being the private policing sector. If the rich find themselves increasingly relying on private police, how willing will they be to fund public law enforcement?

Finally, the “face” of globalization over the past several years has primarily been a Western one, with heavy emphasis on American values and culture. With the rise of China and India, that may well change. Most in policing already realize the need to understand the culture of those who emigrate to America and appreciate that assimilation takes time (if it occurs at all). Consider, however, that, in the Information Age, it may be culture itself, rather than just individuals, that migrates. With little or no warning, whole new fads and cultural paradigms, spawned in the East and popularized through the Internet, may take hold in the U.S. Consider how that may affect communities and agencies. Indeed, those who think they are “out of the woods” when it comes to understanding different cultures because they live in areas with little or no immigration may be in for a rude awakening. Policing managers may find the world around them changing very quickly in ways they don’t understand. And how does one effectively police a population she does not understand?

THRIVING IN CHAOS

Do not go where the path may lead, go instead where there is no path and leave a trail.
Ralph Waldo Emerson (Emerson at Quotations Page n.d.)

For those feeling disheartened by some of the above, take solace. Readers are reminded that the universe appears to be based on chaos. From it, order emerges. While it is impossible to

¹⁷ A multitude of studies shows that, despite falling crime rates, individuals’ fear of victimization remains high; some researchers credit media saturation and lopsided reporting of sensational criminal events with fueling this perception (Dorfman and Schiraldi 2001). Regardless of its cause, the police have to live with the consequences.

predict the future, certain trends appear likely enough to afford some comfort in forecasting those skill sets that will provide advantage in the coming years.

Perhaps the most dominant theme of the Information Age is the superiority of networks over hierarchies. This suggests several paths forward. To begin, good line officers are good networkers. They have an in-depth knowledge of their communities and know who to call when something needs to be accomplished. Yet, many are constrained by police bureaucracies that are still firmly mired in the Industrial Age. The reason for this is largely structural. Law enforcement agencies are political creatures and governance as it exists today rewards certain behaviors over others. Some of the behaviors that continue to be rewarded in many law enforcement agencies include: loyalty to the agency over loyalty to the mission, the acquisition and protection of turf, and maintenance of the *status quo*. Add to this antiquated budgeting, inflexibility, and punishing mistakes to a greater degree than rewarding innovation, and failure is all but guaranteed in a fast-paced, post-industrial world. If size and strength mattered in the Industrial Age (and they did), the coin of the realm for the future will be speed. How lithe are most departments? To place it in the context of an athletic metaphor: perhaps the greatest favor a chief or sheriff can do for his people is to act as an offensive tackle rather than as a quarterback. In a world of fast-paced change and action, there will be no time for convoluted stumbling around. The successful chief will be the one who sets a structure in place that enhances chances for success (e.g., viable communications and IT systems), protects officers (the true quarterbacks), and gets out of the way.

There are also networks that exist external to the department. At a time of unprecedented immigration and where individuals can increasingly choose which tribe, nationality, or corporate

entity they wish to belong to, a central role for any officer will be that of coalition builder. At a time when “community” may be increasingly difficult to define, where the potential for inter-group rivalry and conflict runs deep, the police may find themselves more and more thrust into the role of “peacemaker.” Their efforts in this regard may, in fact, be the glue that holds increasingly disparate communities together. Police managers should welcome the opportunity to have every member of their organization exert this kind of leadership and should encourage, train, and equip their personnel accordingly (see Anderson 1998).

One reality of the Information Age is increasing transparency. While most administrators may associate this with events such as the Rodney King affair, it is in fact occurring throughout all levels of society in a variety of ways. In his book *The Transparent Society*, author David Brin argues that we will not turn back the information clock – today’s technologies are too pervasive and too potentially beneficial to be abandoned. Instead, he suggests that more rather than less information is the key to securing freedom. In his view, the ultimate guarantor of freedom is the public, which can make informed decisions based on the most complete information available (Brin 1998). Transparency can work to the advantage of the police. In today’s world, the public has access to information in ways never imagined; consider just one example, the weblog or blog. Many individuals regularly access and post to blogs; they see them as a significant source of information and a way to disseminate their views and ideas to a ready-made audience. Hoping to capitalize on this phenomenon, the Boston Police Department has started its own blog, where it posts information and solicits input from its readers.¹⁸ This two-way exchange of information is potentially beneficial for both the public, which can better understand what the police do and

¹⁸ <http://www.BPDNews.com>.

why they do it, and the police, who have “recruited” thousands of new eyes and ears. Indeed, sharing responsibility for public safety is both as old as Peel (see Peel 1829) and as modern as the recently proposed Neighborhood Driven Policing model proffered by Levin and Myers (2005). If Brin (1998) is correct, it will have special relevance in the Information Age.

Philosopher/longshoreman Eric Hoffer is quoted as saying “In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists” (Hoffer in Brainy Quote n.d.). One of the chief functions of a member of a policing agency in the future will be that of lifetime learner. Perhaps the greatest thing one can do to assist herself in learning about the world is to read, on a regular basis, one quality periodical that has absolutely nothing to do with policing. Some of the best future ideas in policing will likely come from disciplines that have nothing obviously to do with law enforcement. Along these same lines, the administrator who does not align his agency with an institution of higher learning is bypassing an excellent, and very often free, resource. Colleges and universities are brimming with ideas, state-of-the-art technology, and a mission to help the community. Many are also brimming with faculty who desire tenure and graduate students who must complete theses and dissertations. Each can provide multiple benefits, especially at a time when outcomes assessment and evidence-based practices are gaining greater salience.

Of equal importance at a time of unprecedented immigration and disappearing boundaries, police leaders must develop an international perspective. The U.S. proclivity toward insularity has no place in a global world. Indeed, what happens in Russia or China will increasingly directly affect what happens in Duluth and Charlotte. Finally, in a rapidly changing world,

those who play catch-up ball will never catch up. Once the public accepted Joe Friday rolling up after a crime had been committed asking for “just the facts, ma’am.” Those days are over. Today, whether it concerns the homicide rate in New York City or the next al Qaeda atrocity, prevention is the name of the game. Preventing something implies a certain ability to foresee, or at least think ahead. Given this climate, it is astounding that so little time and effort is spent in policing trying to figure out what is coming next. Indeed, many law enforcement administrators still seem content to solve yesterday’s problems tomorrow.

To be sure, entities such as the National Law Enforcement and Corrections Technology Center (NLECTC) have attempted to integrate modern technology into policing. And other groups, such as the Society of Police Futurist International (PFI) and the PFI/FBI collaborative Futures Working Group have studied what may happen in the next 10 years or so.¹⁹ However, until and unless policing moves from tactical to strategic visioning, its practitioners will never develop the skills necessary to successfully traverse the 21st century. Historically, most police organizations have not welcomed change with open arms. To illustrate this, in preparing this chapter, the authors consulted an article written some ten years ago by Levin and Broadfoot that provided guidance for future police administrators (Levin and Broadfoot 1996). Perhaps not surprisingly, many of their recommendations mirror those in the present chapter.

CONCLUSION

Change is afoot. By even the most conservative estimates, the world in 2020 will look much different than the world of today (see Figure 3). To be sure, technology will play a part. But

¹⁹ For more information on these groups, visit their homepages: Society of Police Futurists International (<http://www.policefuturists.org/>) and Futures Working Group (<http://www.fbi.gov/hq/td/fwg/workhome.htm>).

policing is a people business; that is unlikely to change. In this chapter, the authors have laid out a few of the demographic, economic, and social changes they feel are likely to occur. It would be presumptuous to attempt to forecast the future for a particular agency. Those in the agency are in a much better position to do that. To that end, readers are strongly encouraged to look ahead rather than behind. As a profession, policing has a choice: it can attempt to understand and prepare for the future or it can remain more or less as it has, with perhaps a few new toys. One way offers hope, the other leads to sure irrelevance. The preferred path forward seems obvious.

Figure 3. Trends and Challenges in 2020.

Trends	Possible Challenges for the Police
Young, immigrant population	<ul style="list-style-type: none"> a) Organized crime/gangs b) Continuation of street crime c) Homo-ethnic crime: victims afraid to contact the police d) Proliferation of new " " crimes (e.g., human trafficking) e) Rise of ethnic/religious crime (e.g., terrorism, ethnic rivalries in immigrant communities) f) Immigrants as victims: disenfranchisement and rise in hate crimes
Senior population	<ul style="list-style-type: none"> a) Rise in crime against the elderly b) Emergence of elderly criminal class c) Calls for service
Globalization (to include rise of China & India)	<ul style="list-style-type: none"> a) Less support for public governance (including the police) b) Resource wars: sharp rise in the price of oil produces 1) new criminal opportunities, 2) need for re-assessment of patrol/investigative strategies c) Rise of "Eastern" fads and cultural shifts—new types of behaviors, including criminal ones
Blurring Boundaries	<ul style="list-style-type: none"> a) Potential for many different "communities" within a jurisdiction; less assimilation b) Rise in power of special interests c) Strident "expressions" of community d) Information overload

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Chapter Three

INFORMATION AGE TECHNOLOGY AND NETWORK CENTRIC POLICING

Thomas J. Cowper

EXECUTIVE SUMMARY

This chapter is an overview of the Information Age and how technology may impact policing and the world within which policing will be conducted over the next 15 years. It examines the relationship people have with technology, considers technology's use by police as well as by criminals and terrorists, and discusses the impact that technology will have on organizations, communities, and civil liberties. This chapter is not a prediction of the future, nor an endorsement of any particular technology, technology application, or police procedure enabled by them.

Studies show that information processing power has been increasing at an exponential rate for many years and will continue even faster in the future. Given the rapid rate of change in the coming years and the new capabilities and opportunities that it will bring to policing it is important to remember that we cannot continue business as usual. To be successful over the next fifteen years police must constantly adapt to changing circumstances driven by new technologies and creatively explore better ways of fulfilling their mission.

The trend toward smaller, faster, more capable computers is making it possible to incorporate information processing into every aspect of our life, and the implications for our world and policing in the future are quite significant. One result of these accelerating changes is that we are beginning to see the emergence of a new organizational paradigm called "network centric" or "net-centric" organizations. Made possible by today's

information technology, net-centric organizations are more nimble, flexible, and less structured than the ponderous and rigidly structured bureaucratic creations of the industrial era (see Myers' chapter elsewhere in this volume).

Network centric policing is an Information Age concept that could improve police operations through the extensive use of information technology, creating more productive officers, faster police response, and better service to the community. It has the potential to lead to less crime, fewer terrorist attacks, and more cost-effective government. The corporate world and the military, as well as our criminal and terrorist adversaries are moving toward or have already adopted similar decentralized and self-synchronizing (i.e. – bottom-up coordination of group actions that eliminates the requirement for direction from higher authority) models of organization. These trends indicate that the police profession will need to make a similar paradigm shift to Information Age operations in the ensuing 15 years.

INTRODUCTION

For better or worse human beings are a technological species. While recoiling from science fiction creations such as Star Trek's Borg and the part human, part machine Robocop, the fact is that *Homo sapiens* have been creating and then adapting themselves to technology for millennia. To a certain extent we are all cyborgs (Clark 2003, 115-142). From the stone knives and bear skins of early cave dwellers to the prescription eye glasses and Gore Tex we take completely for granted in the modern era, people have created, and will continue to create, ever more capable tools that purposely expand human capacity beyond their existing biological limits. The near future will bring with it some amazing new technological devices and systems that will in many ways rival the decades

old imaginings of Hollywood science fiction. Police officers today will need to get used to that fact and prepare for it.

In the preface to their book *The Information Age: An Anthology on Its Impacts and Consequences*, David Alberts and Daniel Papp write: “Complexity and change are the two defining characteristics of the Information Age. Our successes as individuals, families, organizations, communities, and societies will depend more than ever upon our abilities to adapt, in near real-time, to deal with increasingly complex and dynamic situations which will be characteristic of the Information Age” (Alberts and Papp 1997, xvii). Policing in the Information Age presents a wide range of unique challenges to both executives and street-level police officers to which we are not presently adapting.

Despite our reluctance, however, things will continue to change. Tomorrow’s policing world will be fundamentally different than the one we know today. Technology has always generated profound changes in the way people live, culture, social norms, business processes, organizational structures and government policies. Policing will become more difficult in the next decade and a half, not less, and in order to understand how we will need to operate with the tools available in the future, we must try to envision how technology will have changed the world from the way it is today.

Technology also changes us; technology gives people new options for living, working, and accomplishing tasks while altering the way we relate to one another and our perceptions of the world. Some people perceive the changes wrought by technology as bad or dangerous; some people embrace them as life saving and socially beneficial. In our discussion of technology for policing it is important to recognize that the technologies themselves are simply tools, neither inherently good nor bad. It is the

application of technology by people within society that makes them good or bad, beneficial or dangerous.

The most important component of the future of policing, therefore, is not technology. Technology for law enforcement is only important within the context of how police officers use it to do their job or how criminals use it to harm others. Technological tools will continue to be critical in efforts to protect the public, identify and apprehend criminals and terrorists, and investigate crimes. It will always be the way police officers use those tools that will determine whether they are actually beneficial for society.

As we think about the use of technology by police officers in the future we need to consider not just the tools they will use but the people behind those tools. We will need to consider how police officers use them within their communities, both real and virtual, what kind of training they will need to function effectively, safely and ethically while using technology, and what effect new technology applications will have on both public safety and civil liberties. We will also need to consider the appropriate educational level of police officers using technology in the Information Age and how to further educate police administrators so they are able to competently procure and manage complex technological systems while providing ethical leadership and sound guidance to the officers who will use them within our communities.

This chapter offers the law enforcement professional a glimpse of the technological arena that will likely emerge before the year 2020. The actual technologies available to us in the future and the applications, tactics and police procedures they provide, whether good or bad are dependent upon the knowledge, skill, and ethical integrity of the police officers who procure and use them – that, coupled with their commitment to the preservation of constitutional liberty for all people.

A CHANGING WORLD

Before proceeding forward into the future of law enforcement it is necessary to examine the past to observe and understand how technology has previously impacted our world. It has been the key inventions throughout human history, along with their creative applications, that have dramatically changed history's course and lifted at least some factions within the global population – those nations, cultures, and communities able or willing to embrace the latest scientific and technological advances of the era – to new levels of productivity and enlightenment. Change is a fact of human existence and changes often foster conflicts between those willing to embrace change and those more comfortable with life as it used to be. The most dramatic changes have often spawned the sharpest conflicts. Indeed, the technological advances that have fueled greater wealth and prosperity have also created new and more effective ways for people to force the changes they prefer upon those who oppose them. In many cases, the police have been at the center of these conflicts.

Edward Cornish, president of the World Future Society, describes three distinct technological revolutions responsible for human transformation. The Agricultural Revolution was enabled by the tools created for farming and allowed more people to survive and prosper from the land through increased human productivity. The Industrial Revolution was characterized by the invention of engines – steam, internal combustion, and turbine – that allowed people to mechanize their productive capacity and create new and greater forms of power beyond that derived from human or animal muscle. What Cornish calls the Cybernetic Revolution rose from the invention of the computer and the increased flow of information that boosts our productive capacity and the speed at which goods, services, and finances are distributed (Cornish 2004, 14-20).

It is this flow of information, or the limitations on the flow, that Douglas S. Robertson suggests is central to human progress. He writes of three distinct human inventions of the past that had very similar revolutionary effects on the human species. Like the invention of the computer, the inventions at distinct times in our past of language, writing, and printing each fostered an explosion of information, decreasing the effort and cost necessary for its production, storage, and distribution (Robertson 1998, 8-14). It is not without significance that these inventions also coincided with times of great social change and conflict.

There is no indication that this continuing expansion of human capabilities, particularly our ability to produce, store and distribute information, is going to end, or even remain constant in the future. To the contrary, it appears that many, if not all of the areas of human biological capacity that are dependant upon or enhanced by technology will advance at ever-increasing rates. In a research paper for the US Army titled *Human Performance Enhancement in 2032: A Scenario for Military Planners*, John Smart, the president of the Accelerating Studies Foundation, said “Like thermodynamics, another kind of ‘statistical’ law of nature, developmental infodynamics predicts that the leading edge of Earth’s intelligent systems always figure out how to use less Matter, Energy, Space and Time (so-called “MEST compression”) to do computing. Because of this fundamental trend, the acceleration never stops, and they never run into limits to growth” (Smart 2005). In other words, Smart concludes that the inherent human capability to process information is accelerating and has no limit.

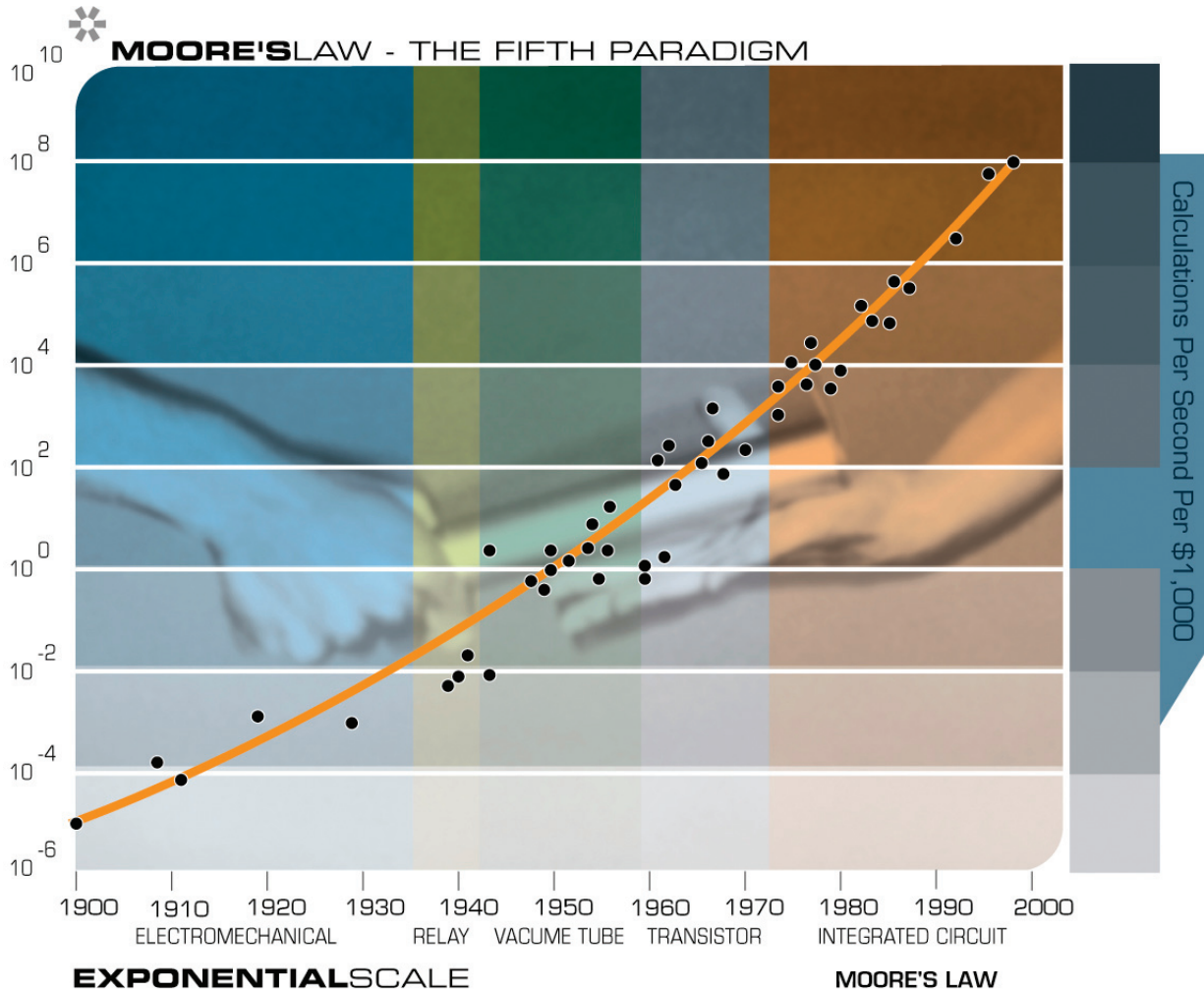
Futurist and entrepreneur Ray Kurzweil began studying technology induced changes as part of his own technology development process. In a speech describing his first major invention he said – “I realized that my project had to make sense when I finished the project, not when I began it, and invariably the world was a different place when we got the project done three or four years later” (Kurzweil 2004). Kurzweil recognized that in a time of rapid change the most successful businesses would not be those with the best product ideas but those that could create products useful to the world at the time they were ready for sale. It is important to heed Kurzweil’s counsel when conceptualizing what policing might look like in fifteen years.

Kurzweil’s subsequent and detailed research shows that the rate of change is itself changing, in fact accelerating. His Law of Accelerating Returns shows that information processing power has been increasing at an exponential rate for over one hundred years. Moore’s Law¹ is only one example in the long line of exponential growth in information processing power that actually goes back many decades, if not centuries. Computing based upon integrated circuits is but the latest design paradigm for information processing. Technologies designed to enhance processing power began with the electro-mechanical calculating devices of the late 1800’s, evolved into relay-based machines of the WWII era, grew with massive vacuum tube computers of the 1940s and 1950s, onward to the transistors used in the early space program. Figure 1 plots the increase in computer processing speed per \$1000 over the 20th Century time

¹ In 1965 Gordon Moore, co-founder of Intel, noted the number of transistors per square inch on integrated circuits had doubled every year since that technology was invented. Moore predicted this trend would continue for the foreseeable future. In subsequent years, the pace slowed down a bit, but data density has doubled approximately every 18 months. This is the current definition of Moore’s Law, which Moore himself has blessed. Most experts, including Moore himself, expect Moore’s Law to hold for at least another two decades. http://www.webopedia.com/TERM/M/Moores_Law.html (accessed January 23, 2005).

frame. A straight line on this logarithmic scale would indicate exponential growth but the curved line indicates that the increase was not simply exponential but a double exponential, or as Kurzweil puts it “...there’s exponential growth in the rate of exponential growth” (Kurzweil 2001).

Figure 1. Moore’s Law - The Fifth Paradigm



Courtesy of Ray Kurzweil and Kurzweil Technologies

This concept is important to our examination of technology and policing. Computers and their information processing power are central factors in today’s rate of overall technological growth and will dramatically affect the technologies that

will be available in 2020. Computers will be much faster than they are today, with equal or greater advances in data storage capacity, data transfer rates (both wired and wireless), and miniaturization. These factors will foster many new technology applications that will be seamlessly integrated into every facet of life.

Given the rapid rate of change we can expect over the next 15 years and the new capabilities and opportunities that it will bring to policing, business as usual is not an option. More powerful computers do not simply allow us to do what we've always done faster; more powerful computers allow us to do things we never thought possible. New digital radio systems are not just fancier (and more expensive) push-to-talk radios. New digital radio systems offer police departments and their officers entirely new opportunities to share information whenever and wherever it is needed. Therefore, investments in new technology, without serious and comprehensive thinking about how the new technology will be used to conduct policing, will be a waste of time and taxpayer money, failing to provide the security and liberty many citizens expect and deserve in the face of modern criminal and terror networks.

A DIGITAL WORLD

The accelerating trend toward smaller, faster, more capable computers is now making it possible to incorporate information processing into every aspect of our life. The implications of that possibility for policing over the next fifteen years are staggering. There are a number of technologies emerging today that leverage digital information in ways that could greatly improve law enforcement.

Radio Frequency Identification (RFID) chips are very small information technology devices that are attached or embedded into anything that needs to be tracked or identified. Programmed with a wide variety of information and containing their own radio antenna, RFID chips connect identifying information to their associated objects. They are passive in that they only transmit their information when activated by a separate scanning device that can read the information over short distances, in most cases only three or four meters. As small as a grain of sand in some models and very inexpensive, RFID chips are rapidly replacing the common barcode stamp as a means of identifying a product or package. Because the chips can be extremely small and still hold a great deal of digital data they can be incorporated into practically every manufactured item. Eventually, every thing on the planet could have its own unique RFID identifier and database of information.

The ability for businesses to know exactly where and how many of each item they have in inventory will save billions of dollars per year while increasing efficiency and cutting down on employee theft. These benefits should translate into savings for consumers as these added costs are eliminated from the business cycle. RFID chips however, have much wider application than just inventory control and business efficiency (McCullagh 2003). Already they are being used for such purposes as security access cards for building entry, automated toll readers for controlled access highways, and implants in livestock to track meat production and monitor disease outbreaks. In many new automobiles they help thwart theft by preventing a car from starting without the proper code from the RFID chip embedded in its authorized ignition key.

One of the latest RFID applications to emerge has been their implantation into humans for security, medical and other identification purposes. People with an implanted RFID chip would have their medical data accessible to medical personnel even when unconscious or incapacitated. Implanted chips that contain building authorization information would allow people access to secure areas without carrying a separate ID card for that purpose – their identification is contained on the implanted chip which can be read by an electronic scanner at the building access point. Gun manufacturers are considering RFID chips embedded in police handguns that would be linked with another RFID chip embedded ring or in a wristband worn by officers. Only individuals with the appropriate authorization programmed into their RFID chip would be able to cause a weapon to fire, greatly increasing officer safety. Implanting the associated RFID chip directly in the officer's hand or arm would eliminate the need to wear an external device, potentially making the system even safer.

But the emerging digital world goes much farther than passive RFID devices which simply store data. There are a host of other computing devices being created that will further digitize our world, ultimately forming intelligent environments that will sense and respond to changing circumstances and be fully interactive. A wide variety of sensors including cameras of all shapes, sizes, and capabilities will provide information about localized environmental conditions, the security status at sensitive installations, and human activity on a city street, among other applications (Brin 1998, 285-287). Sometimes referred to as “smart dust” because of their small size, these sensors and cameras may eventually blanket entire communities or regions, pro-

viding a wide range of information necessary to greatly improve crime prevention and homeland security efforts.

It is likely that by the year 2020, every person, every automobile, every television set, every piece of lumber in our homes, and every brick in our office buildings could have a digital component – an RFID chip or digital sensor. Accenture Technology Labs Chief Scientist Glover Ferguson said “If you boil it all down, there are two things that every object on the planet shares. One is identity; the other is location. Sensors are all about using that information better, but there is more you can learn from them. Knowing the state of an environment, or even particular piece of equipment the sensor is monitoring, can create huge business opportunities. Add that to the explosion of wireless communication opportunities, and now we can inexpensively acquire information—temperature, weight, pressure, any attribute you can dream of” (CIO Insight 2004).

The attributes useful to police agencies are now being explored and many opportunities for their use will be developed in the next 15 years. Tiny and inexpensive RFID chips coupled with wireless digital sensors that can monitor anything or any activity we deem important will add whole new dimensions to the concept of policing and homeland security (Ricadela 2005). The commercial non-police use of RFID technology today is already an issue of great concern among civil libertarians and it will be important for police to take special care to use these new capabilities within the bounds of the Constitution.

Additional capabilities will unfold with the advent of other digital devices under development today. Wearable computers will be another way that people will

become digitally enhanced by 2020. They are already in use in many industries giving employees such as repair technicians and delivery workers ready access to critical and complex information. Law enforcement is beginning to see their utility in applications such as SWAT operations and traffic enforcement. Wearable computers, like almost every other technology, will undergo two important evolutions over the next 15 years – miniaturization and increased capability.

First, wearables will get smaller and more powerful. We are seeing a tremendous convergence of most of our separate digital devices today (cell phones, PDA's, computers, MP3 players, cameras, etc.) into one device and that trend will continue to accelerate. By 2020 it is likely that there will be no such thing as a stand-alone cell phone or computer. Scientists are even developing exotic materials called “electro-textiles”; fabric that will safely conduct electricity and allow the components of digital computers and communication devices to be woven directly into clothing. Micro and nanotechnology will make it possible to pack enormous computing power into very small devices (Natarajan et al. 2003, 1-6). In fifteen years it may be possible for a police officer's digital computing and communicating devices to perform double-duty as his or her uniform shirt.

The second development for wearable computers over the next 15 years is their increasing ability to provide data to people on the move, to incorporate digital information directly into their real-world activities. Fighter pilots have been overlaying information on their real-world view for decades with heads-up-displays (HUD) that project critical flight and combat data onto the cockpit canopy. This display of information allows them to focus on their mission and access critical information at

the same time, enhancing overall performance and making them much more effective dog-fighters. This powerful ability to “augment reality” with relevant and useful computer generated data will be revolutionary for many other activities, including policing (Cowper and Buerger 2003, 16).

People are not the only mobile workers that are becoming digital. Robots, or so called unmanned ground vehicles (UGV’s), have been used within policing for many years for remote bomb removal and detonation. To date, their civilian utility beyond specialized critical incident work has been highly limited. More advanced UGV’s will begin to emerge as an aid to police officers on the street, doing more of the routine patrol, surveillance and security work over the next 15 years. A host of digitally-enhanced robots of all shapes and sizes, with increasing capabilities and levels of autonomy, are being developed for the military; many may have direct application to policing.

Another type of robot that will see increasing utility for policing is the unmanned aerial vehicle or UAV. Being used extensively by the military and already being tested for police use by the Los Angeles County Sheriff’s Department, UAV’s will have many of the capabilities of UGV’s, such as cameras and sensors, but they are not terrain limited and can scrutinize much wider areas from their higher vantage point (Farivar 2005). A much more economical alternative to helicopters, UAV’s can fulfill many of the same missions at a fraction of the cost. By 2020 UAV’s will provide law enforcement with a wide variety of flying assistants tailored to fit many different missions. Types will range from large fixed wing platforms for aerial surveillance over a city to vertical takeoff and landing (VTOL) UAV’s that can hover and maneuver low over a specific point or area and provide continuous monitoring of an individual.

Very small “micro-UAV’s” may be capable of flying into a building or room undetected and record activities either audibly or visually, sending their information back to police officers monitoring events in real time.

These ground and aerial robots could make policing safer and more effective by expanding the reach of the individual police officer and giving police departments more “eyes and ears” on the streets. Making this possible is another military development program that will allow UGV’s and UAV’s to function more autonomously, in some cases without direct human control or oversight. In this way, the UGV or UAV could act as a digital partner, traveling with a patrol officer, guarding his or her back, monitoring subjects at the scene or following fleeing suspects, all on its own without the officer directly controlling its movements or actions.

The typical patrol officer of 2020 might be equipped with a multi-purpose UGV and a small VTOL UAV carried in or on the patrol car for use in a wide range of circumstances. Equipped with a camera, sensors and even less lethal weapons, the officer might deploy either the UGV or UAV or both at traffic stops to better observe the interior of vehicles. Handling domestic disturbances might become safer by allowing officers at the scene to track and monitor multiple subjects within close proximity, warning them of any dangerous movements or actions of participants they may be unaware of. In cases where large numbers of people have gathered the UAV might identify and then warn the officers if one or more of the participants was approaching from behind or fleeing the area. The UGV might then position itself to help prevent that person from attacking or fleeing.

Digital technology will become smaller, more powerful, and embedded into many of the things we wear and work with by 2020. These tools will allow police

officers to record and store all of a day's events for future recall or testimony. Recording the video images from surveillance or patrol car cameras is only the beginning of the amount of digital data that police will capture and store so that it might be recalled and used at a later date, perhaps many years in the future. Like computer processing speed, data storage capacity is growing exponentially, eventually making it possible to save everything we care to record in digital format.

One example of this technology is the Defense Advanced Research Projects Agency LifeLog project. Intended to address the issue of individuals being able to capture and analyze their experiences, preferences and goals, LifeLog is essentially a project to create a digital diary to help people accurately recall the past and use those recalled experiences to help them accomplish tasks in the present more effectively (Gage n.d.). Using digital cameras, microphones, sensors and inputs from a wide variety of other digital sources such as computers, GPS locators and RFID chips, a program such as this would allow people to capture everything they see, hear or experience. When accessing those experiences at some future date the data could be displayed to allow the user to know exactly what was said or done, what event or events were taking place, and exactly when and where those events occurred (Sniffen 2003).

NETWORKING THE WORLD

There is more to this emerging digital world than just a lot of fancy gadgets – the embedded or implanted RFID chips, the sensors and cameras, the UAV's and UGV's roaming the environment, and all the other communication devices used by people. As

already stated, by 2020 much of our world and many of its inhabitants will have a digital component and all of them will be generating, storing, and processing a large amount of information, information that will be useful and in some cases necessary for a great many things, not the least of which is more effective policing.

Because all of the gadgets and the people using them will have a digital component they can be linked to one another. It is inevitable therefore, that these devices will form networks, with their information shared and used in many different ways. These networks may be private and secure, firewalled, and protected to prevent unauthorized access to the data flowing over them, or linked into the global and publicly accessible internet, sharing their information with anyone for any reason, possibly for a fee. Some networks may be both, securing portions of their network while opening up and sharing others portions with authorized users or the world.

Very simply, a network is a series of nodes (specific things that gather and share information) and the links (pathways) connecting them. The nodes might be individuals, organizations, firms, sensors or computers that are connected in a way that allows them to communicate, share information and establish relationships (Barabasi 2002, 21-22). This is one of the primary reasons for embedding digital components into our environment, into the things in our environment and into (or at least onto) ourselves. The real power of an RFID chip or a digital sensor or a surveillance camera is not the small bit of information it contains or generates by itself. The real power of digital devices, rather, is the collective information that is available when those thousands or millions of devices are linked and their information is then shared and utilized to solve problems. Linking these information nodes into

a vast network has already begun and like the rest of the technology world it will accelerate at an exponential rate throughout the coming 15 years. As the number of nodes linked together increases, the amount of information on the network also increases, making it an extremely powerful tool for those with access to it and who know how to use it.

Information is the most potent force in the world today. The tremendous power generated when everything and everyone has a digital component and those components are linked through a network is difficult to imagine. The world is becoming a *datasphere*, a place where information about people, their environment, and their actions is the primary driver (Garfinkel 2000, 75). Manual filing methods relying on human clerks, paper forms, and metal filing cabinets, still the data management method of choice in many police departments, cannot begin to cope with this flood of data in the Information Age. Even more recent information technologies (IT) such as centralized relational databases and spreadsheets used to catalog, collate, and retrieve data in many police departments are inadequate today, having been developed within an Industrial Age mindset that mimics the manual processes of yesterday's world.

By 2020 there simply will be too much seemingly disparate information flowing from the thousands or millions of randomly scattered digital nodes and stored within millions of decentralized databanks to make sense of it, or even be aware of all the data that is available using traditional methods. Getting the most from available information is one of the biggest challenges facing us today and into the future. Creating the tools for *information fusion* – the acquisition of data from many sources,

the integration of these data into usable and accessible forms, and their interpretation (Hennessy, Patterson and Lin 2003, 63) – is essential to future law enforcement success. The corporate world, the healthcare industry, the military and others are all facing the same onrush of data and are actively developing ways to handle new demands and opportunities. Law enforcement could benefit greatly from these developments but we must ensure special emphasis is placed on security of the information and protection of privacy.

One area of development is focused on improving the flow of information between humans and machines. We have available to us much more data than we can assimilate, particularly through the traditional means of reading text from a computer monitor. Improving the human-machine interface is critical to using information in more productive and useful ways. One of those ways has already been mentioned, Augmented Reality technology, overlaying digital information on our real-world view. There are other technologies that will take the human-machine interface even farther and speed the flow of information between people and digital devices.

The Linguistic User Interface (LUI or “looey”) is a concept of human-computer interaction that is more natural and intuitive than today’s Graphical User Interface (GUI) found on the current Windows or Macintosh desktop. Using a form of artificial intelligence called Natural Language Processing (NLP) an LUI will allow users to converse with their computer as if they were talking to another human being (Smart, n.d.). Seen today in its very early forms in search engines like Google and in real-time speech-to-speech translation technology, the LUI may foster the development of “digital

agents”; on-line assistants that appear as simulated human characters called *avatars*. These assistants will be fully interactive, able to converse with people and assist them in accomplishing many time consuming and mundane on-line tasks such as searching for information on a network.

Another field of development are software programs designed specifically to process, manage, and act on the growing body of information in our world. The Global Regulatory Information Database (GRID) is a software tool for financial institutions and other corporations that draws on unclassified public information from many divergent sources to identify and manage the threats posed to global security by money laundering, fraud, corruption, terrorist financing, and other suspicious activities (Jane’s 2003). Automated Data Analysis and Mining (ADAM) is another corporate data management tool that provides its clients, including the US military, with the ability to obtain and analyze public records and proprietary data to create explicit profiles of target groups and collect critical data on each of the individual members of that group (SAIC 2005). The Centers for Disease Control (CDC) is developing the National Bioterrorism Syndromic Surveillance Demonstration Program with the primary goal of creating a flexible, open-source surveillance system that uses ambulatory care data to identify unusual clusters of illness and support rapid public health follow-up (Yih et al. 2004).

Software programs are only one component of the coming improvements in using and sharing information. Creating the technological links that allow the information to flow between nodes is the other. Today our hardwired networks like the public Internet link many disparate individuals and groups while private Wide Area Networks (WAN’s)

and Local Area Networks (LAN's) support intra-organization data transfer. Even today however, these predominantly wired links are being supplemented, and in some cases supplanted by wireless links that allow information flow over the "last mile" to those nodes that are mobile and not operating from fixed locations.

Our ability to transmit information wirelessly is on the same exponential advancement curve as our wired networks, increasing social connectivity and facilitating all types of collective actions. There are many different kinds of wireless technologies in operation and under development that by 2020 could allow communication by anyone with anyone or anything from anywhere in the world. The list of wireless technologies is growing and includes various types of satellite communications systems; terrestrial-based land mobile radio (LMR) networks with integrated voice and data capability; commercial cellular and personal communication services networks; ad hoc or self-forming networks, so-called "mesh" technology; Bluetooth and Ultra-Wideband for short range data messaging; and, Wireless Fidelity (Wi-Fi) and WiMax technologies for longer range broadband service. These technologies and others will speed the flow of information to the edge of police organizations and expand the number of information nodes (both people and things) within the datasphere (Alberts and Hayes 2003, 5).

The most profitable businesses in 2020 will be those that can acquire, analyze and share useful information faster than their competitors. Likewise, the most successful armies will be those that can acquire information about their battlespace, quickly process that information into useful intelligence and disseminate it in real time to the appropriate combat units and warfighters so they can out maneuver and

overwhelm the enemy. The world's healthcare professionals understand that the only way to stop today's rapidly mutating diseases before they become regional or global pandemics is to identify them in their earliest outbreak phases, gathering and analyzing symptomatic information as it occurs so doctors and hospitals can take aggressive treatment action before a disease has a chance to become widespread. The implications of information technologies for law enforcement and homeland security are equally important and will be just as essential to successfully operate against the criminal and terrorist networks of 2020.

Lacking a robust ability to present information as a coherent portrait in real time to those who will use it calls into question the possibility of successfully stopping serious crimes and terrorist attacks within the dynamic Information Age world of the future. Without these advanced methods of managing data the information otherwise available to law enforcement throughout the datasphere will be largely useless.

THE NETWORKED FUTURE

The information technology revolution is not simply about automating the manual processes of the Industrial Age while allowing people to operate in traditional ways. Creating ever-larger storehouses of information that require searching by increasing numbers of human analysts will become much less effective over time. Doing what we've always done, even using state-of-the-art technology, will not make policing effective enough to counter the emerging criminal and terrorist threats that will face us in the next 15 years. Our current organizational structures, bureaucracies and methodologies, with or without technology, are vestiges of the Industrial Age and largely

incompatible with an increasingly networked world. Reinventing the way police officers interact and organize is critical to effectively using information in the future.

The most effective information age organizational models seem to be finding their basis in human behavior, in the social networks that have fostered human relationships throughout history (Clippinger, *Human Nature and Social Networks*, n.d.). Building on the mutual trust and identity found in human relationships these net-centric organizations of the 21st century are not organizations in the traditional sense, but the Information Age replacement for the ponderous and rigidly structured hierarchies of the past. Net-centric organizations are not dependent upon technology but today's modern digital technology can facilitate the natural creation of human relationships, overcoming physical barriers such as distance and eliminating the artificial structures of control and direction created during the Industrial Age (Aquilla and Ronfeldt 2001, x).

The latest research is beginning to suggest that less constrained and more open organizations can free people from the burden and distraction of bureaucracy, allowing them to more easily coordinate their actions in ways that lead to the accomplishment of their collective mission. In today's increasingly networked world with its underlying information technology the bureaucracy once necessary to control and coordinate human actions can be increasingly eliminated. Debates rage over the extent to which traditional bureaucracies will ever be entirely transformed to more open networks but over the next fifteen years it is likely that a range of hybrid organizations will emerge with increasing levels of network centrality and less centralized bureaucracy.

One of the reasons police organizations may be compelled to move in this direction is that the network-centric concept appears to be at the core of the modern extremist

movement. For example, Osama Bin Laden is not the terrorist equivalent of a CEO or general that controls and directs subordinates by passing his orders down a rigid chain of command within a structured corporate environment (Arquilla and Ronfeldt 2001, 34). Since the US invasion of Afghanistan that organizational model has been impossible to maintain, but more significantly, it is no longer necessary. Al Qaeda today is a loose coalition of individuals and cells with a common worldview and similar inclinations about how to further it – a human network without bureaucracy capable of self-synchronization. Self-synchronization is the process whereby highly informed groups arrange and direct complex activities from the bottom up, without centralized command or control (Hutchins et al. 2001). Bin Laden is one of their visionary leaders but only in the sense of providing the collective vision fostering self-synchronization of those who rally around his banner of global jihad (Clippinger, *Leadership*, n.d.).

This distinction between Al Qaeda as a bureaucratic organization vs. Al Qaeda as a network may seem trivial but it has serious implications for the way police organize to deal with terrorists over the next fifteen years of Information Age evolution. Using the same emerging technologies described earlier, criminal and terrorist networks of the information age will be able to coordinate their actions quickly and effectively without centralized command and control structures, brick and mortar facilities, or hierarchical leaders who have been the standard target of traditional police operations (Weimann 2004). In this sense we may discover that traditional hierarchically structured police organizations will probably not be effective in confronting networked terrorist and criminal organizations. It will likely take network centric organizations to compete effectively against other network centric adversaries (Arquilla and Ronfeldt 2001, 15).

NETWORK CENTRIC POLICING

A network centric organization cannot be achieved simply by the application of new technology to current police structures and methodologies. To occur, network centric policing will need new organizational structures based upon human social networks that are facilitated by information technology, a streamlined and unified structure that comes from the greatly increased ability to exchange information in real-time. In their definition of network centric warfare (NCW) Alberts, Garstka, and Stein write “NCW is about human and organizational behavior. NCW is based on adopting a new way of thinking – network-centric thinking – and applying it to military operations” (Alberts et al. 1999, 88). It is now time for law enforcement to adopt the same new way of thinking to achieve network centric policing (NCP).

Fundamentally, the goal of NCP is to get whatever information is necessary into the hands of whoever needs it, whenever they need it, in a coherent and understandable manner so policing can be more effectively accomplished. The necessary information might be in the form of stored data such as criminal history information on suspects, geographic location information on available back-up officers, information gathered from a chemical/biological sensor array, video images from a surveillance camera mounted on an unmanned aerial vehicle, voice transmission from a police officer in another department, or any other type of information from any other digital node on the network.

This concept transcends the traditional organizational barriers to information flow; the hierarchical stovepipes, isolated professions, competing levels of government, and the government/non-government boxes within which we have restricted our formal

relationships. That means that police officers at all levels could communicate and exchange information with whomever they needed to make decisions, whenever they needed to do so, inside or outside of their own unit, department, or level of government, even with someone in the community or the private sector. NCP is about creating the links between network entities that facilitate a widespread and all-inclusive interagency, interjurisdictional, and inter-governmental interoperability.

NCP would involve much more than simply sharing the maximum amount of information with fellow police officers, government associates, and the community. The purpose of the NCP model would be to analyze and share information in a highly tailored way to improve the decision making ability of everyone involved in the policing effort and avoid information overload. NCP accomplishes this in two ways: 1) it increases the immediate situational awareness of individual officers, regardless of their particular assignments or specialties, and 2) at the same time it provides everyone with a collective awareness that helps them harmonize their individual actions with one another.

This improvement of individual and collective awareness should enable more effective and appropriate collaboration through the creation of what the military calls Mutual Mental Models (MMM's); a shared understanding of who is responsible for what task and the information requirements for those tasks. MMM's foster self-synchronized (bottom up), as opposed to command-synchronized (top down) organizations. Self-synchronization will be essential for the fast-paced law enforcement world of 2020.

This is not to say that police chiefs and commanders will no longer be necessary. On the contrary, as law enforcement attempts to evolve from hierarchies to networks in the coming 15 years police leadership will be critical in establishing

shared organizational values, providing operational guidance, and setting the overall strategies necessary for self-synchronization to occur. Within this leadership context, referred to as the “commander’s intent”, it is possible for self-synchronization to push decision-making authority to the lowest possible organizational levels and significantly speed decision making. In other words, within self-synchronized organizations there would be little need for orders passed up and down a chain of command, no constant requirement for detailed managerial direction and supervisory oversight for every situation, and no need for most of the bureaucratic Industrial Age processes that slow traditional police operations to a crawl and force agencies into a reactive instead of a proactive posture. Every person would understand what they need to accomplish, and why they need to accomplish it, within the current parameters of the commander’s intent, and everyone would have all the information necessary to do so quickly and effectively by means of the network.

It is important to note that there is nothing incompatible between Community Oriented Policing, Problem Oriented Policing, Intelligence-Led Policing, or any other policing philosophy and the NCP model. The goal of NCP is improved policing through the use of information – more productive officers, faster police response, better service to the community, less crime, fewer terrorist attacks, and greater protection of civil liberties. From SWAT counter-snipers to Elementary School Resource officers, traffic enforcement to undercover investigations, community-oriented or combat-oriented methodologies, NCP could improve all types and branches of 21st Century policing.

THE HUMAN NETWORK AND THE TECHNOLOGICAL NETWORK

Before a network centric model of policing can be developed the law enforcement community has to choose to work together in more positive and productive ways. The existing barriers between law enforcement organizations today, as well as barriers between the police, other public safety and public service professions and the public, are the result of choices made by the police themselves and ingrained over many decades. The cultures within many departments still tend to foster attitudes of exclusivity, superiority, and independence through bureaucratic rules, regulations, policies, and training that perpetuate organizational stove pipes and impede broad communication and deep collaboration across organizational, jurisdictional, governmental, and professional boundaries.

Success in the future will require the elimination of the attitudes that create structural and procedural barriers between people, freeing everyone to collaborate whenever they need, wherever they are, to solve problems quickly and effectively. This does not require or even suggest the formation of larger bureaucracies through consolidation of many smaller agencies. On the contrary, the network centric model could allow individual agencies, many with necessary and highly specialized roles (such as university, hospital, park, or transit police), to maintain their organizational distinctiveness while working in close collaboration with one another. It does, however, require a true commitment to form close and productive relationships – a human network – whereby information is allowed to flow freely between police officers, fire fighters, EMS workers, and anyone else with similar problem-solving goals.

The desire to form a human network facilitates the creation of the technological networks that support extensive communication. Efforts today to link individual agency

radio systems show the beginning stages of that desire. Decades-old single agency systems, no matter how well they are patched together, cannot provide the comprehensive communication support necessary for a network centric world. A true commitment to the network centric concept will show a dramatic increase in shared, multi-agency, wide-area networks that provide immediate and seamless communication between thousands of first responders. As agencies determine to collaborate more closely and shed their cultures of isolation and exclusivity they will likewise collaborate on modern technology networks, sharing costs, and integrating the flow of information between them.

CONCLUSION

There is still much room for explanation and discussion of the Information Age, network centric policing, and the technologies that will be available to police officers and their criminal and terrorist adversaries in the coming years. New weapons options for police will continue to emerge and mature. The dream of an effective less-lethal, perhaps even a truly non-lethal weapon system may become a reality by 2020. More likely, there will be a variety of improved weapons, incapacitating devices or agents, and apprehension tools that will compliment one another and be more easily deployed by officers on the street than today's disparate mixture of assorted projectile launchers and chemicals.

Police will increasingly employ aerial and ground-based robots, UAV's and UGV's, to carry out policing functions and gather information. These devices may become part of a larger police information network, gathering and sharing information with other devices and humans, accomplishing a variety of specialized policing tasks efficiently and effectively. They will also become increasingly autonomous, able to operate on their own with little or

no supervision, patrolling our neighborhoods as additional eyes and ears of the policing effort, and freeing human police officers to solve the more important inter-personal problems within our communities and aggressively protect civil liberties.

Our ability to positively identify criminals and terrorists, perhaps the most important law enforcement challenge confronting police in the Information Age, will be greatly facilitated by technologies such as biometric identification systems, smart cards, and improved information sharing within the law enforcement and intelligence communities. By 2020 we may finally see the emergence of long awaited technological wonders such as personal air vehicles with Vertical Take-off and Landing (VTOL) capabilities, able to transport police officers on patrol, in pursuit situations and to crises quickly and safely.

All of these technologies and more will contribute to a dynamic and complex policing arena that will change faster than at anytime in the past. By their nature many of the information age technologies emerging today are already altering our world and our traditional concepts regarding freedom and privacy. Because of the increasing sophistication and determination of radical terrorist networks, stopping the next September 11th attack before it occurs will require the use of the powerful and potentially intrusive technology discussed in this chapter, along with many others not mentioned. Ethically using these new technologies to police free societies, in a manner that simultaneously protects the civil liberties of all people, will be a constant challenge for a profession dedicated to preserving life and protecting the innocent. To do so tomorrow's law enforcement professionals will need exceptional insight into and understanding of the capabilities and controversies associated with every technology they choose to employ.

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EXECUTIVE SUMMARY

The fifth-century Greek historian Herodotus warned prophecy seekers to weigh advice given by fortune-tellers, especially in his account of King Croesus of Lydia (modern Turkey). As Croesus planned to invade the Persian Empire (c. 546 B.C.E.), he asked the Greek oracle to predict the winner. The oracle responded, “If Croesus crosses the river Halys, he will destroy a mighty empire.” Encouraged by the prophecy, Croesus crossed the Halys and engaged the Persians. Not only did he lose the battle; he got himself captured. Even so, the prophecy came true; Croesus mistakenly assumed the destroyed empire was going to be the Persians and not his own. Herodotus did not discourage fortune seeking; in fact, he championed the oracle industry. But Herodotus did admonish fortune-seekers to verify their assumptions before acting. Had Croesus questioned his own assumption, he might have correctly interpreted the prophecy.

Forecasting crime trends has similarly led to mistaken predictions based on faulty assumptions. And like ancient soothsaying, the advice from Herodotus about prediction holds: acting on prediction without verifying assumptions risks misinterpreting the forecast.¹ Like Herodotus, I caution using forecasts, yet support it because it allows us to consider current policies against potential problems in the near future. Before forecasting future trends, I discuss many factors that criminologists think have influenced

¹ Intelligence analysts refer to their key assumptions as ‘linchpin assumptions’ and make policy makers aware that any change in the linchpin assumptions will alter the robustness of their forecasts. See Heuer (1999) for a detailed discussion.

crime trends at the national level. These factors are important and deserve detailed analysis. Given the limited space, however, I only offer a brief description of each, except for demographics because it is the only factor we can accurately forecast to 2020. By looking at past trends, we may understand the issues that will most likely affect the future. Historic trends reveal crime's variability and show the difficulty in forecasting its future magnitude and nature.

DATA AND METHODS

In the following discussion, the data I use have been collected on different scales, making visual comparisons difficult. For example, I may compare crimes per 100,000 persons to the U.S. population in millions. The crime trend would be distorted by the size of the population trend. To compare trends on the same scale, I convert the data to standardized scores, unless otherwise noted.² Figure 1 illustrates this conversion's utility. It shows three graphs plotting two data sources, both recorded in the millions. The first graph (Figure 1a) shows the U.S. population in millions against the reported violent victimizations (including homicide) in millions from 1973 to 2002. Notice how the victimization trend is flat when compared against the U.S. population trend in this graph. Even though the data are recorded in the millions, victimizations are in the low millions, the population trend in the hundreds of millions. The second graph (Figure 1b) shows the victimization trend on its own scale. The variation shown here does not show up in the first graph (Figure 1a) because the population numbers suppress it. In Figure 1c, the

² The data were converted into standardized scores or 'z-scores' through the following formula: $z = \frac{(x - \text{mean})}{\text{standard deviation}}$, where x is the average number of crimes in a given year. In other words, a z score is the distance from each score to the trend average in terms of how much variation there is in the distribution.

data for both trends were converted to standardized scores. Note that the standardized trends show the same variation as the trends in their own graph (Figures 1b and 1c). For this discussion, it is important to compare the changes over the same period – the trend – noting similarities and departures.

Figure 1a. Total U.S. Violent Victimizations 1973 to 2002 and Total U.S. Population in millions

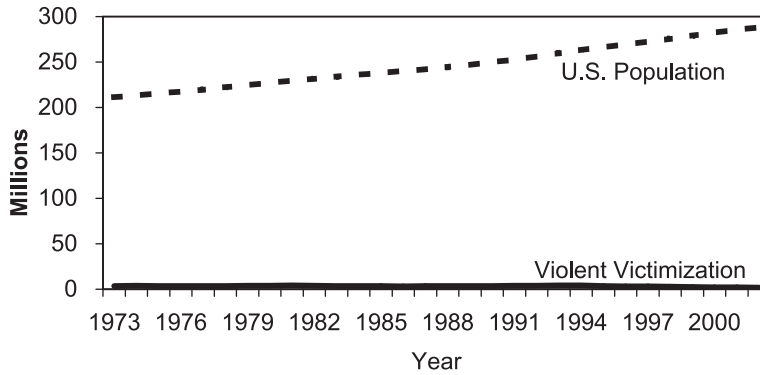


Figure 1b. Total U.S. Violent Victimizations 1973 to 2002 in millions

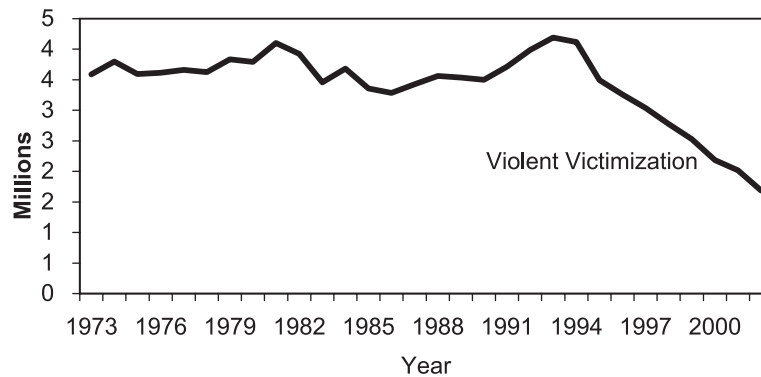
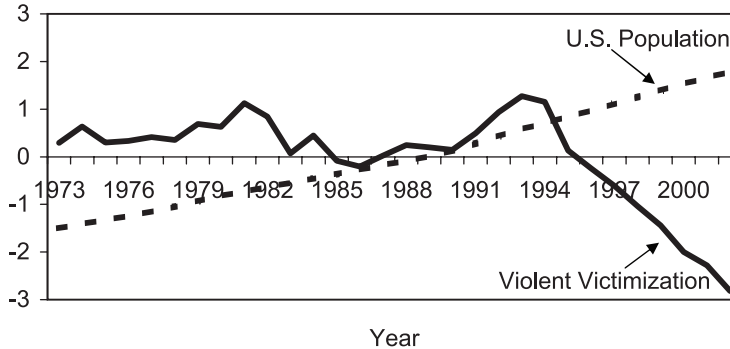


Figure 1c. Total U.S. Violent Victimizations 1973 to 2002 and Total U.S. Population in Standardized Scores



Source: National Crime Victimization Survey; Bureau of Justice Statistic; Uniform Crime Reports, Federal Bureau of Investigation; U.S. Bureau of the Census.

The data come from two sources, the Federal Bureau of Investigation's *Uniform Crime Reports* (hereafter UCR) and the Bureau of Justice Statistics' *National Crime Victimization Survey* (NCVS). The UCR is the yearly count of crimes known to the police for serious (or Part I) offenses: homicide, aggravated assault, robbery, forcible rape, burglary, motor vehicle theft, arson, and larceny. Because much crime goes unreported to the police, the UCR imperfectly measures crime in America. Also, yearly changes in police tactics can affect crime reporting while crime may remain unchanged. The Bureau of Justice Statistics started the NCVS in 1973 to measure crime reported from victims. The NCVS samples households across the United States documenting American's experience with crime. By using these two sources, we can look at national level changes in reported crime and victimization.³

These data allow us to examine the factors that have influenced crime, but they are limited in forecasting crime. One method for forecasting would be to simply extend the current trends into the future. As we will see, this approach has not successfully forecasted crime. Another method is a futures wheel, a device that Futurists use to organize their thinking (Glenn 1999). It explores past trends but without placing too much emphasis on quantitative data. It visually represents a primary event's impact on secondary and tertiary consequences. Futurists often focus on one possible outcome, exploring likely consequences. Although it is more speculative, a futures wheel is not as bound to quantitative assumptions that often fail to hold. First, I explore the factors that have affected crime. Then to forecast the future, I use a futures wheel that considers two past decades of crime trends on a third ending in 2015.

³ Crime also varies across states and cities. For this discussion, we are only looking at national trends.

FACTORS THAT INFLUENCE CRIME

Demographics and Crime

Demography is destiny, as the saying goes. This is partly true for crime. For example, criminologists attribute the spike in crime rates in the 1970s to changing demographics as the baby-boom generation (Americans born between 1946 to 1964) reached adolescence. When the baby-boomers aged out of adolescence, crime rates should have dropped. In the late 1980s and early 1990s, however, official crime rates again soared to their highest recorded levels while the adolescent volume shrank. Although criminologists attributed changes in age demographics for the rise in crime in the 1970s, they attributed other factors, such as the crack trade, for the rise in crime when age demographics should have caused a decline (Blumstein and Rosenfeld 1998). Criminologists then had to explain a precipitous drop in crime rates in the following years that continued into the next millennium (for an in-depth analysis of the crime drop see Blumstein and Wallman 2000; Conklin 2003; Steffensmeier and Harer 1999). In sum, demographics helped criminologists forecast a rise in crime; it failed to help them forecast crime's continued rise.

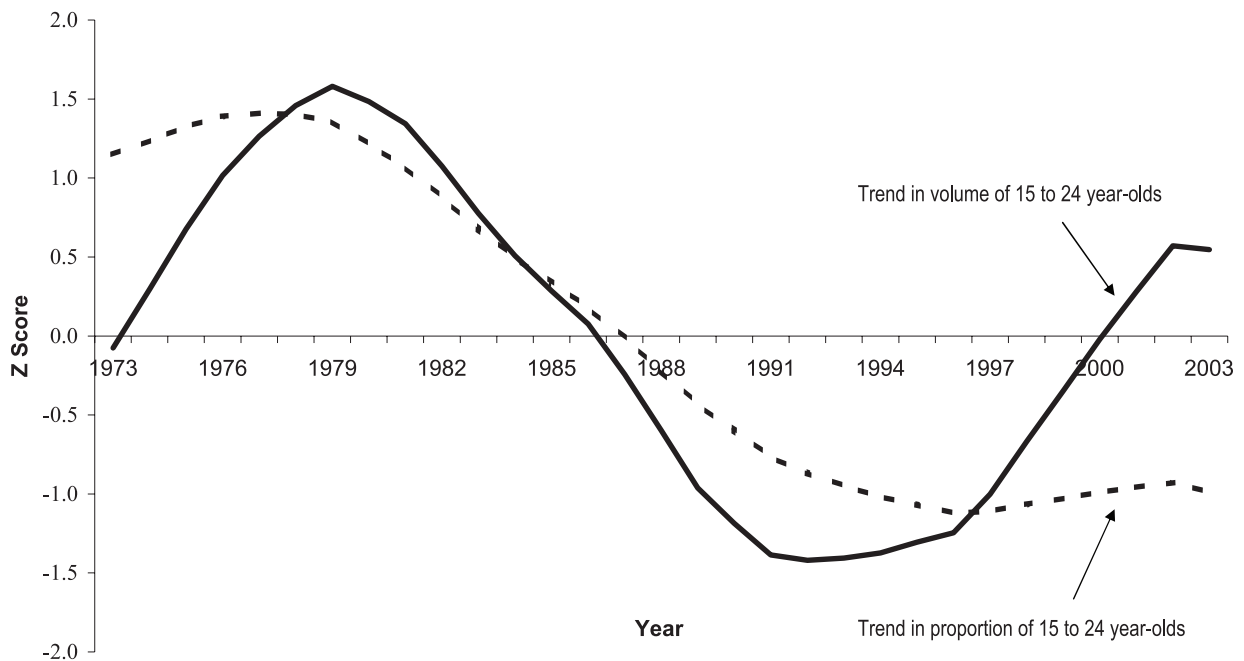
The Age-Crime Nexus

Before we consider the age-crime nexus, we should look at how we measure the crime-prone age group. The 15 to 24 year-old population can be measured as the total number (the volume) or as a proportion of the U.S. population.⁴ Depending on the measurement we use, a slightly different picture emerges. Figure 2 shows these

⁴ A proportion is the same as a percent when multiplied by 100. For example, a proportion of 0.72 is the same as 72 percent

two trends. The solid trend line shows the volume of 15 to 24 year-olds. The peak in the late 1970s is the height of the baby-boom generation, those born between 1946 to 1964. The second peak is the baby boomerang generation, whose volume will not be as large as their parents'. The second trend, the dotted line, shows the same demographic age group as a proportion. Notice that the baby boom's impact is clear at the first peak, but the second peak, the baby-boomerang generation, is flat. The data are for the same age group (15 to 24 year-olds), but there are two distinct trends. Regardless, the 15-to-24 year-old volume will swell, especially as we approach the year 2020.

Figure 2. Trend in 15 to 24 year-olds in U.S. Population, volume and proportion



Source: U.S. Bureau of the Census.

Figure 3 shows the age-crime nexus for homicide by age (reported as homicides per 100,000 persons). Homicide allows us to look at offending rates in the most serious criminal offense, which has the highest reporting level and the highest clearance rate. Figure 3 shows that there is not only variation in crime rates within groups, but also among groups. For example, in the late 1980s, 14 to 17 year-olds surpassed 25 to 35 year-olds in homicide and then dropped below again by 1999. However, figure 3 shows us that adolescents and young adults have been historically overrepresented in homicide and other crimes.



The age-crime nexus helps forecast crime because it is thought to be stable; that is, most people commit crimes between the ages of 15 to 24. As people age, their propensity to commit crime diminishes.⁵ Put another way, property and violent crimes are a young person's game – as people age, arrest takes a greater toll on work, health, and family. If this assumption is true, a rise in the volume of young people in the general population should result in a concomitant rise in crime; conversely, a decline in young people in the population should result in a decline in crime. As we approach 2020, the volume of young people will swell. Their proportion within the U.S. population, however, will be modest, due mostly to the proportion of aging baby-boomers. A key assumption, therefore, depends on how much influence one attributes to the age structure on crime rates.

Crime and victimization rates have varied greatly with changes in the age-structure of the American population. Figure 4 shows the trends in violent and property crime reported to the police and the 15 to 24 year-old demographic from 1973 to 2003. We can see that there was wide variation in crime rates, peaking in about 1991 then steadily declining throughout the 1990s and into the 21st century. As the volume of Americans 15 to 24 years old rises in the late 1970s, crime rises too. And as the youth population declines, so does crime rates until the late 1980s when the demographic and crime trends depart – property and violent crime rise and the volume of adolescents falls. Finally, even as the trend in adolescents and young adults began to rise in the late 1990s, the crime rates continue to fall.

⁵ There is debate within criminology about the existence of a subpopulation of persistent offenders who continue to offend at a high rate throughout their life (see Moffitt 1993; Sampson and Laub 2003).

Figure 4. Demographic and Reported Crime Trends 1973 to 2003 (in z-scores).

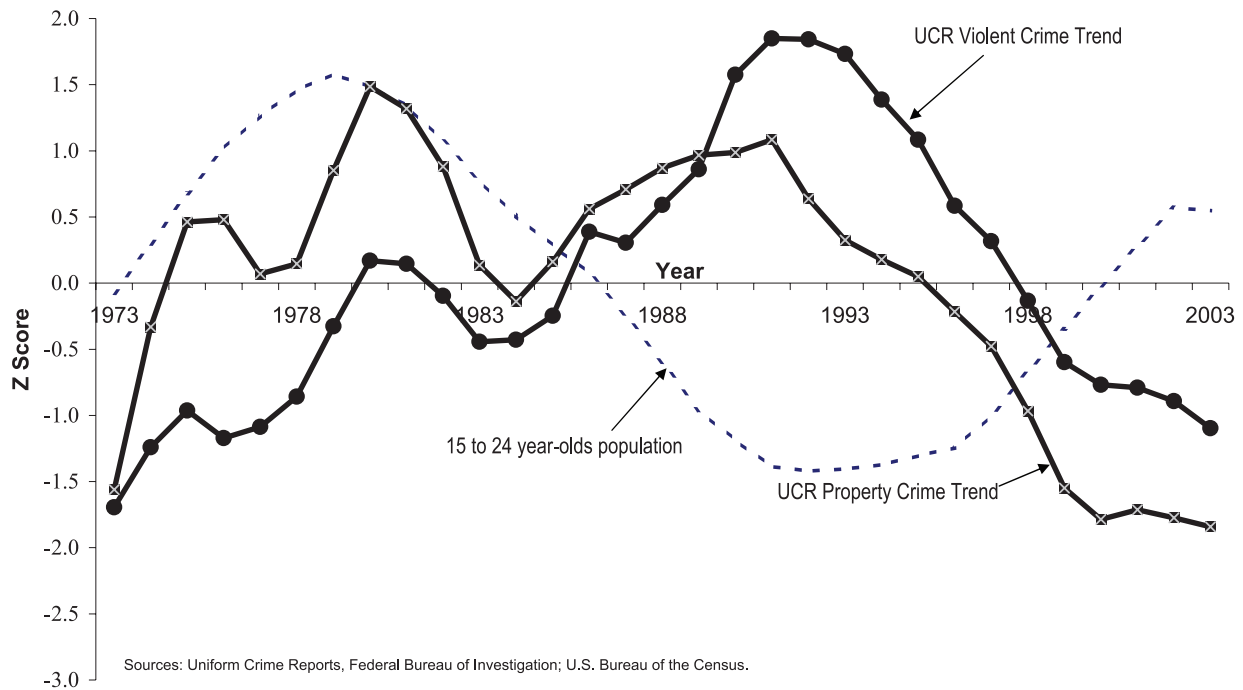
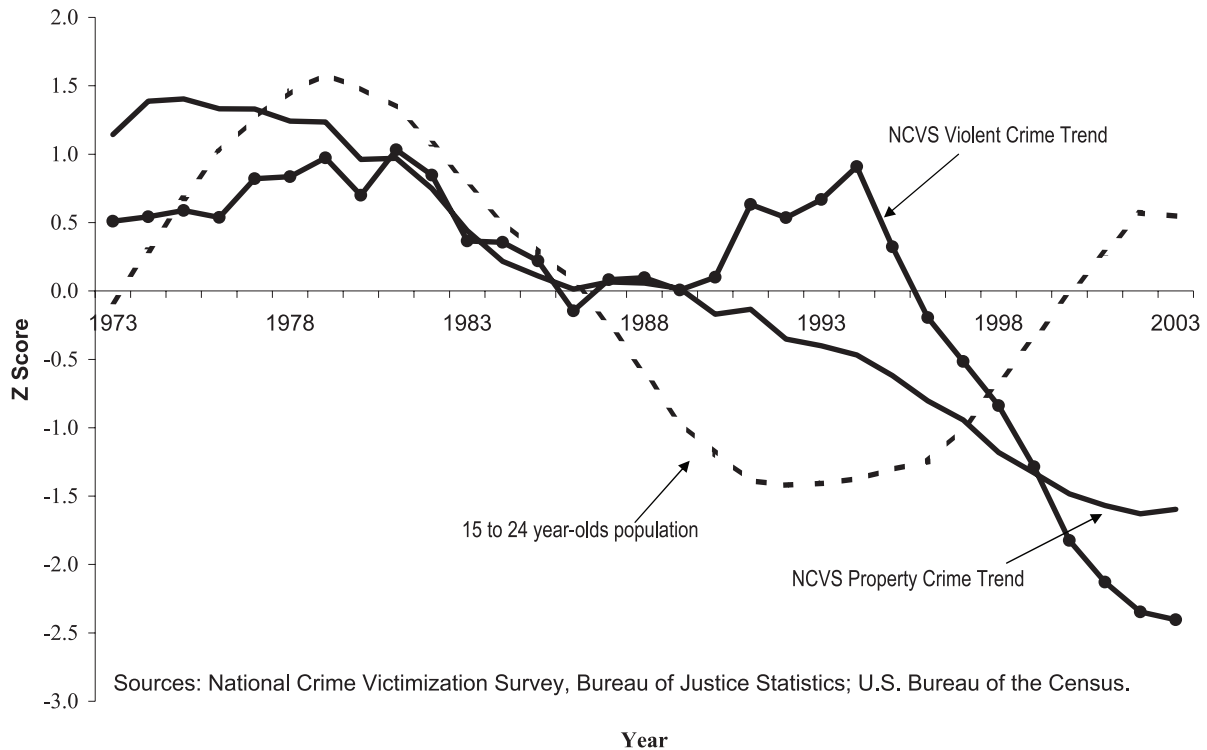


Figure 5 shows the trends for victimizations as reported by the NCVS from 1973 to 2003, the same period as the UCR rates in figure 4.⁶ Because official crime statistics do not count unreported crimes and are prone to changes in policing practices, the NCVS better gauges the general population's experience with crime. The NCVS data show a more stable decline in crime over this period, especially in property victimizations. Victimization in the 1970s remained stable even as the 15 to 24 year-old population rose. The decline in the youth population through the 1980s closely followed the trend in violent and property crime victimization rates. Like the UCR, the violent victimization trend departs from the demographic trend, rising throughout the late 1980s and early 1990s while the 15 to 24 year old population

⁶ The NCVS reports the number of victimizations per 1,000 households and the UCR reports the number of crimes per 100,000 persons. Again, the standardized scores allow a comparison of trends to populations measured on different scales.

declines. Interestingly, as the volume of adolescents and young adults rises in the late 1990s, victimization rates continue to fall.

Figure 5. Demographic and Victimization Trends



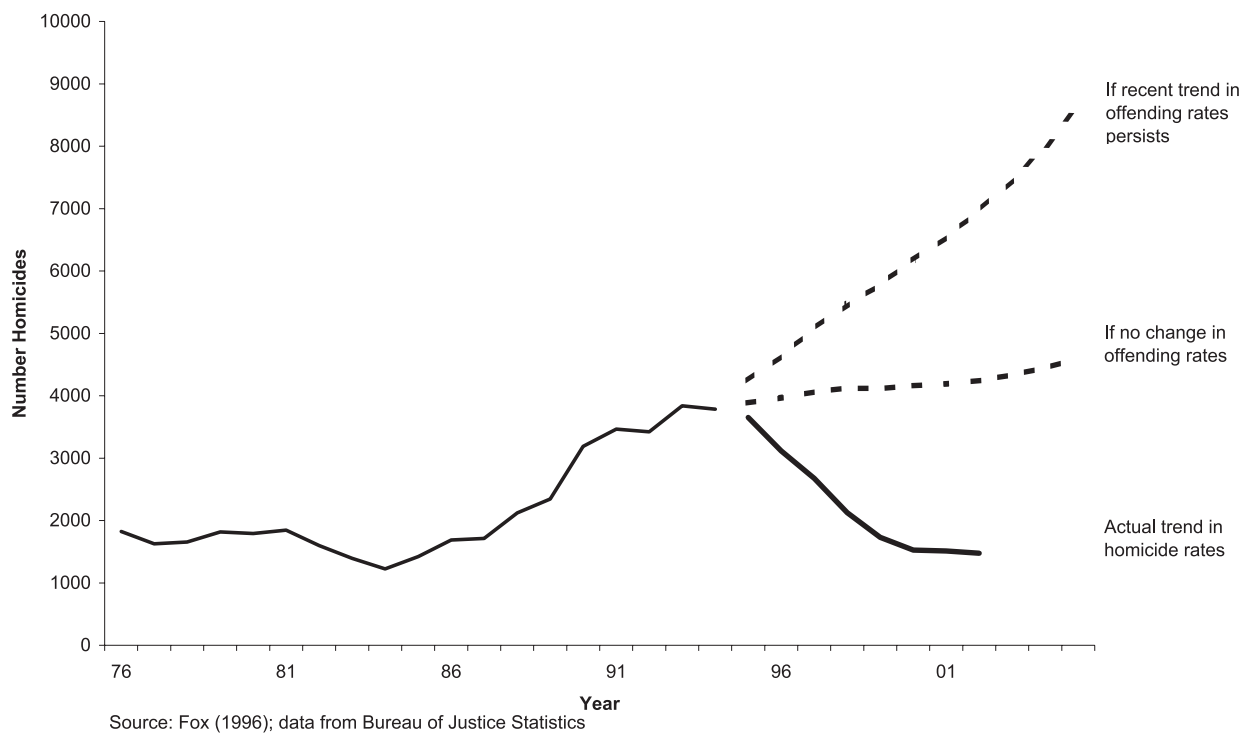
If the age-crime nexus assumption is valid, crime rates should rise by 2020. On the other hand, as the baby boomers mature, they will continue to influence crime rates. Specifically, the baby-boomers may shift cultural values from the individualism of their youth to collectivism of mature adults (Steffensmeier and Harer 1999). The baby boom therefore will not only affect crime rates because they have aged out of crime, but also because they will exert a civilizing effect on younger generations.

Forecasting Crime Trends Based on Demographics

When crime rates were at their peak in the mid 1990s, Fox (1996) predicted a crime wave would hit in the late 1990s and early 2000s from the surge in adolescents, the

so-called baby boomerang. Beyond a rise in the volume of crime-prone youth, Fox suggested that juvenile crime had become qualitatively more violent (1996). He therefore forecasted a ‘storm of youth crime.’ Fortunately, no such storm materialized; in fact, the opposite occurred: crime rates dropped sharply. Later Fox (2000) attributed the failed prediction to other changes in macro-level factors beyond demographics. Figure 6 shows Fox’s predicted trend compared to the actual crime trend (Fox 1996).

Figure 6. J.A. Fox's Forecast of Homicide Offenders, Ages 14-17



Questioning Fox’s prediction at that time, Zimring (1998) noted that Fox assumed “all things being equal.” In this case, “all things” comprised the economic stability, handgun availability, education quality, and drug demand. Furthermore, Zimring warned, “It is not possible to know about the homicide rate in 2010 because so many of its key determinants

are part of an American history that has yet to happen” (1998, 63). In other words, the assumption “all things being equal” is unlikely to hold, especially in a ten year span.

In a more conservative forecast, Britt (1995), in a monograph envisioning crime trends to 2010, argued that the increasing crime-prone adolescent proportion would be modest (as shown in figure 2). A forecast based on demographics, assuming “all things being equal,” would therefore expect only a slight rise in crime in the coming years, even as the volume of adolescents and young adults increases. Furthermore, Levitt (1999) shows that the changing age structure has only explained a one-percent per year change in crime. Like Britt, Levitt suggests that demographics will exert a modest impact on crime in the year 2010.

Despite Fox’s failed prediction (2000), he continues to argue that the increase in the volume of youth into the crime-prone years will lead to a rise in crime rates. He further argues that criminologists must disaggregate age and crime trends by age **and** race or risk missing important changes in trends. Specifically, he argues that young African-American males will grow beyond their population levels in the 1970s. Since this demographic has had disproportionate violent offending and victimization rates, it will raise violent crime within this subpopulation. Fox and Piquero (2003) predict that the crime rate will continue to decline in the coming decade, dominated by the maturing baby boomers. Trends within younger-age minority groups, however, may increase. So, it is important to look at race differences in the crime-prone age group.

Figures 7 and 8 show the trends in homicide from 1976 to 2002 for black males and white males.⁷ Note that the age-crime link holds true for both groups and that the

⁷ Only males are examined here because they are disproportionately responsible for crime (another robust finding from the literature). This is not to suggest that female rates of offending are stable; there is variation among female populations by race and age as well.

trends are similar, although black males 14 to 17 years-old surpassed 25-and-older black males in 1986. What is different between black and white male homicide levels is that black males commit homicide at a higher level than white males by a factor of about eight. This fact supports Fox's assertion that an increase in the young African-American male volume will raise lethal violence.

Figure 7. Black Male Homicides by Age 1976 to 2003.

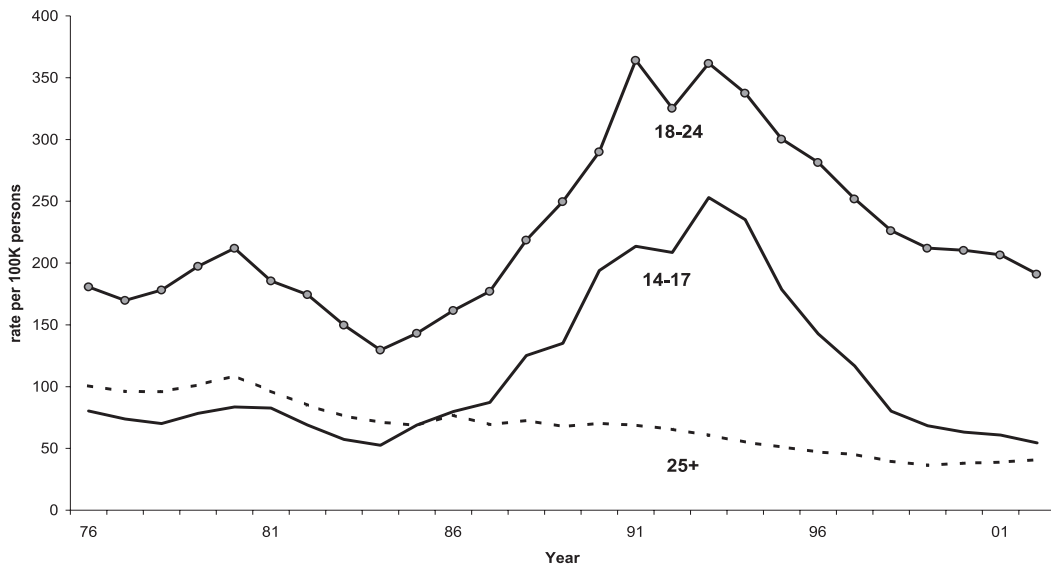
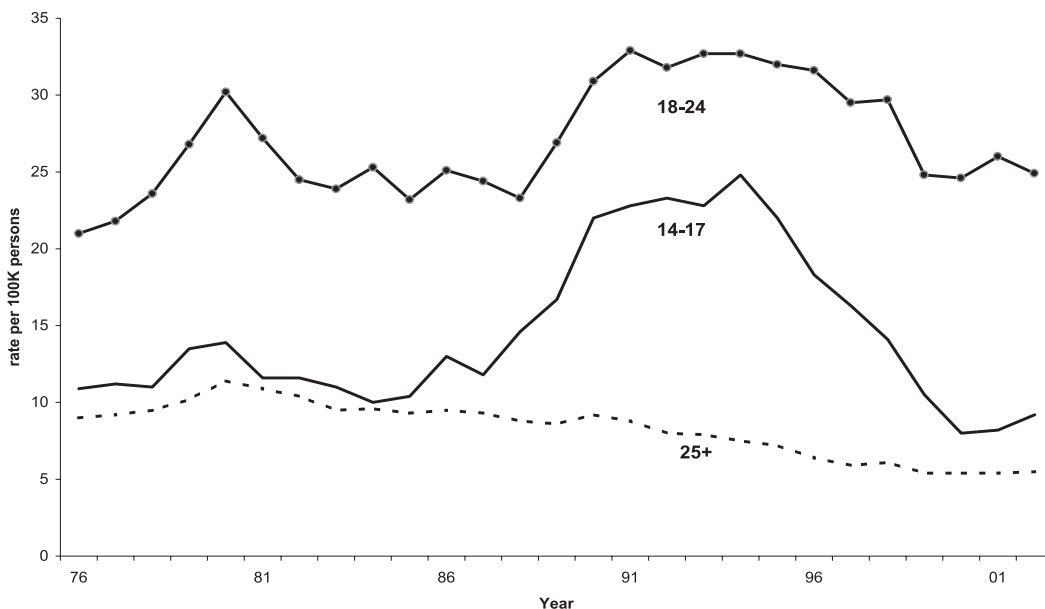


Figure 8. White Male Homicides by Age 1976 to 2003



Let us compare the homicide rates with age and race demographics, specifically black males age 14 to 17, to see if the homicide trend follows the demographic trend.⁸ Figure 9 shows the trends in black male as offender in homicide and the trend in the population of black males 14 to 17 year-olds. From the late 1970s to the early 1980s, the two trends were similar. They departed, however, in the late 1980s as homicide rates for this group increased but the volume of young black males declined. Then in the mid 1990s, the trends reversed: for 14 to 17-year old black males, homicide rates fell while that same demographic population rose. It is interesting that the volume of young black males peaked in the 1994; yet this increase had little impact on homicide levels. Although Fox (Fox and Piquero 2003) insists that this demographic and the older 18 to 24 year-old black male group promises to increase violent crime in the coming decade, historically the trend does not support this: the rise in the volume of black males has not resulted in a simultaneous rise in homicides. Other criminologists examining historical crime trends have noted this fact (Blumstein and Rosenfeld 1998; Lafree 1999; Steffensmeier and Harer 1999).

The demographic hypothesis is correct on two points. First, young African-American males have had disproportionate offending rates; that is, they offend at levels higher than their proportion of the U.S. population. Second, the volume of young African-American males will swell in the coming decade, more so than white males. Figure 10 shows the projection in the trend in the black male volume, 14 to 17 year-olds, and the trend in the black male proportion, 14 to 17 year-olds. Although the projected trend to 2015 for young black males rises above 1970s levels, the young black male population trend for the same period will be modest, although higher than it was in the 1990s.

⁸ I use the 14-to-17 year old population here since this is the same group used by Fox.

Figure 9. Black Male Population and Black Male Homicide Offenders, 14 to 17, 1976 to 2002

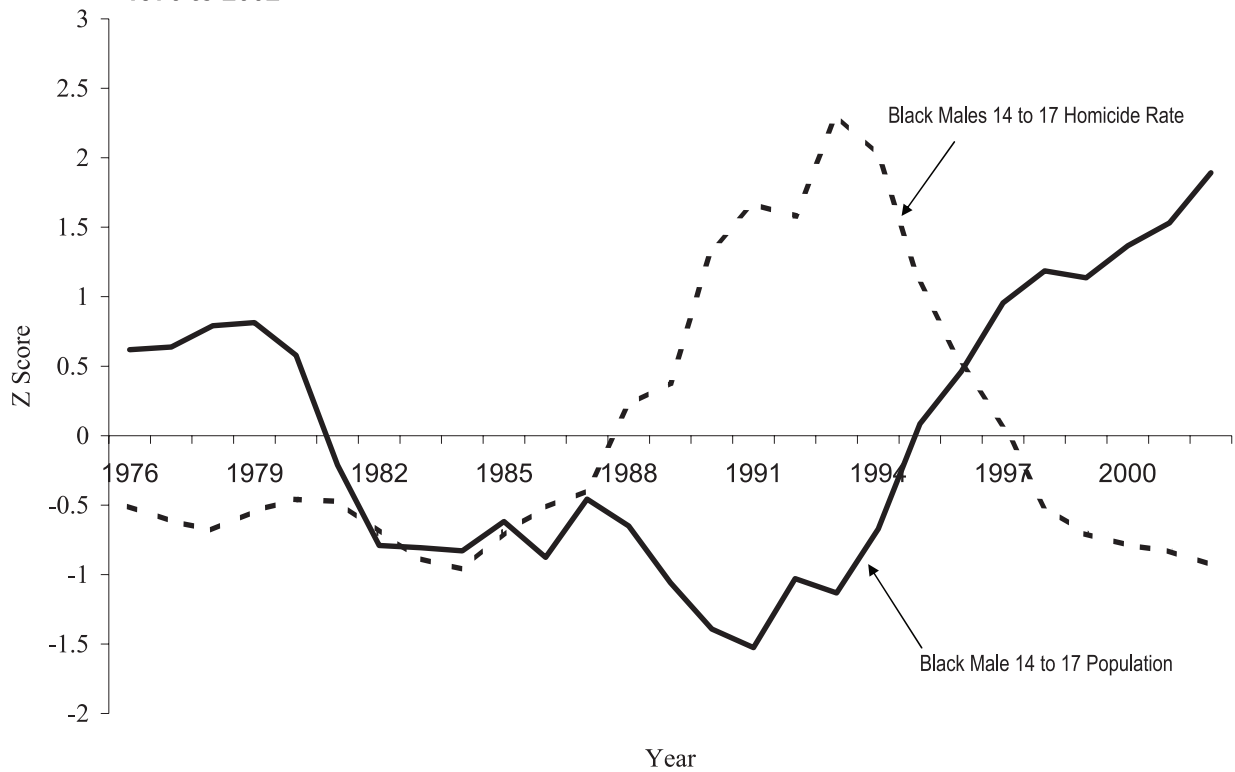
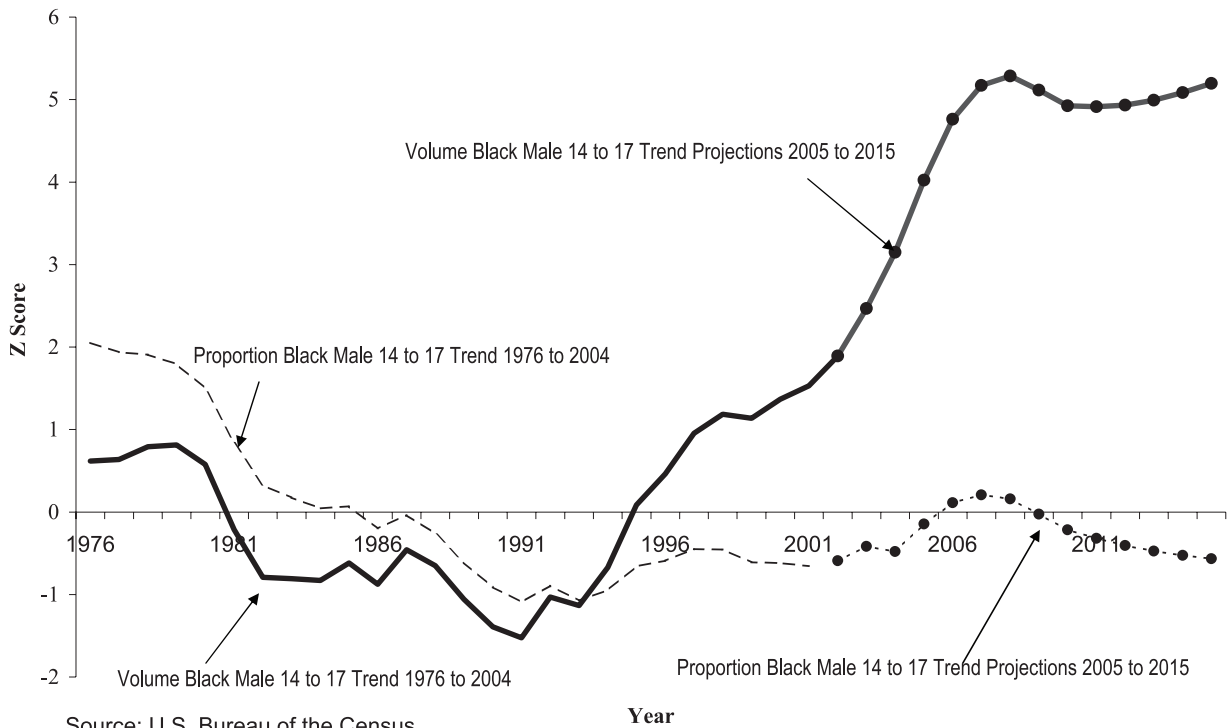


Figure 10. Trends in Black Male 14 to 17 Population 1976 to 2015



Source: U.S. Bureau of the Census.

Fox and Piquero (2003) conclude that demographic shifts accounted for about ten percent of the drop in crime in the 1990s; they argue that demographics can explain some variation in crime rates, especially since demographics are the only quantities that can be forecast with some accuracy.⁹ Commenting on the relationship between race and crime, Zimring (1998) notes, "...[this] can be noted as a feature of the future youth population that might tend to push rates of total violence somewhat higher than they might otherwise be." Zimring cautions, however, one cannot simply multiply the offending levels by the proportion of white and black teens at a future date because offending levels are not stable, as Figure 4 shows.

OTHER IMPORTANT FACTORS THAT IMPACT CRIME TRENDS

Using demographics to forecast crime is alluring because we can foresee future population levels based on current birth and death rates. As we have seen, demographics has had mixed success in forecasting crime and demographic changes are not the only reason for changes in crime rates. Criminologists and other experts offer myriad factors to explain changes in crime. These factors would seemingly also be relevant in 2020. I discuss these factors only briefly because each one would require at least a chapter each to explore in any reasonable detail.

Firearms

An increase in firearm use partially explains the rise in crime throughout the late 1980s and early 1990s. According to Wintemute (2000) an increase in semiautomatic handguns availability led to a rise in violent crime levels, especially among the 15 to 24

⁹ A ten percent change in crime by the age structure over a decade supports Levitt's (1999) estimate of a one percent change from year to year.

year-old demographic. Thus as the 15 to 24 year-old population was declining, the increase in violent crime can be attributed partly to more available lethal handguns and a willingness to use them, mostly to defense crack markets. Conklin (2003), on the other hand, dismisses handguns availability as a causal explanation, concluding that it was solely the crack trade rather than the availability or firearms lethality that had the most impact on the homicide rate in the late 1990s. Conklin points to the decline in other crimes over the same period, like burglary and motor vehicle theft, unrelated to the firearm availability (Conklin 2003, 196). Regardless of whether firearm availability or instrumentality affected the surge in violent crime, police recognized firearms as an important contributor to crime.

To curb escalating crime rates, police departments targeted at-risk populations for firearm possession, namely gang members. Such interdiction efforts showed promise. For example, Kansas City, Missouri police directed patrols in firearm related crime hotspots reduced violent crime (Sherman et al. 1995). Although crime rates similarly fell for other non-firearm related crimes, at least some police interdiction efforts paid off at the local level. Replicating these programs, however, failed to reduce crime. This highlights the difficulty in attributing drops in crime trends to police activities and forecasting their success (see Eck and Maguire 2000). In sum, firearm accessibility, use in selling drugs, and interdiction efforts can all affect crime rates, but firearms are a means to an end. Firearms in the United States are ubiquitous and they will be abundant in 2020.

The Economy

It makes sense that a thriving economy would reduce motivation for crime. Britt (1995) points out, however, that a stagnant economy can simultaneously promote and discourage crime. When the unemployment rate rises, for example, out-of-work people spend more time at home, guarding their belongings and avoiding potential offenders.

When employment rates rise, more people are away from their homes leaving their belongings susceptible to burglary, themselves susceptible to robbery as they travel to and from work.

On the other hand, a robust economy, especially one that creates jobs for all workers, would tend to reduce the motivation to engage in criminal behavior, such as selling drugs. Most scholars attribute part of the 1990s crime drop to the booming economy (Grogger 2000; Lafree 1999). Even so, a robust economy is not simply low unemployment. Although the average unemployment rate was about five percent between 1995 and 2005, businesses have been increasingly outsourcing low-skill manufacturing jobs to developing countries (U.S. Bureau of Labor Statistics 2006). Jobs for young unskilled workers have become increasingly low paying service jobs with little or no benefits. If this trend continues through 2020, the motivation for supplementing income through crime, especially for young undereducated men, may lead to a rise in crime even with record corporate profits and stable unemployment rates.

Forecasting the economy's effect on crime is nearly impossible for three reasons: (1) forecasting the economy is more difficult than forecasting crime; (2) a robust economy can simultaneously promote and discourage criminal behavior; and (3) quality of jobs is as important as availability of jobs. Thus, we cannot know the economy's state in 2020 or its impact on crime.

Gangs

The rise in gang activity throughout the 1970s and 1980s contributed to escalating violent crime and remains a persistent problem today. The growth of gangs has abated in recent years and in some jurisdictions decreased; however, in forty-seven percent of large cities, gang related homicides rose in 1999 and 2000 (Egley 2002). Furthermore, The

National Youth Gang Center reports that gangs remain a persistent problem in most major U.S. cities even as crime rate have dropped precipitously. Gangs therefore will continue to be a problem for local jurisdictions but their effect on national crime trends will be small.

Criminal Justice Agency Practices

The decades leading up the twenty-first century saw American policing embrace professionalization and enact innovative policing strategies. Some consider these factors important to the recent crime drop. First, police departments across the United States have focused on training and educating their officers. Also, police have relied on technology, such as using computer comparison statistics (COMPSTAT) to concentrate patrols in crime hot spots. Second, innovative police strategies have helped the police focus on the problems that cause crime rather than focus on simply enforcing the law.

Experts point to two major policing innovations that have affected crime: community oriented policing and quality of life enforcement. First, community oriented policing and the related practice of problem solving are proactive approaches that focus the police on the causes of crime rather than simply responding to crime itself. For example, if the police notice more abandoned buildings used for crack houses, they could work with city officials to condemn the buildings or hold the landlords accountable for abandoning property.

The second strategy enforces quality of life offenses (sometimes called zero tolerance policing), like vandalism and pan handling, to reduce crimes that are more serious. Similar to community-oriented policing, zero-tolerance policing manages the causes of crime. Underlying this strategy is the broken windows phenomenon, posited by James Q. Wilson and George Kelling (1982). The broken windows model proposes that serious problems develop in communities where innocuous indicators of neglect accumulate. For example, vandals target abandoned buildings because they perceive the community does not

care. As vandals target more buildings, the disorder spreads. By focusing on these issues, the police can keep neighborhoods from deteriorating. Implementing zero tolerance policies in the 1990s, the New York City police department took credit for the major crime drop in the city. Critics pointed out, however, that other major U.S. cities also experienced record crime decline without implementing such policies. Moreover, New York implemented other policing reform, which may have also contributed to the crime drop. Regardless, New York City credited the policies for a change in the city's perception as crime ridden.

In sum, policing and other criminal justice agencies have tried various strategies to reduce crime in response to rising crime rates in the late 1980s and early 1990s. Many of those strategies show promise in reducing crime and improving relations between the police and communities, even if they were not solely responsible for the major decline in crime after the mid 1990s. Criminologists have evaluated many of these policies and the best of these will surely be duplicated well into 2020.

A FORECAST FOR CRIME IN 2020

So what might we estimate the crime level to be in 2020? The answer to that question depends on how you interpret a vague prophecy from an oracle based on the assumptions you make. According to most experts, crime will slightly rise as the aging baby-boomers continue to dominate the age structure, offending less and eclipsing rising trends in other age groups (Fox 2000; Fox and Piquero 2003). Adolescents in the baby boomerang generation, however, will see a rise in crime, especially violence among young minority males because their numbers will swell by 2010, a one percent increase in crime for each year at most (Britt 1995; Levitt 1999; Steffernsmeier and Harer 1999; Zimring 1998). The forecast I offer is based on extrapolating from quantitative data. I forecast future crime trends

(2006 to 2016) based on what we know about past crime trends making my assumptions clear. Rather than simply relying on the quantitative data, I will use a futures wheel.

The Futures Wheel

The futures wheel I employ here considers three dimensions: the rise in crime rates, 1984 to 1994; the current drop in crime rates, 1995 to 2005; and the future trend in crime, 2006 to 2016.¹⁰ I have already discussed the major causal factors above so I will not go into much more detail except to discuss how past factors and impacts affect future crime.

Figure 11 shows the futures wheel with the three trends. Each of the three trends has two elements: factors influencing the trends and impacts resulting from the trend. These elements are further divided into primary and secondary issues. I give each element a directional sign, positive or negative, depending on its effect on the trend. For example, in the 1984-to-1994 crime trend firearm use increases crime (a primary issue). Criminologists consider two factors that affect firearm use, availability and motivation (secondary issues).

I caution that the futures wheel simplifies the factors we have been discussing. Crime, as we have seen, is a complex phenomenon and I do not suggest that a complete account is as simple as the futures wheel portrays. It does illustrate, however, important contributions to past crime and it allow us to explore the possible influential factors and the policy impacts on crime to 2020.

Rise in Crime: 1984 to 1994

In the decade that saw a momentous rise in crime rates, 1984 to 1994, several factors were dominant. First, crack cocaine drove violent crime as drug dealers defended their

¹⁰ Glenn (1994) refers to this as a “Version 3 Futures Wheel.” While it appears quite complex at first glance, it has the advantage of showing the reader the interrelatedness of the many factors that can both promote and discourage aggregate crime rates.

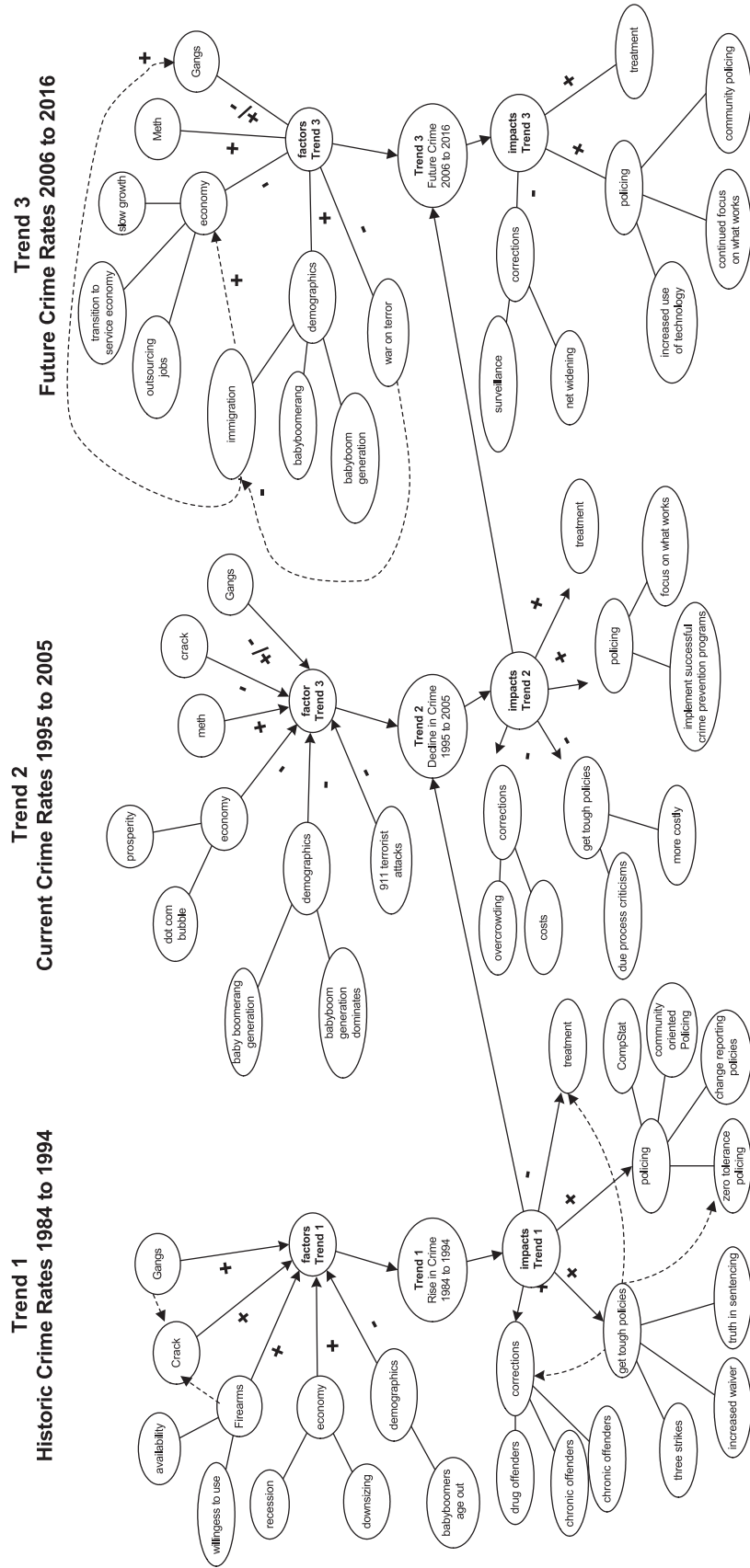


Figure 11. Futures Wheel on Crime Trends

markets. Consequently, firearms were effective in defending crack markets. Although semiautomatic pistols and submachine guns availability encourage violence, firearm availability probably had little effect because firearms are so common in the U.S. It was the willingness to use them in crime that was important, especially for selling drugs. Also, gangs gained prominence in this decade, growing with the lucrative drug trade. Second, a recession cost many blue-collar and even white-collar workers their jobs. The economic conditions during this period, however, were good and bad. For example, the median U.S. family income in this decade peaked in 1989 only to plummet by 1994 before rising again in the next decade.¹¹ As discussed above, the economy can have protective and criminogenic effects on crime. However, bleak economic conditions probably helped raise crime levels. Third, the decline in the 15 to 24 year-old demographic should have reduced crime. It probably did to a small degree; but the other factors were overwhelming.

As for the impacts, rising crime rates sparked unprecedented growth in prison construction, ‘get tough’ legislation, and policing innovations. Furthermore, skepticism about the efficacy of treatment in the wake of high crime undercut rehabilitation programs. Experts still debate how much these policies reduced crime. For example, experts agree that a rise in incarceration will incapacitate career offenders, but how efficient the criminal justice system is at catching such offenders is debatable. Furthermore, rising incarceration can encourage future crime as felons reentering the workforce have fewer opportunities for gainful, legitimate jobs. Regardless, the unprecedented growth in incarceration would negatively affect crime rates.

‘Get tough’ policies filled prison beds and held people longer for serious crime

¹¹ The reversal in economic conditions, from prosperity to recession in this decade and the reverse in the next decade, highlights the difficulty in pinpointing the effect of the economy on crime. A lot can happen in ten years.

and criminal careers. Policies such as ‘truth in sentencing’ and ‘three strikes laws’ made offenders serve longer sentences. In this era, prisons became warehouses for the growing incarcerated population. By 1995 the United States prisons population exceeded one million.

Nationwide, policing introduced several new strategies to combat crime. We have already discussed community-oriented policing, COMPSTAT, and zero-tolerance policing. In a negative reaction to skyrocketing crime, some police departments manipulated official crime statistics to show crime reduction.

The Drop in Crime 1995 to 2005

The factors that contributed to the crime in the preceding decade (1984 to 1994) also contributed to the drop in crime. Many factors either reversed direction or lost impact. For example, crack users became anathema on the streets; thus, the demand for crack faded. Also, the economic recession ended and the U.S. economy became wildly prosperous. The decline in the population of adolescents and young adults in their crime-prone years were at their lowest ebb in 1995, although the baby-boomerang would begin to swell this demographic by the end of the decade. And gangs, while still troubling in major cities, showed less trouble on the street as criminal justice agencies specifically targeted gang-related crime.

During this decade two other factors had widespread impact on crime. First, methamphetamine cooked in residential labs emerged as a new drug problem, especially in rural America. Although meth did not spawn violence as did crack, it did create social and economic problems for social services and law enforcement.

Another issue that may have affected crime was the terrorist attacks on September 11th, 2001. Although the effect of the attacks on crime may have been brief—Americans united against a common foe—the effect on law enforcement and public policy continues. For example, police departments across the country have implemented anti-terrorism

strategies, including enhanced surveillance and other high-tech equipment. Common criminals have been caught in the larger anti-terrorism nets. Like the wide-ranging technological benefits from large government initiatives, like the space race and the Cold War, the ‘war on terror’ will continue to add resources and technology to law enforcement agencies, making them more efficient.

Even as crime rates dropped in this decade, the criminal justice industry had been ramped up to combat the rise in crime from the preceding decade. And even as crime diminished as the most pressing social problem, criminal justice agencies continued to request resources to fight crime and terrorism. Thus, the second crime trend impacts did not reach a rational conclusion – spending cuts.

Future Crime: 2006 to 2016

In the next decade, we can safely assume that factors that have influenced past crime will affect future crime, although factors may reverse (i.e., from positive to negative). As we have discussed, the increase in the adolescent and young adult populations will most likely raise crime, but that impact will be minor as the U.S. population is dominated by maturing baby boomers. Another facet of demographics that will be influential beyond 2016 is immigration. As the American economy becomes burdened with caring for the aging baby-boom generation, many industries will hire immigrants, mostly from South America and Asia. Immigration will concentrate in urban areas, creating socially disorganized communities.

Because the current ‘war on terror’ seems unlikely to be resolved by 2016, national and local policing efforts will be more focused on legal immigration enforcement and antiterrorism. Also, as immigration expands juvenile crime and gang formation by immigrant children will also increase crime levels, especially in the largest cities.

Assuming only cyclical ups and down of the market, the economy is likely to grow

in the next decade as the U.S. economy expands globally, negatively impacting crime. On the other hand, many industries will continue to outsource blue-collar and even white-collar jobs to developing countries where labor is cheap. Thus, for many young Americans, low-paying service jobs with few benefits are likely to motivate people to commit crime.

Finally, methamphetamine will continue to be a problem because people can manufacture and distribute the drug themselves. However, because meth is a synthetic drug, unlike cocaine or marijuana, it is easier to curtail. Authorities in many states have limited the sale of ephedrine, meth's key ingredient, slowing the growth of the drug epidemic. It is unlikely that meth will have any major impact on crime in 2016.

Overall, crime in 2016 is likely to rise, reversing the crime drop from 1995 to 2005; however, the increase will be nothing like the first trend, 1984 to 1994. Given the expansion of the criminal justice and corrections systems in the United States through out the 1980s and 1990s, even a moderate increase in crime is likely to provoke an escalation in 'get tough' discourse. Given the drop in crime leading up to the third trend, the corrections industry will be able to absorb a rise in incarceration. In addition, surveillance technology will allow more people to be placed under the control of the state.

The police will answer an increase in crime with continued emphasis on effective strategies. For example, zero tolerance policing has critics; but many departments have accepted it as an effective tool to combat crime.

Even if crime rises, a return to treatment plans with proven success will likely continue to receive funding. Like the police, many agencies have turned to treatment programs that offer both rewards and punishments to rehabilitate offenders. For example, drug courts have become popular. Many of these programs have been evaluated and

found to be both cost effective and successful at reducing recidivism. While there is still much skepticism about treatment, a continued focus on ‘what works’ will safeguard such programs even as crime rates begin to rise.

CONCLUSION

How do we avoid misinterpreting the future like King Croesus? Zimring (1998) cautions that mobilizing before crime levels rise risks acting on a non-falsifiable prophecy (p. 63). If a forecaster envisions a considerable rise in crime by 2020 and crime does rise, then the forecast becomes true. If instead crime decreases, the forecaster might rationalize that the forecast would have come true but law enforcement, acting on the anticipated event, prevented it from happening. In fact, Fox (2000, 314, footnote 8) similarly argues, “...the decidedly grim prophecy [in 1996] may very well have encouraged policy responses designed to avert the predicted youth crime wave.” Similar to the prophesied destruction of Croesus’s empire, such forecasts cannot be wrong because either outcome proves the oracle’s prophetic power. The danger comes from acting on such forecasts, based on assumptions likely to change. A rise in young minority males, the only assumption likely to hold, most likely *will* have an impact; however, we cannot assume that other factors that encourage or discourage criminal behavior in 2006 will remain constant in 2020.

The futures wheel forecasts a modest rise in crime. From the first of the three crime trends, the criminal justice system has already been expanded to meet it. Thus, a modest rise in crime should not alarm the public to call for more police, tougher laws, or more prison space. Assuming there is no illicit drug like crack or a collapse of the economy, the coming rise in crime will be mild. We should always question our assumptions or risk King Croesus’s fate.

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Chapter Five

THE FUTURE OF LAW ENFORCEMENT COMMUNICATIONS

By Susan Braunstein

EXECUTIVE SUMMARY

The chapter begins with an overview of organizational communications as applied to law enforcement, including definitions of terms, discussions of internal and external audiences, the directions of communication, and a discussion of organizational transparency, or openness to scrutiny. The second section examines specific changes in evolving police culture noting that in the past twenty-five years police have moved toward more transparency and have sought greater interaction with the public. The following are the five factors that are most responsible for this continuing evolution: critical incidents and scandal bring changes in leadership; police are better educated; police are better trained in media; overarching organizations encourage transparency and advocate effective public information; and standards that must be met to achieve accreditation emphasize the importance of the public information function.

The third section discusses how changes in technology foster changes in communication. Internally, advancing technology increases both the speed at which personnel can access, input, and analyze information and the number of locations at which they can perform those functions. Also, supervisors are increasingly dependent on data-based management tools. At their best, these tools enhance communications up and down the chain of command. Externally, advancing technology enhances communications between police organizations and all their audiences. Computerized

databases provide tools for crime fighting. Enhanced technology allows faster and better communication with media. Faster, better, less expensive equipment allows police to produce and distribute their own news, thereby creating a secondary conduit to the public.

The fourth section focuses on how changes in the external environment have affected organizational communications. Prior to 2001, for almost twenty years a primary mission of many agencies had been to improve the quality of life of the people in their jurisdictions. Since September 11, 2001, there was a major shift to anti-terrorism activities. Consequences of the mission shift include the inaccessibility of some previously available information, a change in federal funding emphasis, and a commitment to improving communication between agencies. The effort to launch software that facilitates communication between intelligence agents has not yet succeeded. However, paradoxically, the threat of terrorism also has enhanced some communications efforts of law enforcement agencies. Many federal activities encourage better communications within law enforcement organizations, between those organizations, and between law enforcement and the public. The federal government is providing deadlines, guidelines, resources, and funding for enhancing specific communications through systems such as the National Incident Management System.

Changes in the media industry have impacted law enforcement and will continue to do so. Although media clings to its watchdog function, both its structure and its delivery are undergoing massive change. Because of globalization, economies of scale, and competition, fewer reporters are covering more stories. Consequently, effective public information officers are more important than ever.

Changes in public record law also affect communications. Historically, there has been a balancing act between the public's right to know and the government's right to

withhold information. Media coverage of government officials denying lawful access to information fueled many state legislative responses that forced more transparency. However, recent court decisions and some legislative responses to terrorism and other crimes have led to decreased transparency. Most of the information now prohibited from public access is likely to stay that way — at least past 2020. However, transparency should rise if external threats are reduced. Additionally, transparency will increase if media coverage of denied access leads to public outcry and that results in legislation broadening access.

Changes in community expectations also contribute to increasing transparency in policing. The combination of a broad cultural shift and specific changes in law enforcement philosophy and delivery result in increasing expectations of transparency. Those expectations are likely to escalate in the coming years.

In conclusion, the longer the country is at war and/or is engaged in anti-terrorism activities, the more likely it is that transparency will be reduced. However, by the year 2020, if the country is no longer under external threat, both internal and external law enforcement communications are likely to be enhanced and improved. Internally, there may be more communication, more accurate communication, and more upward and lateral communications. Externally, law enforcement agencies may communicate better with other law enforcement agencies, with other organizations, and with the public. Despite shifting resources to anti-terrorism and impeding transparency in part due to security concerns, law enforcement organizations are likely to respond to increased demand for transparency by developing better working relationships with media and more transparency for the public. The author ends the chapter with a list of recommendations for a proactive approach to law enforcement communications in preparation for 2020.

ORGANIZATIONAL COMMUNICATION IN LAW ENFORCEMENT

Organizational communication is the process whereby groups send and receive messages. The study of organizational communication is the study of all spoken, written, and electronic messages sent and received by an organization. Organizations communicate inside to their own people and outside to other audiences. They communicate in three directions and in varying degrees of formality (Braunstein and Tyre 1999, 125). When organizations make themselves open to scrutiny, they are said to be transparent.

Organizational communication is an integral part of organizational culture, and it both affects and reflects that culture. Although American law enforcement is not monolithic, there is an identifiable culture and that culture changed significantly in the past quarter century. Unsurprisingly, the organizational communication of law enforcement has simultaneously undergone a parallel change.

Audiences of Communication

Communications in organizations includes internal and external audiences. The internal audience in a police department includes sworn officers, civilian employees, and volunteers. The external audiences include the public, other government agencies, and other organizations including other law enforcement agencies. The media and the Internet are not audiences in and of themselves; they are conduits to other audiences. Because mass media is the best avenue to reaching external audiences (and one of the best for reaching the internal audience), it is extremely important for law enforcement to deal effectively with television, radio, and newspapers. External communication can both come into the agency and go out of the agency. For example, when a police

department sends a press release to a newspaper, that release is outgoing external communication. When a citizen files a complaint against a police officer, that complaint is incoming external communication.

Directions of Communications

There are two audiences and three directions for communication in organizations. Communication can go down through the organization, such as a directive from the chief to his command staff. It can go up an organization, such as a patrol officer to her sergeant. Or it can go horizontally, such as from one patrol officer to another. All three types are present in all organizations although paramilitary organizations such as police departments have traditionally relied heavily on downward communication and invested little effort in improving the quality and increasing the quantity of upward and horizontal communication. The advent of Compstat and its iterations throughout the country has shifted some emphasis in some agencies to certain types of upward communication.

Transparency

When organizations conduct themselves so their activities are open to scrutiny, they are said to be transparent. The metaphor implies that transparent organizations have no corruption or improprieties to hide— that they do their work in public view. Transparency includes both the absence of obstruction and the presence of mechanisms to ease scrutiny. “Contemporary organizations increasingly relate to their surroundings as if they are transparent...” (Christensen 2002, 162).

The notion of transparency is complicated when applied to law enforcement. Much of the work of law enforcement is, of necessity, not open to public view. In a

democracy with a free press, there is an inevitable struggle between media's demands for complete transparency and some organizational demands for greater opacity. The underlying assumption of the media is that greater transparency leads to greater accountability. This chapter examines only internal and external communication in American law enforcement and does not examine accountability or effectiveness.

The move toward transparency is consistent with the shift in the police mission. When police view themselves only as crime fighting experts, it is consistent for them to hoard information. When they see themselves as community partners who work with citizens to improve the quality of their lives, it is consistent for them to share information. Therefore, it is not surprising that the adoption of community policing coincided with a movement toward transparency. In policing, there is a necessary balance between transparency and opacity. Not all the activities of any law enforcement organization are or should be transparent. Much police work demands the cloak of secrecy to accomplish effective crime fighting. Also, secrecy is sometimes needed to protect individuals from unwarranted exposure. Privacy laws and, in some cases, union contracts also require that some information is confidential.

The belief that the police work for the people and are partners with the people is relatively new and is not globally shared (Mawbry 1990). Both American policing and the English foundation from which it sprang are based on the philosophy of a social contract between the people and the police. In many societies across the globe – especially societies that are not democratic – there is no philosophical or practical expectation of transparency or police partnership with the community. “Police practices in other nations vary greatly with the American police experience. New immigrants

are often surprised to learn of the amount of restraint exercised by American police. Police brutality and corruption are regular practices in many countries” (Harrison 2005 n.p.).

One attempt to introduce transparency into American police processes is a civilian review board that is supposed to provide the public a window into the workings of the agency. Although a great many police and police executives are firmly — even adamantly — opposed to civilian oversight boards, many such boards (of varying utility) exist precisely because “an overwhelming majority of people, across a broad spectrum of demographic groupings, believe that police officers accused of misconduct should have their cases reviewed by a committee composed of both civilians and other officers” (Law Enforcement News 1992, 1)

Earning and keeping public trust is as critical to the police mission as fighting crime. “The leadership of a [government] agency has not only the responsibility to ensure that their organization does a good job but also the obligation to make sure that the public understands that it is doing a good job” (Behn 1994, 80). As the Denver, Colorado Police Department Operations Manual states, “public support is the heart of any public endeavor” (Denver Police Dept., 2005). Judicious transparency allows and encourages public access to information that is legal and ethical to release without compromising individuals or the organization. Clearly, there is a need for a balance between the public’s desire to know everything about everything and law enforcement’s need to keep some information private (See Changes in Public Records Law below).

FORCES ENCOURAGING CHANGE IN ORGANIZATIONAL CULTURE

Perhaps chief among the forces moving law enforcement toward greater transparency and interaction with the community is the evolution of police culture. The culture of policing in the United States has changed significantly in the past twenty-five years and is likely to continue to change in the next fifteen. This is despite the fact that active resistance to major change is expected behavior in old, large, hierarchical, many-layered organizations with strong union contracts (i.e., many police departments).

Critical Incidents and Scandal Bring Changes in Leadership

The scandal cycle in policing is an endless repetition of scandal, reform, complacency, lapse, scandal, and reform. “The dynamics of police-media relations shift during times of ...scandal” (Lovell 2003, 7). When departments are not adept, or the scandals are deep and wide-ranging, media coverage increases in depth and duration. The more media attention the scandal brings the greater the public outcry. The more the public cries out, the greater the likelihood of agency reaction and reform. As noted in The Public Image of Police, “from a practical perspective, when even modest levels of negativity and low esteem are concentrated disproportionately in certain groups of the public... Nearly always the first thing to change is who heads the police organization” (Gallagher 2001 n.p.).

With changes in both media and society, some local police scandals lead to national coverage and later to both local and national attempts to reform. For example, when national news covered multiple scandals of alleged excessive force against minority men, it led inexorably to people across the country reexamining how local departments behaved. Specifically, protestors were outraged by individual actions, by agencies’

apparent toleration of misconduct, and by perceived attempts by agencies to “stonewall” and to cover-up. At the same time the public demanded better conduct of the officers, it demanded more transparency in the processes to investigate and report perceived misconduct. Media coverage of police scandals is likely to continue because scandals are easy to cover, they generate interest, and they fit well with journalists’ belief that media is government’s watchdog. Using history as a guide, police seem likely to move toward greater transparency in response to that coverage.

Police Are Better Educated

The second factor responsible for the evolution of police culture is the change in the educational level of police. Although a college education has been lauded as an asset for police since at least 1917 (Goldstein 1977, 283), “an increasing number of departments require some type of college experience for employment or promotion” (Carter and Sapp 1992, 6). Mirroring increased social pressure for credentialing in other fields, for increasing numbers of departments the chief must have a four-year college degree. For larger departments, it is not unusual for a master’s degree to be suggested if not required.¹

Law enforcement in the United States does not routinely provide for upward movement between departments in non-command positions and in most departments few command positions other than chief are routinely filled from outside. Consequently, most police executives have experience only with their own department. Most of what they know of law enforcement will necessarily have come from their own department with additions from interagency task forces, law enforcement associations and conferences, reading, and training. Consequently, a college education is an important avenue for

¹ See the National Organization of Black Law Enforcement Executives (<http://www.noblernational.org>).

introducing organizational change. It is probable that trends will continue and that by 2020, more chiefs, command staff, and officers will attain a college education and bring impetus for cultural change to their departments.

Police Are Better Trained in Media

It is not unusual for chiefs and commanders to indicate they would rather face armed criminals than the media. Part of the reason for that belief is the long standing cultural tendency of police to avoid media, and part is because police have much more training in dealing with criminals than they do in dealing with media. Police response to the need for expertise resulted in increasing use of designated public information officers (PIOs) as law enforcement spokespersons (Criminal Justice Journalists 2003, 7).

Although many PIOs wear that designation only part-time, the person filling that slot and others who may deal with media now often receive media training. In fact, at no time in the past have chiefs, command staffs, and public information officers had more opportunity for public information training. More courses on more topics are being offered by more organizations in more locations than ever before, and more agencies are taking advantage. In 2001, a survey indicated that 69% of municipal police departments provided some media training (Lovell 2001, 7).

Training sessions include a wide variety of topics including media in high visibility situations, media for small departments, media in multi-jurisdictional disasters, and public information law. The most useful courses may be those in interview skills. Research shows “police training in television appearance skills... significantly associated with a more favorable department image” (Lovell 2001, 7). Much media training includes a component on the benefits of establishing and maintaining a good working relationship with the media.

The training routinely indicates that to a large extent this relationship is dependent on the department behaving transparently: that is, with the absence of obstruction and the presence of mechanisms to ease scrutiny.

The environment of media training sessions is changing. Previously, the courses frequently referred to media in derogatory ways. Instructors are now more likely to refer to media in neutral rather than negative tones. The author has engaged in law enforcement training since the late 1980's and personally witnessed that as late as the mid-nineties it was not unusual for some public information trainers to define the cops as "the good guys" and the reporters as "the bad guys." Although such training still exists and is likely to persist for some time, it no longer is the dominant mode. Increasingly, too, current or former journalists who can explain the news industry from the inside teach some of the courses. The theme underlying much current public information training is the need to work cooperatively with the media to achieve law enforcement goals.

Because there is increasing external support for media training (see *The Threat of Terrorism Affects Transparency* below), because law enforcement executives are more aware of the need for training, and because there is more and better training; it is likely that by 2020 there will be even more and more accessible media training. More law enforcement organizations will have personnel trained in media relations. There will be more reporters delivering training and more police executives practicing in front of live cameras and receiving information that encourages cooperation with the media. As the media environment changes, media training for law enforcement is likely to change responsively and responsibly. As new requirements for production and new media outlets confront police agencies, training will evolve to meet those needs.

Overarching Organizations Encourage Transparency and Advocate Effective Public Information

One of the most effective factors in changing the culture of policing in the past quarter century has been the collective stance of overarching law enforcement organizations. Unlike most of the world's nations, in the United States law enforcement is achieved through the efforts of thousands of agencies, each of which is sovereign within its sphere. Because the Modesto, California Police Department is not a subset of another, larger agency, its culture is not mandated by another agency. Nonetheless, other organizations can and do affect the culture of individual agencies. Overarching organizations can be defined as those that have the ability to influence law enforcement executives, national policy and funding, the curricula of police academies, and criminal justice standards. They are outside individual agencies but are capable of influencing their culture.

National voluntary organizations have members who represent agencies diverse in size, type, and geography. National organizations such as the International Association of Chiefs of Police and the National Sheriff's Association represent, educate, and affect their members through meetings, sponsored training, e-mail, and publications. Although there are significant differences between the various organizations, most of them have encouraged their members to utilize the media to accomplish their missions. Most produce publications and provide training to enhance the media skills of their members. Most urge their members to remove inappropriate obstacles to transparency and some explore mechanisms to increase the ease of public scrutiny. Most publicly endorse a belief system that is often different and more progressive than many of the individual agencies

from which their membership derives. When organizations such as these advocate progressive policies and practices in public information, they affect the climate and the practices of local law enforcement agencies.

Organizations that solicit, fund, and release research also help set the agenda for policing in this country. The Police Executive Research Forum (PERF), known colloquially as “the police think tank,” conducts and publishes research and hosts provocative conferences and meetings. PERF has long advocated responsible transparency and cooperation between law enforcement and the media: “Law enforcement and the media need each other, so law enforcement executives need to do their best to work with them to find common ground. The need to secure this common ground cannot be overstated. Without it, conflicts will continue to affect public safety” (Murphy et al, 2004, 99).

In addition to voluntary organizations, the Federal Bureau of Investigation (FBI) also affects the culture of diverse local departments. The FBI is a major provider of training for local and state agencies. Because the FBI is such a significant provider and because its training is consistent throughout the country, it encourages adherence to a national standard. At the state level, state police chiefs’ associations and state law enforcement agencies have joined the push toward more effective image management through encouraging agencies to have more — and more effective — interaction with media. In addition to providing training, many of these organizations also directly and indirectly influence the curricula of police academies and the content of criminal justice standards for jurisdictions. Additionally, the Police Assessment and Resource Center (a nonprofit organization providing information on police oversight and monitoring) produces publications, reports, and forums that encourage more transparent processes than many agencies have traditionally practiced.

Accreditation Requires Public Information

Accreditation has been a major factor in the shift in police culture toward greater transparency. Law enforcement agencies seek accreditation as an adaptation based on other occupations, as a guide to best practices, as an assurance of professionalism to the community, politicians, and administrators, and as a means to reduce the cost of insurance. Both state and national processes for accreditation address standards in public information. The basic premise is the same one that is the philosophical foundation of this chapter: law enforcement serves the community and to be successful it must have the support of the community. Good practices in public information help agencies earn that support. The Commission on Accreditation for Law Enforcement Agencies (CALEA) is an independent accrediting body that functions as the national accrediting association. CALEA advocates that law enforcement agencies should involve members of the media in formulating policies and decisions that affect the media. The intention is to develop a cooperative relationship.

Accreditation standards address the need for agencies to codify their public information policies and practices in many ways including but not limited to written directives, job description and analysis for the public information officer or the person/s who perform that function, access guidelines for media representatives, guidelines for what information will be released and what will not be released, and many other factors depending on the particular accreditation agency.² Both the federal and state accreditation processes do more than set the minimum standards for the public information function in

² See for instance the Commission on Accreditation for Law Enforcement Agencies, Chapter 54, Public Information, Standards for Law Enforcement Agencies, 4th Edition

accredited agencies. Accreditation processes emphasize that public information is a critical function that requires adherence to recognized, professional standards of conduct.

CHANGES IN TECHNOLOGY BRING ABOUT CHANGES IN COMMUNICATIONS

Rapid changes in technology have had their impact on all aspects of policing including the way agencies use communications. A factor that has major impact on the way law enforcement communicates internally and externally is the reduction in size, cost, and complexity of communications equipment and the corresponding increase in the capabilities of that equipment.

Changes in Technology Bring About Changes in Internal Communications

Because “internal communications are rarely as effective as they might be in police organizations and are often a major source of conflict,” (Braunstein and Tyre 1999, 127) improved internal communications is vital. Advancing technology deeply impacts law enforcement’s internal communications— the day-to-day communications between members of the department. Better communication within the agency can do more than move information more quickly; it can increase the stakeholders’ feelings of organizational ownership. Technology has changed internal communication at every level.

Wireless technology increases both the speed at which personnel can access information and the number of locations at which they can achieve that access. One effective use of wireless technology occurs when properly equipped police transmit video from emergency scenes to designated sites such as emergency operations centers. This is but one example of how technology gives decision-makers more information,

more accurate information and more timely information than was previously possible. Similarly, improved radios, cell phones, and satellite phones offer the opportunities for better internal communications.

E-mail, video conferencing, handheld devices using wireless technology, and intranet systems increase the speed and consistency of material distributed across shifts and geographic locations. With streaming video, key personnel can appear at multiple briefings or roll calls regardless of time or distance. Special units can use video conferencing to get information out to the troops during roll call. Crime briefings or Compstat-type meetings can include personnel across geographic areas without the necessity of travel. Information can be sent or received at remote locations. For example, many organizations now make it possible for personnel to access information from their homes, thereby expanding the flow of information to off-work hours.

Advancing technology makes it possible for information to be easily updated whenever it is needed. Changes in general orders, for instance, can be immediately distributed to all personnel, and there is a record of each person receiving the communication. Of course, the record of the communication is generally covered under public record law. The speed of e-mail is particularly important for downward communication when there is a crisis affecting the organization. It should be self-evident that it is damaging to morale when personnel first hear negative information about the organization from the media. With e-mail, command staff often can have such information and its context in each person's electronic mailbox before the news hits the airwaves or the paper. Cell phones have become so ubiquitous in society that it is easy to overlook the changes they have brought to law

enforcement. The integration of radio and telephone technologies into single pieces of equipment allows almost simultaneous communication within and between agencies. The cost of equipment is such that even very small departments often are equipped with “direct connect” technology.

Whereas in the past law enforcement most often adhered to the paramilitary model of organizations with most communications going down, in many agencies the model has shifted to more closely resemble modern private industry. Partly because of improved technology, there are more horizontal, lateral, and upward communications. E-mail has significantly increased the flow of upward communication, especially when supervisors and command staff are sent copies of internal communication.

One of the ways technology has most successfully impacted police administration is in management. “Information is the raw material of management work. The daily activity of managers involves the processing of information... [that] demands the use of communications media” (Buchel 2001, 1). Technology makes it possible for more information to be gathered, analyzed, and effectively moved up the ladder more quickly than most organizations were able to accomplish in the past. The speed and accuracy of information collection and analysis assure that information-based management decisions can be made in a timely manner. Analysis is becoming an increasingly important tool for the management and administration of law enforcement agencies.

Police are increasingly dependent on data-based management tools. At their best, these tools enhance communications up and down the chain of command. One example of a database management tool is an early intervention system or early

warning system (EWS). The EWS is a mechanism for enhancing police accountability by measuring and noting employee performance along predetermined parameters that vary by agency. Common parameters measured in early warning systems are use of force incidents, internal affairs investigations, discipline, crashes, discretionary arrests, training records, and commendations. Although EWS can be used for disciplinary purposes, the trend is to encourage their use as an employee development system. Employed this way, EWS can enhance management's ability to monitor performance, increase appropriate internal communications, maximize employee potential, and increase retention (Walker, Alpert, and Kenney 2001, 3-5.). When functioning at their best, EWS serve agencies by increasing communication with supervisors and employees (Phoenix Police Department 2005). The systems simultaneously organize information about employees while providing needed information about services to the employees. When EWS are used as employee improvement databases, they should facilitate positive communications up and down the chain and encourage employee buy-in.

Internal communications are likely to continue to improve as the rate of change in technology speeds up and as law enforcement personnel adjust their expectations to the new environment.

CHANGES IN TECHNOLOGY BRING ABOUT CHANGES IN EXTERNAL COMMUNICATIONS

Just as technological changes enhance internal communications, they can and sometimes do enhance external communications between law enforcement and the

public, between and among law enforcement agencies, and between law enforcement and other organizations with coinciding goals. The rapid pace of change in technology means some agencies are inevitably behind the curve just as others are ahead. While some agencies are employing state-of-the-art technological advances, others are still unable to communicate directly with other law enforcement agencies or with allied agencies because there is no industry radio frequency standard. Although technology is moving toward systems that will allow departments to talk across different frequencies, such is not yet universally the case. For many law enforcement agencies, advancing technologies have provided significant tools for enhancing external communications. Reverse 9-1-1 systems and targeted mass emails allow police to send messages in an efficient and effective way that bypasses traditional use of mass media.

Another way technology has assisted is in increased information systems capability. Information gathering is a primary task of law enforcement. Problem oriented policing and old fashioned investigation techniques both are based on the collection and interpretation of information. Advancing technology enhances that task so that now an explosion of data comes into and is produced by law enforcement agencies. For many contemplated actions, data is collected and transmitted from external points including — but not limited to — private organizations, other law enforcement agencies, and other governmental agencies. External information can come in at a faster pace than in the past because technology makes the collection, analysis, and transmission of the information easier and faster. However, the enormous amount of information gathered may make it difficult to assure that the collected data goes to the right personnel and is correctly interpreted so that it can be used effectively.

Similarly, hardware and software from various agencies and even sometimes within agencies may not interface; information sharing may be impeded, sometimes with serious consequences. Investigations after 9/11 revealed that intra-organizational and inter-organizational communications were inadequate to meet national security needs. That problem is currently being addressed by law, by funding, and by the federal government providing resources for enhanced communications (see *The Threat of Terrorism Increases Transparency* below).

Faster, easier communications encourage both internal and external communications and can improve transparency. An excellent example of technology's ability to increase transparency arises from the use of onboard cameras. Digital cameras mounted in police cars record encounters creating a witness to police-citizen interactions. Wireless capability allows immediate downloading of images to fixed locales where they can be quickly accessed by supervisors. Officers, supervisors, and citizens with complaints have a record they can turn to when there are disputes. Similarly, stop light cameras create verifiable records. Of course, the cameras have a limited range of vision, they may malfunction, or they may be deliberately disabled. However, the cameras and transmission do increase transparency, and they demonstrate the apparent willingness of police to embrace transparency.

When the means of recording and producing news was limited by size, expense, and complexity of use, there were few players in the news business; only media produced the news. With increasingly good amateur equipment and technology for instantaneous transmission, members of the public now act as reporters, photographers, and even distributors of news. As Jarett Lovell says, "now the Internet promises to make every

citizen a keeper of the police” (2003, 13). From capturing excessive force on a video camera and having the images played on commercial television, to posting images on the Internet, civilians are making incursions in the gathering and distribution of news. One outcome of this trend is a forced increase in the transparency of police departments. The reduction in size, cost, and complexity of the equipment also works so police themselves can enter the news production and distribution market. In the past, except for face-to-face meetings with citizens, police relied almost solely on the media to get their story out. Police now are able to produce and distribute their own images and stories.

For instance, in many communities, police had long used remote cameras in areas where there were often extreme traffic conditions. The images from those cameras belonged to law enforcement and were not routinely available to media. Recently, it became an accepted practice in some locations for television news to broadcast images from these and other government-owned cameras. This change in practice came about when advancing technology made it easier for media to access and broadcast the images. Almost simultaneously progressive police administrators decided that contrary to past decisions, it was to their advantage to allow media to do so (Bryant 2005).

With the right equipment, police can take their own photos and/or create their own “stand-ups” at crime scenes, produce their own graphics, interviews, and audio, and then transmit a broadcast-quality package to commercial news outlets. Similarly, advancing technology allows police to email print and broadcast quality 911 transcripts, jail mug shots, and bank security camera images. For the police, the production and transmittal of the product to the news outlet gives them a better chance of having

the story selected, provides the information to the station quickly, and gives police control of the product, at least until it is edited. Police production of some of the story is unlikely to yield police control of the final edit, but when police produce viable clips, the images and sounds are sometimes slipped into professional broadcasts. When that happens, the visual images and sounds then say what the department wants said, in the way it wants it said. Sometimes the clip or the emailed 911 transcript or mug shot determines the slant of the story - - a real asset for the department.

News is time-driven. When information cannot be quickly accessed by media, it may not make the story or the broadcast, thereby depriving law enforcement of a potential avenue with which to disseminate information. For instance, when video from bank cameras and crime scenes can be converted and distributed quickly via the Internet to media, it is more likely to be used in a broadcast. Sometimes tape availability can drive the selection of the story for coverage. Advantages to the media of using police-produced segments include the financial savings found in reducing the number of location shoots and access to material they might otherwise not have. When the PIO transmits otherwise expensive or inaccessible information or images, he or she is helping the bottom line of the news outlet at the same time the agency is getting its story out to the public (see Changes in the Media below).

Because of advances in technology, police are also now more efficient in distributing news ideas and stories to the media. Broadcast faxes and e-mail lists are examples of technology that get information out quickly and virtually simultaneously

to numerous recipients. Effective public information officers routinely fax all media outlets with press releases. Some public information officers record information for limited access voice mailboxes so reporters can access constantly updated information. Similarly, reporters access the agency web site for routine agency information. Archived news releases, information about personnel, and perhaps the annual report are more readily accessible to reporters on a web site than they would be in hard copy that may be misplaced. PIOs can also post current information on their web sites so reporters can retrieve digital images and information for breaking stories.

Advancing technology also provides law enforcement increasing control of the means of production and distribution of news to targeted audiences. Police can quickly get out their own messages and tell their own stories. Almost all agencies have web sites and through increasingly sophisticated web pages they can speak directly with their audience. Agency sites are relatively inexpensive to maintain and use, and they can be continuously updated so they are of immediate and continuing interest. Police agencies use their sites to present information in the way that is most helpful to them without any deletions, modifications, or changes imposed by reporters or editors who have a different agenda or different space/time requirements than the agency.

Through shows produced for government access television channels, police-affiliated television and radio programs on commercial stations, and webcast radio programs, agencies can control the content and production of their stories. Although entertainment factors are important even in government access television, the nature of these programs makes it possible for police to communicate ideas that might not be aired on television or that might receive short shrift on commercial TV. For example, a program on a government

access channel might spend ten minutes or more on a segment on elder safety. In the rare event the subject was covered on commercial television, it would be unusual for it to last two minutes. Programs on government access channels and police-produced programs on commercial channels also allow law enforcement to spotlight subjects that might never get commercial coverage. Publicizing outstanding personnel and programs increases organizational morale and supports the mission as it encourages appropriate public confidence in the department.

Changes in technology have made it possible for police to improve and enhance both their internal and external communication. Communication moves more quickly up, down, and across organizations and, more data comes in and is processed more quickly. Because of improved technology, police are able to communicate better with the media and with the community unmediated by the media. The scenario described above is unlikely to occur if the agency has not established and maintained a healthy, positive relationship with the news outlet. As more agencies meet accreditation standards of media relations, have professional, trained public information officers, and engage in all the other practices mentioned earlier as factors in better media relations, the possibility of genuine cooperation between media and law enforcement increases. As technological advancements are adopted, more agencies will produce their own programs, and these programs will become more sophisticated. Simultaneously, more agencies will feed images and information directly to commercial media, affecting coverage of those agencies. By 2020 we are likely to see exponential growth as technology advances and costs drop.

CHANGES IN THE EXTERNAL ENVIRONMENT BRING ABOUT CHANGES IN COMMUNICATIONS

Because law enforcement both affects and reflects society, changes in society make an impact on policing systems and processes. The threat of domestic terrorism has brought major change to policing communications.

The Threat of Terrorism Affects Transparency

September 11, 2001 ushered in a new era in policing. As the nation faced domestic terrorism the mission of law enforcement agencies underwent modification. Law enforcement has always engaged in some activities that must, because of the nature of the mission, remain hidden from public view. Ongoing investigations and strategies always have been protected from public disclosure. There has been no public expectation that police would announce wiretaps in advance or tell the public when and where they intend to exercise search warrants. The very nature of homeland security necessarily leads to less transparency. In an apparent paradox, however, homeland security heightens the need to keep the public appropriately informed and certain security measures necessitate more communication between law enforcement agencies. However, information that in the past have been open under public record laws may now be off-limits because of security concerns. There is also a clear “chill factor”; since 9/11, police are more conscious of the potential threat of improper release of information. Some information is withheld although its release may not actually be prohibited.

It is not surprising that the threat of terrorism has led to a reallocation of federal funding. When the federal emphasis was on crime reduction and quality of life issues, federal funding flowed to projects that increased communication between

law enforcement and communities. The federal emphasis is now on national security and anti-terrorism measures; funding flow to projects that offer the promise of threat protection/reduction and/or management of the consequences of terrorist activities. Federal grants support everything from equipment to personnel to training. Much of the money is directly earmarked for security, and like other industries, to some extent law enforcement may follow the money. Simultaneously, there is federal funding available to increase and enhance agencies' abilities to communicate between and among themselves and with their communities.

Beyond the ramifications of federal funding, the demands of homeland security and community policing inevitably create a conflict for law enforcement executives and their agencies. With competing demands for personnel and equipment resources, demands have to be prioritized. In times of external threat, organizations traditionally expend their resources fighting off the threat. Unsurprisingly, the post-9/11 period finds law enforcement expending significant resources on fighting terrorism. Some of those resources might have been employed in public outreach and public information activities if the threat had not arisen.

At first glance, it may appear paradoxical that the response to the threat of terrorism also has in specific ways enhanced police communications; however, such is the case. Government initiatives encourage better communications within and between law enforcement organizations, and between law enforcement and the public. Just as agencies must be able to coordinate operations and logistics for terrorist and other large-scale incidents, they must also coordinate education, communications, and information management. The federal government is providing deadlines, guidelines, resources,

and funding for enhancing these activities. Homeland Security Presidential Directive 5 mandates the creation and implementation of the National Incident Management System (NIMS).³ The purpose of NIMS is to provide a foundation so multiple agencies can work together for effective domestic incident management. The threat of terrorism clearly was the catalyst for the creation of NIMS, yet its utility is not limited to terrorist incidents. The directive states that the system is for domestic incidents of all types. Full compliance with all NIMS standards is not required until 2007, but the future is clear and near, and police are moving in the directions mandated.

It is noteworthy that NIMS recognizes the key importance of communications and information in preparing for, responding to, and recovering from major incidents. NIMS requires the creation of joint information systems that are collective efforts by multiple agencies to ensure that all participants are familiar with, understand, and employ standardized communications. Participating agencies are to use a joint information center (JIC) to facilitate all communications from the combined command. The purpose of the JIC is to reduce confusion and to eliminate conflicting messages. The unified command speaks with one voice to ensure the public is accurately informed in a timely manner. Coordinated and effective communications and information management are seen as critical factors, thus extensive resources are available to facilitate change. Consequently, NIMS affects communications in law enforcement agencies in three ways: it underlines the importance of public information in law enforcement; it enhances and increases the flow of information for coordinated incident management and for public information; and it enhances and increases external communications between law enforcement agencies. Another forward

³ See <http://www.dhs.gov/>.

step in interagency communication was brought about through the establishment of district terrorism task forces that require agencies to communicate on security issues. The result has been increased cooperation between agencies on other issues as well as on anti-terrorism. As mutual advantages are explored and formal and informal communications networks are built, more cooperative activities take place, and more activities are successful.

Information sharing within and between agencies is one of the highest priorities of post 9/11 security efforts. The Federal Bureau of Investigation was charged with the responsibility of creating a system to extract, manage, and move forward critical information. To that end, great effort and expense went into creating a nearly \$170 million computer system that was intended to allow information to move rapidly, securely, and without hindrance between intelligence agents and agencies. Although there is currently more effective information sharing than prior to 9/11, this computerized intelligence management system has not been successfully launched. The inability to develop an effective system as of the date of this writing is one of the most significant obstacles to effective external communication between law enforcement agencies.

Although federal law enforcement acknowledges that local agencies are the first line of defense against terrorism, genuine collaboration between federal and local agencies has been difficult to achieve. The FBI acknowledged that its bureaucratic structure inhibited collaboration and engaged in some restructuring of the organization (Strohm 2003). One early problem was the bureaucratic obstacle of gaining security clearances for law enforcement officers. In the first eight months of the program only 320 clearances were issued. However, internal procedures were streamlined, and "since the 9/11 attacks, more than 6,000 state and local police officers have been granted access

to classified material involving terrorist threats, the broadest dissemination of secret information in U.S. history” (Johnson 2005).

Intelligence briefings to chief executive officers and command staff from state level departments of law enforcement and briefings to chiefs from federal agencies are increasingly common. However, officers at all levels in local organizations are more likely to experience two-way communication with other local agencies. As of this writing, many law enforcement executives still claim that the media often reports on terrorism-related stories before police chiefs are officially briefed. As the nation adjusts its response to terrorism, federal agencies will make more concerted efforts to exchange information with each other and with state and local agencies. Software and other communication problems will be overcome because the need is great and eventually the people and Congress will demand no less.

Changes in Media

Historically, police alternately seek and avoid the news. When they complete their mission or need the assistance of the public, police seek coverage. When officials have acted questionably, police usually avoid coverage. It is in this latter case where the media is best serving the public’s watchdog mission. A major force that defines journalism in the American culture is the economic environment in which it is practiced. In the United States, journalism is not a function of government—it has always been market-driven and had to pay its own way. Journalists have always claimed that market forces led to better journalism although both evidence and experience indicate that a market that values entertainment above information may lead to conflict with journalism’s public service norms (McManus 1992).

While the watchdog function of media has remained constant, the very nature of media underwent major change in the past quarter century. Concurrent with Americans spending more time in their cars, Federal Communications Commission (FCC) decisions allowed the expansion of media companies so that one company can own up to eight radio stations in one market. The advent of the Internet, all-news television networks, the Telecommunications Act of 1996, and the FCC decisions of 2004 brought unprecedented change. Mergers, reduced government regulation, and globalization transformed the industry by reducing the number of owners and increasing media adherence to corporate decision making.

Economies of scale drive the consolidation of the industry. Although competition between outlets remains fierce, “profit calculations require many of the products... be standardized by sharing common sources of production, and recycling the content through multiple outlets in the same corporate chain” (Bennett 2000, 2). Organizations maximize profits by increasing the number of outlets they own, decreasing the number of staff they employ, and increasing the geographic distance and the number of stories covered by individual reporters and photographers. Consequently, fewer reporters cover stories because the same story is used by more than one outlet. With the increasing globalization of media, there is increasing attention and devotion to the bottom line — the selling of advertising space or time.

In the past, law enforcement agencies dealt primarily with traditional newspaper and television reporting. Those agencies that were astute about media understood newspaper and television deadlines. They could reach a huge percentage of their external audience and almost all of their internal audience through newspaper and television news.

According to the *State of the News Media 2004* survey, in the past ten years both newspaper circulation and Nielsen ratings for the three nightly newscasts have shown a marked decline.⁴ In the past, to reach the public the police had only to make press releases available to newspaper and television. Many young people now get their news from the Internet (Ziomek 2005, 17) and entertainment sources; more people of every age are choosing partisan reporting. The public uses these newer and nontraditional sources to keep informed (Robinson and Levy 1996, 21). The public information function has become more complex because information needs to be readily accessible and competently packaged for different types of outlets. Many newspapers, even some in small markets, have web sites they update throughout the day. Television news means instant coverage around the clock. Media for police departments routinely includes newspapers, television, radio, a government access television station, the department annual report and other publications, perhaps a radio talk show, and a web site.

Journalism is increasingly market-driven and the market consistently wants “cop stories.” News organizations are relying more heavily on stories that are easy to cover. The department that has the most knowledgeable PIO, makes proposed stories reporter-friendly, and is able to self-produce some of aspects of stories. The department is most likely to produce positive features in the television, print or digital news. The future is likely to see more police coverage with a focus on those stories that “travel well.” Stories that originate in one location but resonate nationally and/or are sensational will get increasing coverage. Big stories will attract ever more large-market media. In response, police will become more adept at dealing with the realities of a major media invasion.

⁴ See <http://www.stateofthenewsmedia.org/>.

Changes in Public Records Law

Generally, the law addresses public access to public documents and does not specifically address the media as the party that desires access. Here, as elsewhere in this chapter, media outlets are seen and treated as merely a conduit to the public. Media outlets have the same rights as a private citizen. The formal rules regulating access to government records are codified in public record law that mandate what records must be open to public scrutiny. Relevant federal laws include the Freedom of Information Act, its 1996 amendment, and the Privacy Act of 1974. In addition, each state and some cities have public record laws. In matters of interest to law enforcement, states are consistent in exempting records of open law enforcement investigations. Other exemptions that apply to law enforcement vary by state (Overbeck 1992, 280). Penalties for public officials who improperly deny access vary by jurisdiction and include criminal sanctions, fines, agency payment of attorneys' fees for successful litigant, and possible disciplinary action including removal from office. Such sanctions are not often imposed. In addition, several states have ombudsmen and/or nonjudicial review processes to help citizens gain access to public information (Hall 2003, 22).

The state of public access to public records is in flux. Some courts have interpreted the law broadly when it comes to exceptions and narrowly when it comes to rights of access, thereby limiting transparency. Even when the law is clear, many government officials and agencies fail to comply. From time to time, first amendment coalitions, college students, state agencies and the media conduct tests of public access to information. In many cases and in states, many officials have denied access to public records that by law must be available for scrutiny (Landon 2001, 1-16). When officials exhibit blatant

disregard for the public's right to know there is often media coverage of non-complying agencies. This coverage may prompt a legislative response, such as revisiting public record laws. For instance, in the wake of widely publicized audits by newspapers, college students, and state agencies, several state sunshine laws were strengthened in 1999 and 2000 (Landon 2001, 1). Media or others also may initiate a lawsuit against the non-complying public figure. For the plaintiff, even if the suit is unsuccessful in the courts, it is often viewed as advantageous because it generates coverage and it advances the watchdog function — a core value deemed intrinsically worth defending.

There is always a struggle to maintain a balance between government's right to secrecy and the people's right to know the people's business. The struggle is particularly difficult in times of war when the need for security may seem to outweigh the people's right to access information. "Secrecy in wartime always raises First Amendment-related issues" (Collins 2004) and there is a vocal group that believes "the American tradition suggests that civil liberties take a backseat during times of war" (Hudson 2002). Supporting that belief, since 9/11 there have been clear government movements toward limiting access. Significant legislation now protects specific security information from public scrutiny (see also *The Threat of Terrorism Affects Transparency* above).

In addition to concerns about security, other concerns affect public access to information. As Lee Ann Freeman, Legal Advisor to the Orlando, Florida, Police Department noted in a personal email (January 24, 2005), historically, specific crimes lead to responses to those crimes. Just as terrorist activities led to prohibitions on access to information that might help terrorists, the explosion of identity-theft crimes led to prohibitions on access to some personal information such as social security numbers.

The longer the country is at war and/or is engaged in anti-terrorism activities, the more likely it is that public access to security-sensitive information will be limited. Even if the war and anti-terrorism activities ended successfully and soon, most of the specific information that is now prohibited from public access is likely to stay that way at least past 2020. Nonetheless, it appears likely that the trend toward increased transparency will continue unabated in matters unrelated to national security. Media and other groups likely will continue to test public officials because such behavior is consistent with both internal and social norms. If those groups conduct the tests, based on history it is likely that many public officials will fail. In response to the resulting outcry, state legislatures might well act as many have in the past under such provocation. They may direct the courts to interpret the law broadly when it comes to rights of access and narrowly when it comes to exceptions. The result would be greater transparency.

Community Expectations

A major factor in the external environment that influences law enforcement is community expectations. Although there has always been public demand for integrity in policing, there has not always been a similar demand for transparency. This shift mirrors the shift in public demands for transparency in other social institutions such as education, business, and health care. Law enforcement agencies augmented the broad environmental factors affecting expectations of police transparency. The dominant law enforcement philosophy of the 80s and 90s was community policing, which required police to open themselves to public input and scrutiny in unprecedented ways. With the commitment to community policing and a greater understanding of the need to manage public image, agencies began to work to keep constituencies better informed not just about crime in the

community but also about the activities of the police department itself – sometimes even when those activities reflected negatively upon the agency. Some agencies adopted private industry methods for dealing with scandal, even going so far as to hiring outside auditors to gather and analyze information. For example, according to Chief Harold L. Hurtt the Houston (TX) Police Department hired outside investigators when questions arose about its handling of evidence.⁵ The combination of community expectations and changing police philosophy led to greater transparency.

During the 1990s many police agencies discovered what leaders of private industries under siege had discovered: mistakes happen, but dribbling out information about them prolongs negative coverage and harms the image of the organization (Vance 1999). Transparency was advocated as an image management tool. According to Gallagher and colleagues, the “police must understand how the public view them as a crucial first step in improving the relationship between the police and the community” (2001). When the model for policing was the military, police did not often seek information on what the community thought about the department, its goals, and its services. Although agencies had mechanisms for accepting complaints, access was often difficult and sometimes intimidating. People had to be very motivated or dissatisfied to register complaints. Seeking and measuring customer satisfaction was not a high priority. With the shift to civilian models, police began to solicit input from those they served. Follow-up phone calls after citizen interactions with departments were instituted to solicit comment about service and to gauge satisfaction. Some departments collected and analyzed customer satisfaction surveys to reveal specific areas of satisfaction and dissatisfaction. In many

⁵ Chief Hurtt made this comment at the Police Executive Research Forum Townhall Meeting at the 2004 meetings of the International Association of Chiefs of Police, Los Angeles, California, November 2004.

cases the surveys were little more than window dressing, but in others the input was considered valuable and factored into plans for change.

At the current time, some agencies have gone further in the attempt to solicit meaningful external input. For example, police in Eugene, Oregon, engaged outside professional groups to gather and analyze community opinions (Nolan 2005). The community may be informed about the surveys through media coverage or through agency coverage such as through postings on the agency web site, and/or through mailings. The incoming opinions may be taken in written surveys or over the phone. The use of independent agencies to collect and analyze data is a clear attempt to demonstrate transparency.

The major external factors affecting law enforcement's organizational communications are a mixed bag. Changes in community expectations are unambiguously pro-transparency. Changes in the media environment are likely to lead to more sensational coverage. Responses to terrorism and changes in public records law provide a mixed message. Both have had and will continue to have a significant negative impact on transparency of organizational communications. However, both also provide some impetus for continuing movement toward organizational transparency and enhanced communications.

CONCLUSION

The longer the country is at war and/or is engaged in anti-terrorism activities, the more likely it is that public access to security-sensitive information will be limited. By the year 2020, if the country is no longer under external threat, both

internal and external communications – with the exception of security issues — are likely to be enhanced and improved. Internally, there may be more and more accurate communication, as well as more upward and horizontal communications. Externally, agencies may communicate better with other law enforcement agencies, with other organizations, and with the public. Despite responses to terrorism and consequent significant impediments to transparency, law enforcement organizations are likely to respond to increased public demand for transparency by developing better working relationships with media, more competence in reaching the public without the aid of media, and more transparency for the public.

From this consideration of the law enforcement communications, we can see the emergence of a number of key recommendations for agencies.

- 1) Designate and train PIO's in all agencies.
- 2) Improve quality and quantity of upward internal communications.
- 3) Improve the speed of downward internal communications.
- 4) Use data management to enhance communications up and down the chain of command.
- 5) Adopt standard radio frequencies for use in critical incidents.
- 6) Ensure organizational dedication to the proposition that public information is a vital function of law enforcement.
- 7) Improve hardware and software so police can interface better within and between organizations.
- 8) Invest in technology to enhance internal and external communications.
- 9) Increase the use of police production and transmittal of news products to media and directly to the public.
- 10) Ensure absolute compliance with public records laws.

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Chapter Six

THE PATROL FUNCTION IN THE FUTURE – ONE VISION

James A. Conser & Gordon G. Frissora

EXECUTIVE SUMMARY

The objective of this chapter is to address the future of “patrol practices.” The authors examine how the patrol function will and will not significantly change by the year 2020. The chapter is divided into three major sections following an introduction. The section on “Visioning the Future” describes several models that can be used by agencies to identify trends and forces affecting policing. The section entitled “Some Visions of the Future of Policing” examines recently published comments about the future of policing, generally. The third major section, “The Patrol Issues of Tomorrow” describes and examines issues affecting policing at the patrol level in the context of seven environmental dimensions/forces. These sections should be viewed as integrative since there is some overlap. The issues impacting the future of the patrol function are numerous and are not isolated from the others described in this text. The general themes of the chapter should be kept in mind: 1) There are existing models to envision the future, 2) Envisioning the future has pitfalls, it is not an exact science, and 3) Scanning the environmental forces that affect society is essential for anticipating future conditions and changes.

INTRODUCTION

Addressing the future of “patrol practices” is a major undertaking because of the ramifications of the patrol function. Patrol is not a static; rather, it is a multifarious function

that is affected by diverse and often competing factors. For many agencies the patrol function is the majority of the entire policing function in that jurisdiction. For larger agencies, the patrol function is, of course, a part of the overall mission, and many officers are assigned to other specialized units and tasks. Therefore, it is difficult to address the patrol function without addressing some aspects of the issues contained in the other chapters of this text; some overlap is not only expected but necessary.

Will the patrol function in policing significantly change by the year 2020? Our answer is “No” and “Yes.” *No*, the patrol function (task) will not change – it will continue to be necessary because emergency and non-emergency police response will still be required. There will be random and planned acts of violence. There will be domestic disputes. There will be vehicular accidents with traffic-related congestion and safety situations. There will be lost children and elderly “walk-aways.” There will be robberies and thefts. Street gangs will continue to terrorize neighborhoods in some cities. There will be infrastructure security checkpoints and restricted areas to protect. There will be fugitives and wanted individuals who flee from officers. In short, officers will still have to deliver situational-tailored services to the public – and they will be doing it face-to-face.

Yes, the patrol function will significantly change if the policing community is to *professionally* and *successfully* address the challenges of the second decade of the twenty-first century. The primary changes will occur in the areas of methods, equipment, communications, and caliber of officers. To further complicate this vision, the *degree of change* will depend on where you are located, the political will of your citizens and their elected officials, and the finances available to the department.

One fundamental philosophical change in patrol will be the removal of the officer

being physically present while patrolling. The methods of patrol will change based on the adoption and application of surveillance systems in public areas and public policing linkages/partnerships with private policing and loss prevention organizations. With this type of virtual patrol, police departments can employ civilian personnel to watch and interpret what is on a video monitor; they would not need the physical ability to operate a vehicle.

Also, the equipment used by patrol officers will continue to become more sophisticated. Less-than-lethal weaponry and vehicle immobilizers will become more effective, practical, and accepted. Patrol vehicles will become more versatile; SUVs will become more common because of roominess, power, and possibly off-road capabilities. On the other hand, smaller personal transportation devices, such as the Segway HT device (see <http://www.segway.com/>) may be used by some departments to augment foot patrol, just as the Cushman three wheeled motorized vehicles are used to augment motorized patrol in large cities. Hybrid fueled vehicles will be used by some because of economic efficiency and pollution regulations. By 2020, personal vertical takeoff aircraft (also called single operator powered-lift vehicles) will be common for purposes of surveillance, search and rescue, border patrol, and traffic enforcement. The location of patrol vehicles and officers will be “mapable” via automated vehicle and personnel locator systems and GPS transmissions. On the communications front, the imagination is limitless; unfortunately economic resources and bandwidth are finite. Not only will handheld, multifunctional communications devices replace cell phones and portable radios, they may replace cameras and video surveillance systems. Wearable computers will merge with various augmented reality capabilities for the patrol officer on the street and officers assigned to special tactical situations.

All of the above changes, and the transition through the next decade, will require very professional, highly educated, and well trained personnel. Society will demand professionalism through their expectations, regulatory agencies, and legislators. It is our belief that college education as an entrance requirement will become a reality and it may be forced upon the field by societal pressures and demands.

VISIONING THE FUTURE

There seems to be little doubt that vision is an essential aspect of leadership. Many writers have focused on vision in their comments about police leadership (Baker 2002; Cavanaugh 2004; Gaines et al. 2003; McCamey et al. 2003; Whisenand and Ferguson 1996). According to Robert Terry, “Vision is the essence of leadership” (1993, 38). Vision refers to “a future state, a condition that does not presently exist and never existed before” and it “projects a view of a realistic, credible, attractive future for the department” (Whisenand and Ferguson 1996, 58).

While it is true that leaders – we include patrol officers in this category for our purposes here – must have a vision of where they want to go in the future; they also must understand where the agency (and the community) has been and where it is now. For this perspective, one must know or attempt to identify the current trends and environmental forces that affect the agency and the community. This section identifies visions of the future as contained in selected types of literature that can serve as model approaches to viewing environmental forces. We note that envisioning the future has pitfalls – some visions fall short and others may never occur. This process of assessing trends to envision the future is not foolproof; it is not an exact science. The point we

want to stress is that the field of policing must do a better job of identifying the forces and trends that impact the future of policing.

One approach to envisioning the future is to review literary statements about the future and assess them in light of recent developments. For example, Muraskin and Roberts (1999, 3) wrote that, “Criminal Justice is an integral concern of all human beings and societies around the world. Quantum leaps in technology, growing out of basic science research, are transforming societies around the world and consequently, crimes, the crime scene, criminals, and the criminal justice system. As we approach the next century, emerging changes will demand more accountability and offer new challenges.” Few policing professionals would disagree with these observations, especially in light of the many changes and challenges that have occurred since 1999:

- Devastating terrorist attacks, increased awareness of terrorism, and the globalization of fear.
- The reorganization of the law enforcement / homeland security functions of the executive branch at the federal level.
- Diversion of tremendous resources to the war on terrorism and the military operations in Afghanistan and Iraq.
- The continued growth of high-tech crime and computer-enhanced criminal activities.
- Integration of adaptive simulation training that can be tailored to an individual department’s environment.
- Significant advances in and application of technological innovations to policing.
- A troubling societal division on many policy issues.

The review of literature can include sources beyond textbooks. Government publications by the Census Bureau (demographic studies and projections), the Bureau of Justice Statistics (LEMAS studies), and other agencies may provide insight to local policing issues. For example, in the year 2000, the National Intelligence Council

published a report entitled *Global Trends 2015: A Dialogue about the Future with Nongovernment Experts*. The report identified seven key drivers of trends through the year 2015 (National Intelligence Council 2000, 5): “(1) Demographics, (2) Natural resources and environment, (3) Science and technology, (4) The global economy and globalization, (5) National and international governance, (6) Future conflict, (7) The role of the United States.” The report also cautions the reader that “no single driver or trend will dominate the global future in 2015. Each driver will have varying impacts in different regions and countries, and the drivers are not necessarily mutually reinforcing; in some cases, they will work at cross-purposes” (5). This publication is mentioned here for several reasons – which can be stated as questions:

1. If the United States government commits resources to develop reports about how the world is envisioned fifteen years into the future, why do policing agencies (or state regulatory agencies) fail to do the same?
2. Are the key drivers of *global* trends also key drivers of local trends in terms of effects upon policing? What are the *local* key drivers of crime and calls for service?
3. Are local policing officials and agencies devoting any resources whatsoever to the analysis of the future?

It is not our purpose to elaborate on the findings/forecasts of the *Global Trends 2015* report; however, some are related directly to the criminal justice and policing functions and it is these types of issues that should be addressed by local jurisdictions and agencies.

Selected passages from the report include the following (National Intelligence Council 2000):

Demographics: “In the advanced economies . . . declining birthrates and aging will combine to increase health care and pension costs while reducing the relative size of the working population, straining the social contract, and leaving significant shortfalls in the size and capacity of the work force” (8).

Natural Resources and Environment: “Despite a 50 percent increase in global energy demand, energy resources will be sufficient to meet demand; the latest estimates suggest that 80 percent of the world’s available oil and 95 percent of its gas remain underground” (9).

Science and Technology: “Most experts agree that the IT revolution represents the most significant global transformation since the Industrial Revolution beginning in the mid-eighteenth century....Biotechnology will drive medical breakthroughs that will enable the world’s wealthiest people to improve their health and increase their longevity dramatically... [T]errorists, proliferators, narcotraffickers, and organized criminals will take advantage of the new high-speed information environment and other advances in technology to integrate their illegal activities and compound their threat to stability and security around the world” (9-10).

The Global Economy and Globalization: “The networked global economy will be driven by rapid and largely unrestricted flows of information, ideas, cultural values, capital, goods and services, and people (globalization)... Regions, countries, and groups feeling left behind will face deepening economic stagnation, political instability, and cultural alienation. They will foster political, ethnic, ideological, and religious extremism, along with the violence that often accompanies it” (10).

National and International Governance: “...governments will have less and less control over flows of information, technology, diseases, migrants, arms, and financial transactions, whether licit or illicit, across their borders” (10).

Future Conflict: “Strategic WMD threats, including nuclear missile threats,...have the capability to strike the United States, and the potential for unconventional delivery of WMD by both states or nonstate actors also will grow....potential lethality will grow, driven by the availability of WMD, longer-range missile delivery systems and other technologies... Arms and weapons technology transfers will be more difficult to control... The likelihood will increase over this period that WMD will be used either against the United States or its forces, facilities, and interests overseas” (11-12).

Role of the United States: “US global economic, technological, military, and diplomatic influence will be unparalleled among nations as well as regional and international organizations in 2015....The United States will remain in the vanguard of the technological revolution from information to biotechnology and beyond....Both allies and adversaries will factor continued US military pre-eminence in their calculations of national security interests and ambitions” (12).

The report also addresses the uncertainties of the future such as the advances in science and technology that will pose national security challenges. Accordingly, “The increasing reliance on computer networks is making critical US infrastructures more attractive as targets. Computer network operations today offer new options for attacking the United States within its traditional continental sanctuary – potentially anonymously and with selective effects” (National Intelligence Council 2000, 14). As the Mobile Data Terminal (MDT) becomes more universal in the field, the probability of a disruption of the internal communications network of an individual department becomes more likely. Other portions of the report elaborate on the major drivers of trends and describe issues facing various parts of the world. Topics such as global crime, corruption, terrorism, WMD proliferation, unconventional warfare, and alternative global futures are addressed.

In 2004, the NIC produced a follow-up report as part of its 2020 Project entitled: *Mapping the Global Future* (National Intelligence Council 2004). According to this report, “globalization” is considered the mega-trend for the next fifteen years and has the greatest influence on the other drivers of change. The report contains several scenarios and discussions of alternative futures. While its primary focus is on the potential impacts of globalization, there are many references to terrorism, pervasive insecurity, and technological advancements. For example, one paragraph infers possible on-going

mission shift for U.S. law enforcement agencies (National Intelligence Council 2004, 93):

Terrorism and internal conflicts could interrupt the process of globalization by significantly increasing the security costs associated with international commerce, encouraging restrictive border control policies, and adversely affecting trade patterns and financial markets. Although far less likely than internal conflicts, conflict among great powers would create risks to world security. The potential for the proliferation of weapons of mass destruction (WMD) will add to the pervasive sense of insecurity.

The NIC reports can serve as a model for policing organizations to analyze trends and key drivers in their local communities, but it is not the only example of such techniques. The US Department of Defense in the form of the Joint Chiefs of Staff's report, *Joint Vision 2020, America's Military: Preparing for Tomorrow*, is another example of future visioning. The report emphasizes the importance of recruiting and retaining personnel, interoperability, interagency cooperation, and information operations (Joint Chiefs of Staff 2000, 12-28). The military also has envisioned the future needs of soldiers in an attempt "to maximize the soldier's survivability, sustainability, mobility, combat effectiveness and quality of life" (Natick Soldier Center, 2005). Although our focus in this chapter is civilian policing, the military's vision of the Future Force Warrior (FFW) is worthy of review. Certain policing functions do need to address selective tactical necessities and there are technological applications to the FFW research.

For a number of years the Royal Canadian Mounted Police has been publishing "Environmental Scans." The report addresses a range of topics, including: demographics, society, economy, politics and governance, science and technology, environment, public safety and security, human trafficking, and legislative overviews. Figure 1 depicts the Foreword from the 2004 report.

Figure 1

RCMP – Environmental Scan – June 2004

Foreward [sic]

The 2004 version of the RCMP Environmental Scan reviews the macro-level trends - both international and domestic - shaping our environment.

As in the past, we have focused on seven key dimensions - demographics, society, economy, politics and governance, science and technology, environment and public safety and security - highlighting new trends and updating previously reported issues.

We have drawn from a wide range of sources - print media; international organizations such as the Organization for Economic Cooperation and Development, World Health Organization, United Nations, World Bank, International Monetary Fund; think tanks in Canada and abroad; law enforcement agencies around the world; conferences; government publications and websites; media documentaries; and our own business lines and Divisions.

This year's Scan has benefited [sic] significantly from the contributions of our partners in the newly formed Public Safety and Emergency Preparedness portfolio, and includes an expanded Public Safety and Security section, reflecting the shifting context for modern law enforcement and security agencies.

While we try not to report the "news", we do recognize and give some attention to the events of magnitude that increasingly reshape both the global governance structure and security environment.

Certainly, the events of the past year - particularly the rapidly shifting security environment - have affected the contents of the scan.

The Scan also includes a Feature Focus - a more in-depth review - on Human Trafficking as an emergent issue.

The format is intended to promote easy reading. The layout is in the form of information bullets, supporting graphics, quotes (white boxes), statistics/quick facts (yellow boxes) and implications of trends (blue boxes).

Most important, the document is intended to promote discussion and better understanding about how the world around us is changing our future course.

Source: Royal Canadian Mounted Police (2004). *Environmental Scan – June 2004*. Available at: http://www.rcmp-grc.gc.ca/enviro/2004/index_e.htm.

The Strategic Direction section of the RCMP compiles the Environmental Scans. The RCMP describes the approach in these words (Royal Canadian Mounted Police 2004):

Modern policy and policing issues are increasingly complex, horizontal and global, and law enforcement agencies must respond by reaching out to the communities they serve, and to the world at large. One of the main functions of the sector is therefore to promote greater external liaison and establish cooperative relationships with government departments, central agencies,

other public policy bodies and organizations both national and international, whose research, policies and programs impact on law enforcement. These partnerships serve to improve environmental scanning within the RCMP, and enhance its strategic policy capability.

It is obvious that the problems and challenges on the horizon are important to agency administrators in the policing field, but another model for envisioning the future includes papers and projects developed by mid-level and command personnel in a training environment. The nationally acclaimed Command College of the California Commission on Peace Officer Standards and Training is specifically designed as a futures and strategic planning program for managers and command personnel. Why should front line personnel (patrol officers, agents, and investigators) or supervisors pay attention to such issues? We know that street officers and their supervisors are the eyes and ears of law enforcement. They will frequently be the first to notice changes in neighborhoods with which they interact. They also must learn to *analyze* changes within their environment. They must learn to share information and interact with full-time analysts and planners in order to discuss the implications of such changes and to develop adjustment strategies or counter measures (Conser and Russell 2000, 518-519). Readers are encouraged to visit the Command College Website¹ and review the “Futures Files” and abstracts of the research completed by personnel who have successfully completed the program.

In the UK, the Lancashire Constabulary has established the position of Environmental Scanner to assist with problem identification, trends, environment forces impact, and strategic planning. The concept of environmental scanning is evident

¹ <http://commandcollege.com>

in the examples above; but one description of the concept includes the following:

Environmental scanning is one of the most important and basic methods in the futurist's toolkit. It is a systematic process of gathering and analyzing information for the purposes of identifying "early warning signals" of change, planning, forecasting or creating preferred futures. The process involves four activities: choosing the sources to scan, scanning the sources for information, deciding what information will be relevant to your scanning activities, and deciding how you will use the information. Futures-thinking people do environmental scanning so that they can identify trends, events, emerging issues and "wildcards". The future doesn't arrive unannounced; it sends signals all along the way. The key is to effectively scan the environment so that you notice the signals the future is sending. Environmental scanning is your antenna for tuning into future possibilities. (Creating Preferred Futures 2005)

Besides the above examples of policing entities and personnel envisioning the future, there is also at least one professional police association dedicated to doing so – the Society of Police Futurists International (PFI). The mission of PFI is "To foster excellence in policing by promoting and applying the discipline of Futures Research." Futures Research is explained as long-range planning and forecasting and is the "pivotal discipline that constitutes the philosophical underpinnings of PFI." The tools and techniques of Futures Research "are applied in order to more accurately anticipate and prepare for the evolution of law enforcement ten, twenty, and even fifty years into the future. Futures Research offers both philosophical and methodological tools to analyze, forecast, and plan in ways rarely seen in policing in the past" (Police Futurists International 2005). In collaboration with the Federal Bureau of Investigation, PFI is involved in what is called the Futures Working Group. Its purpose is to "develop and encourage others to develop forecasts and strategies to ethically maximize the effectiveness of local, state, federal,

and international law enforcement bodies as they strive to maintain peace and security in the 21st century” (Federal Bureau of Investigation 2005). Students of the FBI National Academy also have an opportunity to involve themselves in futures research while attending this prestigious program. Another group exists in Canada and is affiliated with the Canadian Association of Chiefs of Police; it is called the Police Futures Group.²

In summary, visioning the future can take the form of several models: literature review of expert authors, literature review of governmental sources, specific agency analysis of trends and forces, perceptions of mid-level and command personnel in training environments, and engaged dialogue with professional associations. The approaches described above emphasize techniques; now let us focus on content and findings.

SOME VISIONS OF THE FUTURE OF POLICING

There have been many articles and even books that address the future of criminal justice issues. Our purpose in this section is to focus on a few examples of recent forecasts as examples of what the policing community (including patrol officers and commanders) needs to be doing to prepare for the future. Prior to the terrorist attacks of 9/11/01, Michael Palmiotto (1999, 142-143) envisioned the following about the future:

- The community-oriented policing concept will become embedded in the strategies of policing.
- It will be common practice for the police to conduct periodic customer surveys.
- Citizen Police Academies will become common.
- Formation of community advisory councils will be common practice.
- Police agencies will include private security organization in their community policing strategy.

² <http://www.policefutures.org>

- The COP philosophy requires line officers to be a decision maker and problem solver.

Recently, a panel of policing experts from the Society of Police Futurists International (PFI) expressed the following assessments in an article in *The Futurist* about policing the near future (Stephens 2005, 54-57):

- The expectations of law enforcement as first responder for homeland security have put an almost unachievable burden on local law enforcement, as has the explosion of crimes like identity theft.
- Exponential technological advancements will continue to increase social vulnerability and fear, give terrorists and criminals new methods and opportunities, and give police new tools to stop them.
- Privacy issues will constrain the ability of police to employ many new technologies to control crime and terrorism, forcing police to deal with ever more complex issues and situations with outmoded tools and processes.
- We can expect smaller budgets and higher expectations... Police departments will be run on a more business, problem-solving model than a paramilitary model.
- Organized street gangs will grow and become more dangerous.
- There will be a need for linkages with military and the international scene for boundaryless policing.
- Policing style may differ from neighborhood to neighborhood, depending on the threats to and needs of different citizens.
- Greater cooperation and coordination with other agencies will be necessary to cope with crime that is increasingly cross-jurisdictional – Internet offenses and terrorism, for example.
- Technology will permit radical new policing methods, systems and processes that police will have to envision, create, incorporate, and learn.
- Tactically, many items of equipment being tested on the military battlefield today will find their way into American policing.

- Police might follow the lead of the courts, which continue to shift from the individual rights era to the “greater good” era and look at what is beneficial for the greater good and sustenance of America.

In their text on policing, Langworthy and Travis (2003) present three alternative futures: a) greater uniformity through “court intervention, accreditation, technology, the drug war, and other common denominators that create a more national or global style of policing”; b) greater diversity through the application of community policing and the break down of the police bureaucracy, thus creating a greater number of smaller, more localized police organizations, c) “the absence of significant changes” (Langworthy and Travis 2003, 461). They contend that the third alternative is the most probable and cite others as believing that it is also the most preferable.

A recent presentation made at the World Futures Society Conference described a panel’s findings from a survey of experts who were queried about what was necessary for more effective law enforcement in the future. What appears below is a brief explanation of key findings related to the numbered items, which is then followed by statements of recommended strategies to address the issues (Conser et al. 2004, 422-423):

- 1. The Mission Challenge.** During the next decade, the demands for services and responsiveness will increase; the definition of “local” will become more blurred; mobility issues and technological crime will create “jurisdictional” problems. Particular to the short term will be the need to reduce fear of crime, terrorism, and religious fanaticism (homeland security issues). There will be personnel and resource shortages.
Strategy: increase cooperation and interoperability between agencies (possibly mergers and regionalization of operations); and improve information analysis, surveillance, and intelligence gathering at all levels of government.

2. What Must Be Done to Ensure Public Safety/Quality Service? The police must: improve social competence, become managerially proactive, improve technological competence, and become more dedicated to upholding constitutional rights and liberties while working with citizens to improve safety and make communities more peaceful. Social competence means developing trust between community members and the police – realistic expectations through better communications with the public, more community oriented, and represent the community. Managerially proactive means developing futures orientation; becoming more knowledgeable about the future of policing and preparing organizations for the future; being more adaptable and proactive; becoming learning organizations; more innovative; more decentralized. Technological competence means understanding and applying technological advances, responding to technology-related crime, and being more proficient at database analysis, telecommunication systems, etc, to improve productivity and responsiveness.

Strategy: move from the traditional paradigm to one of leadership, proactiveness, and community service.

3. Things That Must Change. The current police culture must change by becoming more adaptable to change, less resistive, less reactive, more cooperative, less pseudo-militaristic to professional service-orientation; by overcoming generational differences and being less competitive.

Employ better caliber of officers – better educated, able to think outside the box, possess better interpersonal skills, higher integrity, positive attitude toward problem solving, less technophobic, less xenophobic, become service professionals; racist behavior must not be tolerated.

Strategy: change the police culture from both the top (more insightful administrators) and from the bottom (better caliber recruits).

4. Pressure Groups' Effect on Policing. The most significant pressure groups in the future will be organized community groups (some of whom will form around critical incidents of interest to the community), elected officials, special interest groups (MADD, gun control groups, domestic violence advocates, victim rights advocates, etc.), and neighborhood residents and associations. Others include

Government/Federal Agencies/Homeland Security and police unions.

Strategy: recognize the power of the community and energize the leadership response of law enforcement officials.

- 5. Changes to Improve Professionalism.** Current police culture must change; it restricts attracting and retaining the right people in adequate numbers; it alienates cops from the people they serve. The culture must accept “non-traditional” candidate profiles into the ranks. There must be greater adherence to the constitution/principles of government/rights/liberties and greater adulation and reward for behavior supportive of public service crime prevention, and protection. Police work must be viewed as a public service. Officers need to be more personable. Higher educational standards for entry; pay and benefit package comparable to teachers in public schools are recommended.

Strategy: greater investment in selection and training techniques and standards.

- 6. Most Likely Ethical Problems Facing Officers.** Predominant problems will be protecting constitutional liberties in light of powerful technologies to fight crime and thwart terrorists. The primary priority must not be “law enforcement.” Immature behavior, conduct unbecoming, unprofessional demeanor, and breaking the “code of silence” or “veil of silence” of the “blue brotherhood” (or other similar labels) will continue to be problematic. There will be increased pressures on officers to report wrongdoing by other officers.

Strategy: establish accountability mechanisms / licensure and certification revocations.

- 7. Technological Impacts on Policing.** Technology challenges include both veteran and new officers being technologically savvy and embracing new approaches to policing. All the tools of the trade will change in the next decade and beyond: video and audio communications, weapons, investigations, forensics, vehicles, and so on will be different, improved, and more effective. Identity theft and fraud will be a major problem. Surveillance, recording and transmission technology (including the use of UAV’s, micro-robots and micro-cameras) will

become sophisticated. Computer-related crime calls (particularly fraud and child enticement, child pornography, travelers, e-harassment, commercial fraud and embezzlement) will require greater knowledge of computers.

Strategy: invest in and require technological competence of officers and the information technologies necessary for policing the modern world; convince funding sources and the private sector to partner in providing the technological tools necessary for public safety.

There were several comments in the above survey of experts that mentioned or referred to the policing culture. Myers and Foster (2003) maintain that “building a ‘culture of change’ is perhaps one of the toughest things a public safety organization will ever attempt. Sometimes rational, always challenging, cultural change can mean influencing opinion and behavior top to bottom.” But if policing is to move forward to address the many challenges it will face in the next decade, a culture of change, a culture of research, and a culture of analysis must be built.

Ian Pearson studies the future by tracking developments across the whole of society. His writings reflect his thoughts about myriad topics, including the future of cars, crime, policing, and criminal justice. In his forecasts for policing, he mentions the increasing use of technology, biotechnology, nanotechnology, surveillance capabilities, communication devices and sensors. He discusses the possibilities of Robocops and Orwellian surveillance. He also has a section on everyday life in 2020 (Pearson 2005). Scanning such forecasts should be helpful to envisioning the possibilities for policing generally in the future.

Environmental scanning is a technique that recognizes the characteristics of open systems theory as it relates to analyzing influences upon an organization. When focused on organizational and management issues in the law enforcement field, it is particularly interested in analyzing all the influences from the environment that affects the agency.

Such influences in the environment have been identified by Stojkovic, Kalinich, and Klofas (2003, 47) as including legal, political, cultural, economic, demographic, ecological and technological forces. This approach emphasizes that administrators and managers need to consider the influence and affect of these multiple forces upon the agency and its operations, including the focus of this chapter – the patrol function.

THE PATROL ISSUES OF TOMORROW

Using the environmental forces mentioned above, we now list and identify a number of factors in addition to those previously stated that are expected to affect the patrol personnel and function in the next decade. It is beyond the scope of this chapter to examine in depth each item listed. Part of the purpose here is to expand our thought process to include the potential direction of society and the impact of factors on policing. It must also be stated that the seven environmental forces examined here are not mutually exclusive; they are related and impact upon one another.

Legal

The legal issues of the future as they relate to the patrol function are most likely to be ones of search and seizure, interrogation, and general concerns of civil rights. Many of them will focus on lawful uses of technology to develop probable cause, detect contraband, and accomplish common patrol tasks. Video cameras in cruisers are becoming standard equipment. Some agencies are now video recording interrogations. It will not be long before officers will be video recorded for their entire shift with digital images and voice recordings being stored for later accountability requirements. Right now, agencies and officers have voluntarily (for the most part) utilized such technology to assist in documenting their activities. In the future, such recordings may become

mandated by legislative bodies. Likewise, such technology may tie into the overall criminal justice systems. Obtaining search warrants without leaving the cruiser may become common practice. Video arraignments on the street may reduce the need for physical arrest and transport. Virtual searches will be possible in the future using technology, such as radar, infra-red, thermal imaging, or sonar, to “look” through walls without physically entering the property. Imagine the possibilities and the lives that might be saved (including officers) if the inside of buildings legally could be searched (for safety reasons) prior to approaching or entering them.

Political

The quest for power and influence in the future will not only focus on the electoral process but will include the local pressure/special interest groups in any community. These groups can either hasten or delay reforms in the local environment. The political arena is closely affiliated with the legal forces described above. Political philosophy and legal precedent are sometimes at odds with each other resulting in controversial issues (e.g., *Roe v. Wade*, the Patriot Act, regulation of pornography on the Internet, privacy rights).

Cultural

The cultural changes in any society can be environmental drivers affecting the patrol function. In part, community and problem oriented policing have been successfully implemented because of and in concert with cultural needs. Likewise, there is a certain level of cultural influence that allows homeland security policies and practices to prevail. Although it may be outside the budgetary constraints of an individual department, future departments may consolidate efforts and employ a sociologist or cultural anthropologist to analyze such regionalized humanistic ecological changes and recommend suggestions

to be incorporated into the operational strategies of the department. Future cultural issues that patrol officers must stay abreast of include “street language” and slang, the customs of immigrants, and changes in neighborhoods. Knowledge of slang terms can help officers not only communicate with people but also increase their safety. The phrase, “That tornado bait POPO was m.i. about my cheddar!” actually translates into, “The white trailer park trash police officer was without a clue about my money.” (That tornado bait [trailer park white trash] POPO [police officer] was m.i. [military intelligence i.e., without a clue] about my cheddar [money]!).³ In addition to slang, officers will need to keep abreast of ever-changing “symbols,” “signs,” and gestures. For example, “sex-bracelets” may be useful in the investigation of sexual crimes, although the validity of the meaning of the bracelets is unclear (Mikkelson and Mikkelson 2003; Sex Bracelets 2005). Gang graffiti (called tagging) and symbols will continue to be meaningful to investigations. When dealing with individuals using foreign languages, the universal electronic instant voice translator will help remove language barriers.⁴

Cultural and social changes also will affect recruitment and hiring. How the culture of a community views its local police agency will either deter or encourage interest in employment with the agency. Prospective employees may also be influenced by media images of policing. It has been the experience of the authors that college students have a plethora of questions about becoming a crime scene investigator, or a forensic specialist after the advent of the current crop of television shows about those topics; this is something we did not see prior to the popularity of those shows.

³ See <http://www.slangsite.com> and <http://www.ocf.berkeley.edu/~wrader/slang>.

⁴ There are currently free text translators available on the Internet. However, investigators using them should be cautioned that the validity and accuracy of the translations have not been ascertained in court. See <http://www.freetranslation.com> and <http://babelfish.altavista.com>.

Also, the culture of the US is quite diverse, especially in urban centers and that diversity is growing. For example, in Utah:

Minorities now comprise about 15.7 percent of the state's population and accounted for nearly 40 percent of Utah's population growth from April 1, 2000, to July 1, 2003, according to a population estimate released recently by the U.S. Census Bureau. (Bulkeley 2004)

Such diversity needs to be reflected and understood by future patrol offices. There are other factors that will affect hiring. The association between police officers being overweight is well integrated into the fabric of contemporary American culture. It has even been the foundation to some interesting jokes:

Officer: Your eyes are red, have you been drinking?

Driver: Your eyes are glazed, have you been eating donuts? (Author unknown n.d.).

Combine this cultural predisposition with the knowledge about the obesity epidemic in America:

Obesity is one of the greatest public health problems facing this country as we enter the next century...the recent rise in obesity rates in the U.S. has been so rapid and widespread that experts are likening it to the spread of a communicable disease. (Massachusetts Medical Society 2000)

It becomes apparent that the applicant pool for the selection of personnel for jobs in policing will provide fewer individuals who are physically fit. Once hired, overweight employees may suffer other health problems complicated by the high stress levels of policing. This will mandate stress reduction strategies to offset the increasing costs of disability benefits. Consider the somewhat "automatic" payment of benefits to police

officers due to health-related injuries. The Commonwealth of Pennsylvania's Heart and Lung Act illustrates this well. The Act provides for compensation to police officers who suffer a Myocardial Infarction:

To recover benefits under Heart and Lung Act, state trooper was not required to prove that heart attack occurred while he was actually performing hazardous duty, but rather, was only required to prove that heart attack was caused by his duties as state trooper. (*Buchanan v. Pennsylvania State Police*, 620 A.2d 575, 152 Pa.Cmwlth. 608, Cmwlth. 1993).

If the trend of obesity continues, in addition to academies offering remedial physical fitness training, departments will need to take steps to assure that members of the police department maintain their physical well being. One of the causal factors associated with the reduction in the level of physical fitness is the sedentary lifestyle of today's youth (Booth and Chakravarthy 2002), such as the overindulgence in playing video games (Hodge 2001).

There may, however, be a silver lining to the physical fitness problem facing police recruiters. Police work involves a high degree of visual acuity and hand eye coordination. Other occupations also involve similar levels. Take, for example, surgeons. "[Dr. Rosser] conducted a study that found physicians who played video games at least three hours a week made 37% fewer errors in laparoscopic surgery than those who don't play video games. Video gamers also performed their surgical task 27% quicker than those who aren't players." (Adams 2004). The military is investing millions of dollars into the development of this type of training (Harz 2005). Brigadier General Steve Seay, commander general of the Army's Simulation, Training and Information Command unit (STRICOM), indicates that soldiers who have attended high-tech training are better

prepared for field activities (Sieberg 2001). The type of computerized simulation training used to improve military battlefield effectiveness can be carried over to civilian police training. In Canada, the Vancouver police department installed a shoot-don't-shoot simulator that shoots a nylon ball at the officer (Advanced Interactive Systems 2002). This causes stress on the officer engaging in the training, and research indicates that individuals undergoing PC-based training perform significantly better when stressors are induced (Morris, Hancock, Shirley 2004).

Because of the game playing, officers will be able to notice “things out of the ordinary” that will probably not be noticed by the non-video-playing officers. The implications are that the video-playing police officers of the future may well be better prepared to develop reasonable suspicion and/or probable cause. A study conducted by researchers at the University of Rochester found that people who play fast-paced action video games have improved visual skills, are able to better track objects appearing simultaneously, and process fast-changing visual information more efficiently (Green and Bavelier 2003, 537). Video savvy officers may well be involved in fewer traffic accidents, fewer questionable use-of-force incidents, and better quality of arrests due to their enhanced abilities.

Mental exercise as well as physical exercise will become increasingly important to departments in the future. The traditional work week may need to be reassessed to provide time for training, exercise, and stress reduction. An additional benefit to simulated training involves a reduction in training costs. Simulators are more cost effective than more traditional methods. The Department of Defense saved approximately \$1 million in ammunition costs using the Small Arms Simulator

Testbed (Naval Air Warfare Center 2001). Reduced training costs avails several possibilities to the future administrator. The savings over the traditional methods can be spent, for example, on additional training, updated equipment, or any other multitude of fixed costs.

Economic

The economic resources available to the policing agency will have a major impact on the changes in the methods, equipment, and technology related to the patrol function. Of particular concern in the near future is the economic stability of communities suffering employment losses, the amount of resources being diverted to homeland security, and the cost of technology. Jurisdictions that rely on tax levies passed by the electorate may be well advised to start spending a portion of their budget on marketing campaigns (as well as evaluative surveys) to help maintain an appropriate image. This is not to suggest that a department that is operating outside the limits of legality try to “fix” their image while remaining corrupt; rather, that a professional department make use of the techniques to enhance their existing professionalization.

Demographic

Demographic changes in the future include an aging population for most sections of the United States. More thefts of life-long savings will occur, often by perpetrators outside the primary jurisdiction of the department where the victim lives. Perhaps a shift from local enforcement to a regional, state or national agency will be necessary. If an individual department is not able to financially support a unit to deal with specialized crimes, such coordinated efforts may be necessary to deal with certain types of crimes, such as Internet fraud, and it shows professionalism in doing so. Seniors are the fastest growing users of the Internet. They are increasingly becoming

a greater proportion of the population and increasingly do not report such criminal activities. Police must take a proactive role to effectively combat their victimization (New Tech Media 2004). Seniors are often the victims of online scams, identity theft, and telemarketing fraud. Criminal activity against seniors is vastly under reported, with many fraud victims refusing to acknowledge being victimized and losing money (AARP 2003).

One popular and fast growing scheme today is known as phishing. As explained by the Rosenberg Police Department, the confidence criminals engaging in this type of criminal activity ordinarily send the victim an email telling them their bank account has been compromised or there is some other problem with an account. The victim is asked to provide sensitive information to verify their account and reactivate it (Coleman 2004). Quite often, the criminals perpetrating these crimes operate outside the traditional venue of the law enforcement agency to which the victim will report the crime. This will require changes in both the investigation of these type of crimes, as well as legislative changes enabling police agencies to cooperate or allow an officer to conduct an investigation outside of their primary jurisdiction.

In addition to the senior demographic changes, accelerated immigration (legal and illegal) can be anticipated in the future from a number of sources including Haiti, Mexico, Cuba, Eastern Europe, Russia, the Middle-East, China, and Singapore, to name only a few. As these populations migrate to the United States, they will present challenges similar to those presented by the Western Europeans when they settled in the 19th century. The integration and assimilation of new cultures presents a range of challenges to communities and citizens. According to the U.S. Bureau of the Census, the U.S. population is growing by about 2.5 million people each year. Of

that, immigration contributes over one million people to the U.S. population annually (US Census Bureau 2004). Immigration will put a strain on many jurisdictions by 2020 that have not yet been affected significantly by the arrival of persons from foreign lands.

Ecological

Usually, ecological forces refer to climate and geophysical features of the jurisdiction. It is doubtful that these factors will change much in the next decade. While some parts of the country do suffer from severe storms (hurricanes, downpours, tornadoes, blizzards, etc.), these tend to be seasonal and sporadic. Of course, certain catastrophes such as a dirty bomb, major terrorist attack upon infrastructures, or severe earthquake could alter local conditions significantly; no vision of such events is presented here. There is one aspect of the future that could fit into the ecological dimension – that of the area of patrol. The major changes in the next decade to the “beat” will be that some officers will be assigned to “Cyber Patrol.” They will cruise chat rooms and Web sites trolling for pedophiles, “travelers,” counterfeiters, intellectual property thieves, and criminal hackers. Another “patrol assignment” for some will be to sit and monitor surveillance cameras that are scanning public parks, streets, intersections, events, and high crime areas. Smaller cities across the US are using surveillance cameras in 2005; by 2020 they will be common in all large and medium sized cities. In the London metropolitan area, by 2005 there were over 150,000 cameras and over 4 million installed across the United Kingdom (DiLonardo 2005, 83-84). With passive infrared capabilities and light amplification technologies, these cameras even have the capability to allow the observer to detect activities in total darkness, or through a heavy fog, snow blizzard, or heavy rain.

Technology

One of the best and most complete overviews of the use of technology in policing up to the twenty-first century was authored by Nicole Soullière of the Canadian Police College. She wrote about the four stages of police technology (Soullière 1999):

The First Stage (end of 19th century to 1945)

The Second Stage (1946-1959)

The Third Stage (1960-1979)

The Fourth Stage of Technological Development (1980-1999)

In each of the stages, Soullière described the various technologies of the era, their general applications, and their impact on policing. Her article is available on the Internet and should be read by anyone interested in technology's impact on policing.

The development of technology is one thing; its application to the law enforcement function is another. In the early 1900s, the automobile caused great social and cultural change in the United States (and the world). It also began to affect policing agencies.

Consider one historical account of this transformation (Department of Public Safety 2004):

- On May 5, 1926, the State Road Commission adopted a regulation requiring vehicles to stop before entering arterial highways, heavily traveled roads. The following day, the first “arterial highway” was designated from 9th South in Salt Lake City to 5th North in Provo. The standard stop sign was placed at all intersecting streets to this, the first “modern” highway in Utah.
- Patrolman Slaughter's duties included enforcement of this new regulation. Many of the general public considered this new regulation an infringement into their lives and another example of government intervention. Patrolman Slaughter was kept busy trying to educate the public that this regulation was enacted to protect them from harm and accidents.

Apparently the outcry of technology infringing on civil rights and liberties is an age-old problem. In some ways, patrol practices and technologies can be related to the efforts of protecting the nation's borders. Recently a number of border patrol agencies have employed the following strategies and technologies:

- Augmented Integrated Surveillance Intelligence System (ISIS), that uses remotely monitored night-day camera and sensing systems to better detect, monitor, and respond to illegal crossings, on both the Northern and Southern borders.
- Deployed radiation detection technology including Personal Radiation Detectors (PRDs) to more than 10,400 CBP officers and agents, and Radiation Isotope Identification Detection System (RIIDS) to over 60 Border Patrol field locations.
- Increased the amount of Remote Video Surveillance Systems (RVSS) which are pole mounted cameras that provide coverage 24 hours a day/7 days a week to detect illegal crossings, on both our Northern and Southern borders.
- Deployed two Unmanned Aerial Vehicles (UAV) to support the Arizona Border Control Initiative. UAVs are equipped with sophisticated on-board sensors that provide long-range surveillance and are useful for monitoring remote land border areas where patrols cannot easily travel and infrastructure is difficult or impossible to build.
- Increased use of radiation portal monitors. These detection devices provide CBP with a passive, non-intrusive means to screen trucks and other conveyances for the presence of nuclear and radiological materials.
- Deployed specially trained explosive and chemical detector dogs to conduct inspections at our Border Patrol Checkpoints.
- Improved anti-terrorism training for all CBP personnel. CBP has implemented anti-terrorism training for all personnel with a special focus on training related to weapons of mass effect. This includes identifying and intercepting potential instruments of terrorism using non-intrusive inspection technology and radiation detection equipment.

Sensor technology is envisioned to be a major technological application in the future. One corporation specializing in ground penetrating radar, Sensors and Software, Inc. has developed a product with the ability to “see” through bricks, rocks, and most non-metallic construction materials. With the device an investigator can virtually look through walls, locating people on the other side (Sensors & Software 2003). In December of 2005, it was announced that Remington Arms Company obtained approval to market the Israeli made “EyeBall” – a device the size of a baseball that wirelessly relays video and audio back to its base for up to two hours. It can be hurled into any location, weighs less than a pound, and is protected by a rugged rubber and polyurethane housing (Associated Press 2005).

The Defense and Homeland Security departments are developing technologies “that could use hundreds of tiny, wireless sensors packed with computing power to help secure U.S. borders, bridges, power plants, and ships by detecting suspicious movements or dangerous cargo and radioing warnings back to a command center” (Ricadela 2005). Sensor technology is and will revolutionize traffic enforcement, stolen vehicle detection, and security surveillance in the form of fixed, mobile and portable automatic license plate reading (ALPR) systems. Several companies are now competing for installation of such systems. Ohio recently added license plate scanning equipment to selected locations on the Ohio Turnpike. The system scans vehicle license plates as they enter the state and processes them through NCIC’s stolen license plate file. If there is a match, dispatchers are alerted; they verify the information and then notify troopers who intercept the vehicle. A selected number of cruisers are also outfitted with the technology (Meade 2004).

Digital imaging systems coupled with wireless technology now permit the sending of crime scene videos, street photos, mug shots, and other digital data to and from central police stations. Video and digital imaging technology is revolutionizing crime scene

investigation. “Teleforensics” permits the recording of crime scenes using a camcorder fitted with a wireless transmitter that sends images to remote monitors in real time. Concurrently, the recorder makes videotape for investigators. NASA is seeking to develop nondestructive techniques for the analysis of samples that could have implications for forensic analysis. Of particular interest is the use of a portable x-ray fluorescence analysis system to identify gunshot residues, primer residues, blood, and semen at the crime scene (National Law Enforcement and Corrections Technology Center 2003).

It is very likely that in the next decade the infusion of direct bio-interfaces will permit officers’ vital signs to be monitored, thus summoning assistance when an officer becomes involved in a stressful situation without proper backup. When coupled with other types of technology (AVLS and GPS), monitoring centers will be able to pinpoint the location of officers.

Other sensor technology shows great promise in reducing theft. “Smart dust” devices are being developed that could mean that “stealing cars, furniture, stereos, and other valuables will be unusual because any...valuables that leave your house will check in on their way out the door” by screaming at 2.4 GHz (Jones 2004, 23).

Many of the advancements in policing technology (and we have only scratched the surface here) evolve from research and development by or for military applications. Some examples of technology that is emerging from earlier military technology include:

Field Effect Detector - a device that is small enough to be tactically used to identify humans hiding behind barriers such as walls or in dense foliage (Ackerman 1996, 54).

Forward Looking Infrared (FLIR) - infrared sensors originally used to enhance the ability of aircraft pilots to fly at night or during hazardous

weather conditions (Rawles 1988). The technology has transferred into other contexts, including improving nighttime driving on domestic cars (Vale 2001).

CONCLUSION

This chapter has focused on several themes regarding the future: 1) There are existing models to envision the future, agencies can build off what exists at the global and national levels and gather information for determining local drivers and trends; 2) Envisioning the future has pitfalls, it is not an exact science, and “wild cards” (like 9/11) do occur; but not to engage in the process is admitting defeat and is not in the best interest of policing; and 3) Scanning the environmental forces that affect society is essential for anticipating future conditions and changes. We have addressed the future of the patrol function and its related conditions and effects. The future holds great promise for policing; it also holds tremendous challenges and possible problems. We cannot ignore the future; we must attempt to recognize the forces that will drive future issues and decisions. Finally, a point that is often overlooked is that what is considered futuristic to some departments has been relegated to the domain of the ordinary for others. This is a crucial conundrum. Perhaps the most important point for the continued professionalization of policing is that knowledge, training, and equipment must be disseminated across all departments, not just those agencies that enjoy great financial resources.

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Chapter Seven

THE FUTURE OF INVESTIGATIONS

Alan Youngs

EXECUTIVE SUMMARY

The astonishing advances in computer science and electronic technology in recent years are changing the way we live, work, and recreate. Cell phones, for instance, are ubiquitous. We can talk to friends or colleagues all over the world even while driving our cars. An MP3 device such as an iPod, smaller than a pack of cigarettes, can store and play thousands of songs. Intriguing as these items are, they are not in the same league as the technology that will challenge policing and the investigations function in the future.

As with any industry, the police community is working to maximize and manage the bewildering tide of new technology that is making, and will continue to make, its mission easier and more efficient. The promise of the future also poses special problems. Will policing be able to attract the kind of individual who is savvy, adaptable and properly educated? The profile of the officer of the future will change from what it is today. Many entering the field will have degrees in computer science, computer programming, chemistry, languages, and the like.

Changes wrought by cultural, social, economic, and technological developments present a range of challenges and opportunities for police agencies, their personnel, and their investigative efforts. Regretfully, the threat of terrorist attacks is now an everyday concern. To meet the demand for more secure communities, law enforcement will expand its partnerships with the private sector. This will be especially important in

fraud investigations. Cyber-crime divisions will be formed to handle computer-based evidence. Robotics will become more sophisticated and more capable of aiding in police work, while at the same time, the cost of technology will decrease. Unmanned aircraft will grow smaller, yet be able to see and hear from greater distances. New software, coupled with tagging technology will aid in tracking funds targeted for terrorist groups. The future will see further improvements in the use of DNA evidence as databases grow and technology allows for the handling of minute and/or eroded samples of DNA.

It is reasonable to question whether advances in data collection methods will overwhelm our ability to use the data. In other words, what do we do with it? How do we make sense of it and use it? Here technology will play a role as well when “information fusion” couples data mining with data analysis. Large amounts of information will be shared by different investigators, with each using the databases for information relevant to his or her particular case. As the exciting changes unfold the police agent of the future will surely change as well. The all too familiar human trait of resisting change will be replaced by an eagerness to embrace and use evolving technology and techniques that will benefit communities and individuals.

INTRODUCTION

The Society of Police Futurists International, along with the FBI, sponsored the “Futuristics & Law Enforcement-The Millennium Conference” in July of 2000. Five areas of concern were highlighted at this meeting: 1) the future of technology and its effect on law enforcement; 2) the future of leadership and management in policing agencies; 3) the future of crime and law; 4) the future of policing practices and philosophies; and, 5)

the changing face of America - demographics and policing (Youngs 2003). These broad trends are shaping not just the future of policing in general, but also the future of the criminal investigations process.

The complexity of criminal investigations is evolving at a pace that matches the changes in technology and society as a whole. Police agencies often struggle to keep pace with these changes. Given current trends it seems reasonable to suspect that the future of investigations will be defined, in part, by this continuing struggle to keep up with new and emerging needs and challenges. While the basics of conducting a sound investigation likely will remain the same, the personnel who conduct the investigations will change, their qualifications will evolve, the crimes being investigated will transform and evolve, and new tools will be used to conduct investigations.

In 2005, the criminal investigations process (the types, nature, and frequency of crimes being confronted; investigative personnel, their backgrounds and their training; and the tools of investigation) is far different than it was in 1970, 1980, and even 1990. Could an investigator have conceived in the 1970s that we would someday have to contend with various forms of terrorism on a daily basis? Further, could investigators working in the 1970s have conceived of the everyday products we now use to simplify our lives, such as personal computers, PDAs, cell phones, e-mail and the internet? Could investigators have conceived of the devious ways these tools and technologies are co-opted to facilitate crime? Could investigators have imagined the way these same technologies are used to improve the efficiency and accuracy of the investigative process?

We know all too well that if an invention can be used for crime it will become a target and/or tool of illegal behavior. To quote futurist author Ray Kurzweil: "You don't

have to look further than the 20th century to see the intertwined promise and peril of technology” (Spring 2004, 32). Looking forward to 2020, what changes can we foresee in who will investigate, how they will investigate, and what they will investigate?

THE HUMAN FACTOR: CHALLENGES FOR POLICE RECRUITMENT

Many of the officers entering policing today will still be on the job in 2020. Given what we know about the changes we can expect to see in the years to come, are we hiring the right types of officers? Are we hiring personnel now who will be able to handle the investigations in the future? Are we creating training programs to prepare investigators for the jobs for the future? In years to come there will be a shortfall in the workforce due to the oncoming retirements of the baby boom generation. This will be partially mitigated by relaxed immigration standards (if immigration is not reduced by fear of terrorism), but competition will be great for the well-trained and educated employee in many job fields. The decline in the workforce will affect recruiting and training of police personnel. At the same time, the minimum educational requirements to become a police officer will increase (Youngs 2003).

Many prospective police officers will be coming out of college with specialties such as computer science, computer programming, chemistry, languages, law, criminal justice, finance and accounting, and forensics. It will be imperative that these new recruits have excellent writing skills. Reports will need to be written that convey information clearly about technical, scientific, and financial crimes, including the data collected throughout the course of the investigation. More than ever district attorneys will need to use written investigative reports to educate juries and judges so they can rule on complicated and technical cases.

E-mail, of course, is already regarded as an essential part of our lives. The use of e-mail in policing will necessitate clarity and brevity in order to avoid confusion and misunderstanding. Oral presentations with visual aids (e.g., PowerPoint) often are used in presentations to the private sector to gain cooperation and to educate. We can also look for it to become more important in presenting evidence in court. Written communications must be clear, accurate, and appropriately detailed for documentation purposes. Business leaders agree that written communication skills are lacking in many college graduates. It is estimated that annual private sector cost for providing writing training on the job could now be as high as \$3.1 billion, excluding the cost for government employees (National Commission on Writing 2004). Until schools address this problem the public and private sector will continue to be burdened with the costs of re-education.

A Matter of Style

In the arena of management styles, the emphasis will be placed on leadership and interpersonal relationship building. Special training and career development opportunities will be required to retain employees as well as to maintain professional standards. Teamwork will be the norm as the old military style hierarchy is replaced. Organizations will place emphasis on professional values, accountability, improved management practices, and enhanced leadership, instead of bureaucratic control of employees (Youngs 2003).

PUBLIC/PRIVATE PARTNERSHIPS

Law enforcement in tomorrow's world will include public/private partnerships that provide personnel in technical and scientific areas. Such partnerships have been selectively in place for a number of years, including the privatization of security services

in public areas (i.e., mass transit facilities and airports). In response to contemporary concerns with terrorism, the federal government is actively encouraging the establishment of partnerships between all types of public and private organizations in an effort to provide effective and efficient homeland security.¹

Fraud as a Growth Industry

We have already seen a number of partnerships between the public and private sectors aimed at improving the investigation of major crimes, a trend that will continue to accelerate. This will be especially important in investigation fraud. According to a 2003 survey by *Accounting Today*, forensics/fraud is among the top four growth niches in the accounting industry (Poinier 2004). Forensic accountants will increasingly aid criminal investigations to uncover various types of fraud by utilizing their backgrounds in accounting, law, and writing to effectively investigate possible offenses, prepare written reports, and communicate investigative findings in court. Their role will be to put raw numbers in a context that judges and juries can understand.

Additionally, efforts are being made to design a system that will piggyback on the existing commercial credit/debit card infrastructure. It has been proposed that Electronic Banking Transfer (EBT) payment services be provided by financial institutions designated as financial agents of the government. The new EBT card will be an online debit system with benefits periodically placed in a customer's account. Customers will use their cards to retrieve the cash benefits from automated teller machines. For example, many food stamp benefits are now being issued in electronic format, with allocations being deposited in individual electronic accounts.

¹ For example, see *Engaging the Private Sector to Promote Homeland Security: Law-Enforcement Private Security Partnerships* (2005) <http://www.ncjrs.gov/pdffiles1/bja/210678.pdf>.

In an attempt to combat financial fraud, the Financial Crimes Division of the Secret Service has made several suggestions. Most notably these include: 1) The use of biometric identifiers to verify applicants' identities and prevent application fraud; 2) Counterfeit deterrents such as four-color graphics and fine-line printing; 3) The use of holograms and embossing in the design of the card; and, 4) Features that allow investigators to monitor transactions and use the audit trail to identify criminals who illegally traffic food benefit payments.²

CHEAPER TECHNOLOGY, GREATER CAPABILITY

TV tells the public that there are super-cops and super-forensic specialists who do it all, know it all, and solve it all in an hour. *U.S. News and World Report* published an article on the "CSI effect" (Roane and Morrison 2005) whereby jurors expect clear, unambiguous evidence of a defendant's guilt in order to provide quick convictions. Increasingly, the lines between real-life contemporary investigations, the probable tools of the future, and Hollywood invention are blurred. In reality, we know that policing is becoming more complex and increasingly requires individuals who specialize in one area of investigation and who can use the advanced tools now available to solve crime.

In the law enforcement agency of the future, increased computing capacity and the decreasing cost of technology will enhance officer productivity and operational effectiveness. The integration of highly trained personnel and technology will be critical. Law enforcement investigators will be assigned to cyber-crime divisions and be trained to handle computer-based evidence. A national repository will be developed for computer crimes that will also serve as a clearinghouse for proactive Internet investigations

² See the United States Secret Service, Financial Crimes Division <http://www.secretservice.gov>.

into crimes such as child sexual exploitation, bookmaking and prostitution. Responsibility for the investigation of crimes that are international will need to be identified (Koenig 2002).

The Benefit of Virtual Training Programs

Training in the future will primarily be scenario-based. Scenarios will be presented on paper and police agencies will provide classroom training on the Internet. Virtual and Augmented Reality training programs will continue to gain ground. This will standardize education among agencies and allow the simulation of dangerous situations in a controlled setting. Realistic videos can now create 3-D views of an environment, thus providing officers with more information and greater situational awareness. Situations can be repeated over and over, as well as be modified, in order to present the most realistic scenarios possible.

Robots and Rats

Robots will in some instances answer the need for personnel. Author Ray Kurzweil predicts that a computer will pass the “Turing test” by 2029. This test determines whether a machine has demonstrated human-level intelligence and performs human-like conversation (Kurzweil 1990). These robots may surpass humans in their ability to gather information, track leads and draw conclusions. Already, scientists have developed a robot-like rodent, “Ratbot” that may be used where search and rescue police dogs cannot go. Using electrical stimulation to the brain’s pleasure centers it works the same as the Pavlov reward system. The rat is rewarded each time it moves in the right direction. Carrying a tiny camera, the small animal can go where mechanical robots and dogs cannot.

Robotics will play an even greater role in law enforcement in the future, as these high tech devices become smaller and smarter. A Japanese security company has developed a patrolling robot that can distinguish between human beings and objects. At the same time, robotic airplanes and helicopters are becoming smaller and more sophisticated. As technology progresses, they will be able to see and hear more, and do it from distances that are not yet conceivable. Can the day be far off when robots will sniff from afar as well as see and hear? Further work with electrode implantation will result in mechanical tools being operated by thought alone from long distances. Just thinking about working a lever will move it. The computer Cyc, developed in the 1980s, is a precursor of computers with super reasoning ability. It has already asked if it is human. Such computers will be invaluable for analyzing and investigating crime scenes and will actually lead to robots that are Cyber-Agents programmed with personalities and reasoning ability (Youngs 2003).

The Promise of Nanotechnology

“The golden age of nanotechnology will be the 2020s” predicts Kurzweil (Spring 2004, 32) and this will add to the proliferation of smaller and more affordable devices including listening devices and cameras so small they will be undetectable to the human eye. Chicago is looking at deploying over 2,100 cameras (though they are not “undetectable”). London demonstrated the value of cameras in tracking down the subway bombers in summer of 2005. On another front, iris scanning devices, formerly limited in adaptability, can now identify 20 people a minute as they walk through a security portal, and they can do it from as far away as 10 feet. Glamorized in movies such as the science fiction film “Minority Report,” iris scanners, while still in their infancy, are already being used at a few government facilities.

According to Battelle (2004), an international technology and science enterprise, a broad range of technologies will continue to enhance our ability to detect and respond to possible threat situations. Arrays of sensors will provide the ability to monitor water, air, and food supplies quickly and accurately. Intelligence-gather systems will provide police, military, and political decision makers with the ability to better comprehend and respond to critical incidents. Computer software is enhancing our ability to instantly translate foreign languages to enhance intelligence gathering, criminal investigations, and responses to critical incidents. Developments in the arenas of robotics, finance, computers, chemistry, and physics are all poised to improve safety and security. Over time, applications within policing and in support of criminal investigations are certain to emerge.

Police departments around the country soon will begin to use unmanned drones to provide surveillance like the Predators used in Afghanistan and Navy P-3 Orion surveillance planes. These unmanned air vehicles (UAVs) will be remotely controlled and can be equipped with full-color cameras, a variety of sensors and imagers, and various listening devices. Information can be feedback in realtime using wireless technology. It is expected that the size of such vehicles will decrease, while the quality of data and airtime will increase. Initially, UAVs may only be available to larger agencies, but with time their cost will make them accessible to many other agencies. It is possible that several UAVs could be deployed at a critical incident to provide many layers and angles of information. Such vehicles can provide crucial information to inform decision making and tactics, all the while preserving officer safety (Cowper 2005). A good example of this high tech capability was seen during the sniper incident in Washington, DC. Surveillance was provided using a RC-7 Army spy plane equipped

with telescopic camera transmitting high-resolution imagery to the ground immediately and sensors that can detect a bullet's path (Westcott 2002).

In East Orange, NJ acoustic detectors on the ground are being used to trace gunshots to their source. By strategically placing the high tech acoustic detectors on utility poles and lampposts, police agencies are able to triangulate the location of gunfire allowing officers to respond even before residents report the shots. Coupled with multidirectional cameras that can zoom in on targets as far as three miles away, this technology enables officers to record events even when they are off-site.

New methods that combine computer technologies and biotechnologies are also appearing. Public/private partnerships will likely form between companies and individuals that are experts in these fields. According to the National Institute of Justice, technologies supporting the rapid and accurate analysis of DNA evidence will continue to emerge in the coming decade (Research and Development Working Group 2000). Considering the rapid developments we have witnessed to date, such continued improvements should not be surprising. Probable changes include the ability to develop an adequate profile from increasingly smaller samples, to develop accurate samples from samples that may be corrupt or contaminated, and increased speed and portability of testing systems. By 2020, DNA testing equipment may be fully portable, allowing for testing in the field. Consider the improvements to the criminal investigations process if investigators can almost instantly eliminate suspects while still at the scene of a crime.

Pollen and Police Work

One of the most intriguing fields of study for future criminal investigations is forensic palynology (the study and analysis of pollen). Still in its infancy, it remains

untried in many regions of the world, is seldom used in other regions, and is not yet accepted or recognized as being valuable evidence in most court systems. There are also misconceptions about what types of information forensic pollen samples can provide. The next decade will become a “trial” period for forensic palynology. It has already become widely accepted and court-tested in countries such as New Zealand, but this type of acceptance has yet to be recognized in regions such as the United States and elsewhere (Bryant and Vaughn n.d.). It is very clear that databases for analyzing forensics data and DNA technology will advance. Still with all the advances we must remember that forensic evidence can only show that an individual was present at the scene of a crime; not that he committed the crime (Luftig and Richey 2001).

ROLE OF THE CITIZEN

As the future unfolds, law enforcement will also experience greater involvement from private citizens. With assistance from GPS tracking devices and other technology, tracking trends in crime and neighborhood demographics will give officers in the field instantaneous information. As the population grows, our communities will become more urbanized, which will in turn increase citizen access to information and other technological advances. Citizens will be able to log on and track crime in their neighborhoods. Their homes will be “smart” and will notify authorities of intrusions. Community members and their children will be able to optionally have computer chips implanted in their bodies that will provide information ranging from medical records to their physical location in order to aid investigators (Youngs 2003).

The role of the citizen can not be emphasized enough. According to a recent Batelle (2004) forecast considering the war on terror:

“To find criminals, law enforcement relies on a watchful public to provide tips. The worldwide information-saturated culture that we live in will expand further, creating new opportunities to engage the public to ferret out terrorists. A global ‘Amber Alert’ system could be used to distribute multi-lingual information on known terrorists. A program like the ‘America’s Most Wanted’ could be tailored to help find terrorists hiding in plain sight. In addition, innovative methods will be deployed to coax terrorists into identifying themselves. For example, warning signs might be placed along a controlled access announcing that a security-screening checkpoint is coming up, just before a convenient opt-out or exit point. Anyone avoiding the checkpoint can be watched for further examples of self-incriminating behavior.”

DATA, DATA, DATA

The above predictions lead to two overwhelming necessities for the future— the need for shared data and data mining capabilities. The biggest impact on criminal investigations will come from what is being called “information fusion,” or the marriage of data mining to data analysis. Coupled with appropriate software and decision support programs, information fusion will enable users to make sense of the vast and confusing volume of data that will be available.

Consider that 13 million gigabytes of information are added to the world’s databases every day; a sizeable proportion can be used for criminal and/or terrorist purposes. Our current manual processes of sorting through individual data files, paper or electronic could never touch anything more than a tiny fraction of the available and

useful data. Information fusion will provide the only effective means for exploiting the use of all this data.

Once collected and analyzed, human/machine interfaces will be needed to actually display the information derived from the information fusion processes. Augmented reality, linguistic user interfaces (programs that allow us to talk with computers to control them and access information instead of pointing and clicking with a mouse), and advanced computer displays are also on the horizon. Think of the movie “Minority Report,” in which investigators intuitively manipulate and interact with information using large displays and their hands, and you begin to see what the future holds in this arena.

TIMELINE

While technology will make the police officer’s job safer and, in many cases easier, it cannot take the place of the police officer. Human interaction and an officer’s sound judgment will always play key roles in proper policing. Just the same, the promise of technology warrants a “best guess” look at when some of these intriguing changes will come about.

2011

- Most government services will be delivered on the Internet.
- Crime mapping and crime analysis information will be transmitted directly to patrol cars.
- Most police cars will be equipped with accident avoidance sensing devices.
- Experimental robots will patrol buildings for fire and theft prevention.

- Data storage created with nanotechnology will allow smaller and more portable computers for police use while on patrol.
- Additional non-lethal options for subduing violent criminals will be available.
- There will be widespread use of surveillance cameras to monitor public venues.
- ID cards will be replaced by biometric scanning.
- Further testing of unmanned drones patrolling over cities will continue on a case-by-case basis.
- Virtual nations such as al Qaida will be prominent.
- Private security companies will perform more police duties such as traffic control, court protection, specialized investigations, alarm response, and community organizing.
- Autocratic management will be abandoned in law enforcement.
- More DNA computer information will become available, allowing for greater accuracy and certainty in prosecuting and convicting criminals.

2016

- World population will hit 7.1 billion, with half living in urban areas.
- Terrorist attacks will become more violent.
- Wearable computers will be standard equipment for the police.
- Emotion control chips will be available for imbedding in criminals.

2021

- More than 16 percent of population in U.S. will be over the age of 65.
- More than 38 percent of the U.S. population will be minorities.
- 95 percent of the world's population will be located in developing countries.

2025

- The computer named Cyc (see Robots and Rats, above), will develop common sense and be able to communicate with humans.

2029

- Computers will pass the Turing test, proving they have human level intelligence.

2031

- Vehicles will drive themselves.
- 20 percent of the U.S. population will be 65 or older.

2040

- The World population will be double that of 2002.

2050

- A new generation of law enforcement officers will welcome change that frees them from “old” systems and procedures in police work; and the technology and systems of 2006 will be “history.”
- The population age 85 or older will be five times that of 1995.

The march of technology is relentless. It will bring improvements to law enforcement that could not have been imagined even a few years ago. We will be faster, smarter and more efficient. While we can predict with some accuracy what the future holds in technology, the overarching question that cannot be answered at this point is whether our country will have the political will to use the tools that will be at our disposal.

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Chapter Eight

THE FUTURE OF LAW ENFORCEMENT INTELLIGENCE

David L. Carter & Joseph A. Schafer

EXECUTIVE SUMMARY

Recent domestic and international events have illustrated the need for law enforcement to develop and maintain an intelligence function. This chapter explores the future of the intelligence function, focusing on state and local agencies. The authors begin by defining information, intelligence, and the intelligence function, distinguishing between national security and law enforcement intelligence. These basic definitional and conceptual issues are critical for understanding how intelligence is derived, processed, and used by state and local departments. In particular, it is critical to understand the difference between *information* (raw data that is the input for the intelligence analysis cycle) and *intelligence* (an analysis process and product generating actionable knowledge).

The chapter continues by articulating why an intelligence function is needed in state and local law enforcement agencies. This is coupled with a primer in law enforcement intelligence. Having an intelligence function or capacity does not mean that every department will have a designated unit with full-time intelligence officers and/or analysts, although this may occur in some medium and larger jurisdictions. Rather, state and local agencies need to develop the capacity to collect, manage, and share information with appropriate members of the intelligence community. These agencies also need to have a basic understanding of the language and processes of

intelligence analysis so that they can receive and accurately interpret intelligence products derived by others.

The authors conclude by examining the future of law enforcement intelligence in two realms. First, consideration is given to how existing and emerging technologies can facilitate and enhance information collection and management, data analysis, and intelligence production and dissemination. Recent advances in software and Internet-based communications have made it easier for even medium and small agencies to develop an intelligence function. This ability can not only contribute to global and domestic security, but it can also improve the acquisition and use of information to make local police operations more efficacious. Second, the authors discuss the changes that will need to occur in the coming decade to make law enforcement intelligence a more integral and dynamic component of modern policing in American communities.

Intelligence at any level is not a panacea, but it has the capacity to build upon existing police methods and resources to allow agencies to better serve their communities. It must be recognized that each agency not having an effective intelligence capacity represents a weak link in the ability of American law enforcement to effectively and comprehensively share information that will provide for stronger homeland security.

INTRODUCTION

Kansas City, Missouri. 2020.

Information is received by the CIA that a group of militant Chechen separatists, that include people with military training, plan a terrorist attack in the United States in retaliation of the U.S. support of

Russian troops that quelled a violent uprising in both Chechnya and neighboring Georgia. Many of those in the uprising were killed during extreme violence in the joint Russia-U.S. military initiative. Further information is received from the Defense Intelligence Agency and the National Security Agency that validates the threat, with the probable target being Whiteman Air Force Base, Missouri, the only base in the U.S. housing the B-2 stealth bomber.

The intelligence from these diverse sources is sent to the Terrorism Threat Integration Center (T-TIC) where information on potential persons who could be involved in the attack is integrated with the known facts related to the threat. Because the attack is on U.S. soil, the FBI Intelligence Directorate assume responsibility as the lead agency, preparing both classified intelligence reports and law enforcement sensitive (LES) reports that may be disseminated to law enforcement officers who do not have a security clearance. The classified reports are sent to the Joint Terrorism Task Forces and the FBI Field Intelligence Groups via the FBI's Internet Protocol-based (IP) INTELLNet secure intelligence system. The LES reports are distributed to state, local, and tribal law enforcement within selected user-defined regions where the greatest threats exist, via the Homeland Security Information Network's (HSIN) Secure Law Enforcement Portal that is operating on a merged LEO and RISS.NET backbone using Internet-3 Protocols and XML tagging. This process permits secure information to be disseminated to

those who “need to know” the information on both wired and wireless secure devices.

The immediate threat analysis and information management is the responsibility of the Missouri Law Enforcement Intelligence Fusion Center in Kansas City where the FBI Field Intelligence Group is also housed. The Fusion Center operates on paperless input, analysis and dissemination of text, image, audio, and video data. All new leads and changes in threat status that are LES are electronically “pushed” to state and local officers with classified versions “pushed” to the FBI Intelligence Directorate who manages the information exchange for T-TIC and Air Force Intelligence.

The intent of this future scenario is to illustrate how both law enforcement intelligence and national security intelligence would be managed to deal with an imminent threat of a terrorist attack. It incorporates the importance of providing real time information to state and local law enforcement officers as well as the national security Intelligence Community. Moreover, it demonstrates how the information can be exchanged while keeping the necessary divisions between the two types of intelligence. Using next generation IP-based protocols, information can be placed in the hands of those who need it via “push” technologies. Collectively, this intelligence process and technologies manage the threat while meeting legal standards.

The September 11, 2001 terror attacks shed light on the need for more and better intelligence to preserve security and prevent terrorist attacks. While much public attention

has focused on intelligence at the federal level, considerable steps have been taken to expand the use of intelligence as a resource and a tool for state, local, and tribal law enforcement agencies. The National Criminal Intelligence Sharing Plan (2004) has articulated the philosophy of Intelligence-Led Policing (ILP) to enhance when and how information and intelligence are used by all levels of law enforcement agencies. ILP calls for the development of an intelligence function in agencies where it is absent and may redefine the intelligence function as it exists in other departments (Loyka, Faggiani and Karchmer 2005).

The benefits of the enhanced use of law enforcement intelligence are not limited to the detection and prevention of terrorist incidents. Police agencies first used intelligence systems to support the investigation of organized crime. Indeed, although the main purpose of implementing ILP may be to ensure homeland security, for many agencies the greater benefit may be the enhancement of successful criminal investigations. This chapter considers the future of law enforcement intelligence, particularly in state, tribal, and local agencies. We begin by briefly defining law enforcement intelligence and articulating the need for an intelligence function in local agencies. This is followed by a cursory overview of how the intelligence function works, including consideration of management and civil rights issues. We then discuss how current and emerging technologies might enhance the intelligence process. Finally, we consider how the above scenario might come to fruition.

DEFINING LAW ENFORCEMENT INTELLIGENCE

If anything, discussion of “intelligence” in the aftermath of the 9/11 attacks has further clouded the murky understanding most people have of this concept. The notion

of intelligence and intelligence operations likely conjures images of clandestine, high technology, risk-taking ventures aimed at generating sensitive information about terrorists, politicians, top-secret government plans, crimes, and criminals. While there may be some margin of truth to these images, they focus more on some *methods* for obtaining national security intelligence (NSI) than the more common methods and goals of law enforcement intelligence (LEI).

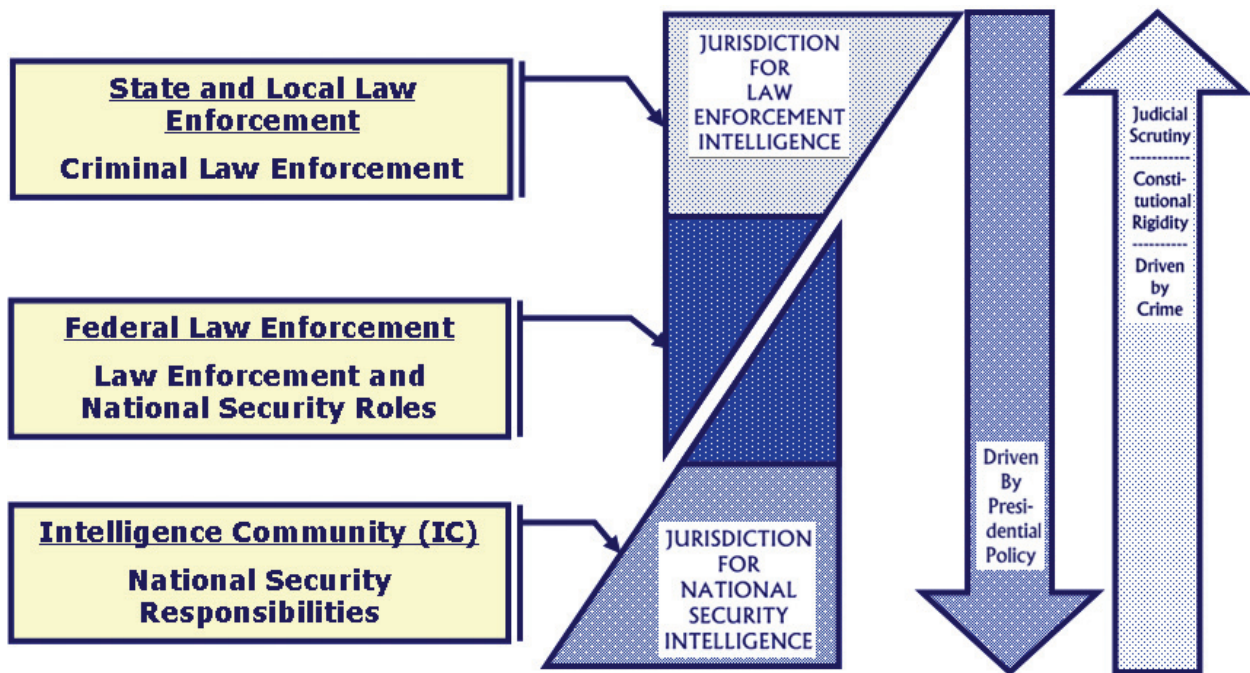
As a tool used by police agencies, LEI is intended to further equity, efficiency and efficacy through achieving three basic goals. LEI is used in the hope of aiding the:

- Development of evidence for prosecution of criminal cases.
- Identification and seizure of illegal commodities (contraband and fruits of unlawful transactions).
- Development of information to direct the allocation and deployment of law enforcement resources. (Carter 2004b, 1)

In state, local and tribal law enforcement agencies, the intelligence function is an analytic process that produces information about crime and/or criminal enterprises to further criminal investigations. Properly applied, the intelligence function also supports management decisions.

The images most people associate with the term “intelligence” and the issues discussed by the 9/11 Commission (National Commission on Terrorist Attacks upon the United States 2004 – hereafter “9/11 Commission”) and other recent political entities are more closely aligned with the methods and objectives of national security intelligence. NSI is the collection and analysis of information concerning the relationship and homeostasis of the United States with foreign powers, organizations,

and persons. Its focus is on political and economic factors, as well as the maintenance of the safety and sovereignty of the United States (Carter 2004a). Much of the “intelligence” discussion surrounding the 9/11 attacks involve problems in existing NSI systems. Further complicating our understanding of law enforcement intelligence is the overlap in federal agencies involved in NSI and LEI. For example, the Federal Bureau of Investigation is involved in both the NSI and LEI processes, and the advance information known to them about the 9/11 attacks include both NSI and LEI.



Although there are some similarities in their methods, LEI and NSI work to achieve goals that, while sometimes complementary, are distinct (Figure 1). LEI seeks to support law enforcement operations, including solving crimes and more efficient

organizational operations. NSI is focused on matters of national security, and political and economic stability. NSI and LEI are also subject to different levels of legal oversight. Because it is used by law enforcement agencies, LEI is subject to more strict legal standards and restrictions. Intelligence used in criminal investigations must meet a high burden of proof. In contrast, NSI is typically used to support decision making in the executive branch of government; as a result, it does not have to meet a strict legal threshold. NSI is also more flexible and responsive to change because it exists in a political environment driven by presidential policy. LEI, on the other hand, exists within organizations subject to Supreme Court rulings, making change slow.

In order to understand the LEI process, it is important to appreciate the distinction between intelligence and information. Information is passive; it is the data that enter into the intelligence process. Intelligence is active; it is an analytic process that converts information into a product that is actionable (Carter 2004a; Ronczkowski 2004). As a DEA Intelligence Chief related to this chapter's lead author, "intelligence isn't just information—it's a way of thinking; it's a logical thought process which permits you to take all kinds of diverse information and put it into a coherent, integrated form that produces evidentiary information" (Carter 2004a, 140). Information is the input, while intelligence is the process and output.

Consider the following example. An investigator in a local department learns that John Doe is seeking to purchase three firearms from a licensed firearms dealer. This is information that, by itself, does not direct the agency to take any particular course of action. To build on the example, however, imagine the investigator acquired the following additional information: John Doe is a convicted felon; Doe attempted to purchase these

firearms without proper federal and state paperwork and approval; Doe is known to associate with Harry Smith; and, Smith recently offered a local contractor \$1,000 for the blueprints used in the construction of a bank. By taking this information and considering how the individual pieces fit together, the investigator can develop intelligence on a crime possibly being planned in the community. Simply having bits of information does little to further police investigations or planning. Police departments have historically done a tremendous job warehousing information, with little consideration of how that information might be examined to “connect the dots” in order to better understand crime and community circumstances. Being able to take those bits of information, however, and forecast, correlate, offer supposition, and/or direct further investigation, is the hallmark of the intelligence process. This process, of course, involves more than merely creating computerized databases (high tech versions of the “black hole” data acquisitions historically seen in policing). Intelligence only occurs when a high degree of human involvement occurs; trained personnel must transform information into actionable, useable insights into people, places, and circumstances.

ARTICULATING THE NEED FOR AN INTELLIGENCE FUNCTION

The 9/11 Commission’s final report (2004) describes the intelligence failures that contributed to the success of the terror attacks and articulated recommendations for improvements to enhance future NSI and LEI efforts. Many of the needed changes identified by the 9/11 Commission are suggestions comparable to those issued by a range of state and federal commissions during the past forty years. For example, calls for enhanced intelligence functions in state and local agencies can be traced back to

various federal commissions from the late 1960s and early 1970s.¹ It should not be assumed, however, that the “old wine in new bottles” nature of these recommendations means that they will not, or should not, be heeded. Indeed, the best evidence suggests that progressive agencies will examine ways to adopt the LEI-related recommendations put forth by the 9/11 Commission and other intelligence-enhancement bodies convened in response to the terror attacks.

By 2020 the expansion of intelligence functions within American law enforcement agencies will be important for reasons that go beyond dealing with terrorism and homeland security. Although intelligence supports these functions (and much of the push for expanded LEI is because of concerns with these problems), it also contributes to improved investigations and responses to crime and criminal enterprises, and local responses to natural disasters. The intelligence function can serve two broad purposes within law enforcement agencies:

Prevention (Tactical Intelligence): This includes gaining or developing information related to threats of terrorism or crime and using this information to apprehend offenders, harden targets, and/or employ strategies that will eliminate or mitigate the threat.

Planning and Resource Allocation (Strategic Intelligence): This includes generating information to decision-makers about the changing nature of threats, the characteristics and methodologies of threats, and emerging threat idiosyncrasies for the purpose of developing response strategies and reallocating resources, as necessary, to accomplish effective prevention.

¹ For example, the Warren Commission’s report on President Kennedy’s assassination suggested the FBI improve its “preventive intelligence” capacity (SEARCH Group 1985). Similar calls were issued in the aftermath and investigation of the assassinations of Martin Luther King, Jr., and Robert Kennedy. Other calls for enhanced, expanded, and/or reformed law enforcement intelligences were issued by the President’s Commission on Law Enforcement and the Administration of Justice (1967), the National Commission on the Causes and Prevention of Violence (1969), and the National Advisory Commission on Criminal Justice Standards and Goals (1973).

In other words, the intelligence function supports investigative and planning efforts within police agencies. Tactical intelligence is often exploratory and more broadly focused than conventional criminal investigation. For example, an agency may have a reasonable suspicion to believe a group has the intent, capacity and resolve to engage in criminal acts. This reasonable suspicion, however, may fall short of the probable cause standard necessary to allow arrests. Furthermore, there could be compelling community safety reasons to keep an enquiry open to facilitate the identification of other criminal offenders (particularly, leaders), methods, weapons, and operations.

Both of these purposes (tactical and strategic) are enhanced by the policing concerns emerging in the post-9/11 era. The 9/11 Commission (2004) focused on the interface between federal, state and local agencies, particularly concerning information sharing with and by the FBI. Intelligence processes must be understood as extending beyond the organizational boundaries of any given agency. While some information and intelligence is only legally and practically germane to a single agency, a clear lesson learned from the 9/11 attacks is that agencies must do more to share both information and intelligence. In other words, some intelligence and information must flow reciprocally between agencies serving common regions and concerns. This can mean that local agencies need to develop the capacity to recognize potentially viable information and must have mechanisms in place to route that information to other appropriate agencies (typically federal, state, or larger local agencies). It also means that these other appropriate agencies need to feed relevant intelligence output back to state and local agencies.

The principle of information and intelligence exchange needs to work on a variety of levels and with a variety of issues. For example, access to secure web sites and information depends on the character of an agency, security clearances, and the analytic capability of agency. Similarly, the types of information that is exchanged with a regional intelligence fusion center may depend on whether an agency has signed a memorandum of understanding (MOU) with the center. Information needs to flow to appropriate agencies for analysis; the results need to be disseminated back to appropriate agencies to allow organizations and officers to take appropriate steps to mitigate threats.

Even within regions, agencies would enhance their efficacy by doing more to facilitate sharing case details across jurisdictions. Criminal and terrorist organizations rarely comply with jurisdictional boundaries. Unfortunately, the prevailing “protect your turf” mentality in policing has resulted in little collaboration among agencies. The Regional Information Sharing System (RISS) and regional intelligence fusion centers are notable exceptions and other efforts under the Global Justice Information Sharing Initiative² are changing the “protect your turf” culture.

Strategic intelligence examines crime patterns and crime trends for management use in decision making, resource development, resource allocation, and policy planning. While similar to crime analysis, strategic intelligence typically focuses on specific crime types, such as criminal enterprises, drug traffickers, terrorists, or other forms of complex criminality. Strategic intelligence also provides detailed information on a specified type of crime or criminality. For example, terrorists cells related to al-Qaeda within the

² http://it.ojp.gov/topic.jsp?topic_id=8.

United States might be described to the extent possible on their characteristics, structure, philosophy, numbers of members, locations, and other distinguishing characteristics. Similarly, a strategic intelligence report may document attributes of “eco-extremists” by describing typical targets and methods used in their attacks. This information helps police understand the motivations of the intelligence targets and can help in deploying investigative resources, developing training programs for police personnel to better understand the threat, and provide insights which may help in target hardening. Such ongoing strategic intelligence keeps officials alert to threats and potential crimes (Carter 2004a, 83).

For example, consider that 85 percent of critical infrastructure is in the private sector (Carter 2004a). This makes it a challenge to identify critical infrastructure on a local level; although President Bush has called for a national identification of such facilities, amassing such information is clearly daunting. That critical infrastructure is largely in the hands of the private sector makes it all the more important for local agencies: to help determine what is in their jurisdiction (and to share this information with appropriate federal agencies); to plan responses in the event of a risk scenario (including terrorist attack, natural disaster, civil disorder, criminal activity, and accident)³; to understand the risks and requisite security and emergency response needs for each facility; to educate owners about security and risk management issues; to education officers about safety and protocol concerns if a risk scenario occurs (although it may not be clear who and how much information might be needed); and, to develop relationships between concerned parties.

³ For some types of infrastructure in some communities, this may simply mean having a plan to handle the risk scenario until better trained and equipped responders can arrive on scene.

A “successful” intelligence process is about more than warehousing information or even analyzing that information. To be effective, the intelligence process must generate intelligence products (i.e. insights, predications, and correlations) that ultimately end up in the hands of those who can take appropriate action; by extension, this also means the output must be in a format that is understandable and useable. In its ideal form saying that a law enforcement agency has an intelligence function means that an agency has at least one person who is designated to receive and analyze information, and disseminate work products based upon this process. In some agencies, however, it will make sense to do more or less, based upon resources, jurisdiction size, and local circumstances. A large agency may find that its intelligence function needs to involve an entire unit of civilian and sworn personnel with the training to conduct intelligence analysis and the resources to support such efforts. A small agency may find its context and resources prohibit having a trained analyst, but this does not prevent this department from developing the ability to provide acquired information up-channel to appropriate federal, state, and/or other local agencies. All agencies need to have the ability to receive and understand intelligence products, to understand the language of intelligence, and to share and receive information, even in the absence of an intelligence unit or designated intelligence officer/analyst. (National Criminal Intelligence Sharing Plan 2004).

A PRIMER IN LAW ENFORCEMENT INTELLIGENCE

Many factors need to be considered in the development of an intelligence function; however, there are a number of contemporary issues that are the “first among equals” in

today's environment. Part of the reason is a well-publicized history of past abuses of information collection and record-keeping. As a result, there is careful scrutiny of law enforcement intelligence operations by various "watchdog" groups and members of the public. Moreover, modern police managers insist on careful accountability in the intelligence function because of the responsibility to uphold citizens' rights as well as to reduce the law enforcement agency's exposure to liability (Carter 2005).

Criminal Predicate

Lessons learned from a legacy of lawsuits against law enforcement intelligence units dating back to the 1960s clearly demonstrate that information cannot be collected about individuals and stored in an intelligence records system unless there is a criminal predicate. In many situations, this is more difficult than it may initially appear. A person who supports an unpopular cause, has radical beliefs, or expresses an ideology that undermines America's founding principles may be distasteful; however, this is their constitutionally protected right. As such, law enforcement may not keep intelligence records on such persons – even personally-held records in the possession of unit personnel – unless there is a "reasonable suspicion" that is documented in the records' system that demonstrates the person is, or may be, involved in criminal activity.

Intelligence Records Policies and Procedures

Because of the need to ensure that intelligence files are controlled to meet constitutional standards, the law enforcement agency must establish policies and procedures concerning the collection, assessment, storage, dissemination, and purging of criminal intelligence records. Law enforcement agencies that receive federal funding for a multi-jurisdictional intelligence records system are required to adhere to

the federal regulation, 28 CFR Part 23 (see Institute for Intergovernmental Research n.d.). This provision establishes guidelines for data submission/entry, security, accessing the system for inquiries, disseminating information, reviewing records, and purging data. While single-agency and non-federally funded systems are exempted from the regulation, adhering to the standard is good practice and could be used as an affirmative defense should a liability lawsuit be filed against the unit on factors related to records keeping. Perhaps the best model for translating this regulation to policy and procedures is the “Criminal Intelligence File Guidelines” prepared by the Law Enforcement Intelligence Unit (Law Enforcement Intelligence Unit 2002). The provisions of this model have withstood the test of challenges and are comprehensive in their nature.

Collection Issues Related To Extremists

Permeating both the criminal predicate and records system issues is the collection and retention of information about people who are protesting issues in support of positions that are viewed as “extreme” and may conceivably result in violence, criminal disorder, or property damage. The problem is that the existence of a criminal predicate is often unclear. It is difficult, if not impossible, to determine when members of a demonstration may continue a vocal, yet lawful, protest versus those who commit a criminal act, sometimes out of spontaneity. Often more problematic, for political rather than legal reasons, is having an undercover officer attend an open planning meeting of a protest group to identify participants and assess the probability of unlawful actions.

On one hand, collecting information on people in situations where criminal activity

is only a possibility, may be a violation of their civil rights if no crime(s) occur(s) and the records are not purged. Conversely, not collecting the information may be negligent should community security become compromised if violence or property damage emerges from the event.

The types of information that should be collected relates to the establishment of a criminal predicate; the ability to identify and apprehend criminal law violators; the gathering of evidence and witnesses to support prosecution; and the ability to ensure community safety is not compromised. To best accomplish these goals, there should be clear procedures and training to deal with these issues. For example:

1. There should be written guidelines and training on specific provisions of substantive law, including elements of the offenses, which may arise from a protest or demonstration.
2. Personnel should be instructed on making detailed documentation of observations and actions that support the elements of offenses and exclude observations and statements that are First Amendment expressions and non-criminal.
3. A supervisor should approve an information collection plan, including each incident wherein meetings are monitored, and review and approve reports. Information that does not support the elements of the offenses or aid as evidence should be purged.
4. Collection methods should use the least intrusive means available. Photographs and video recordings that are not evidentiary in nature nor support a criminal investigation should be purged after such determinations are made.

5. If the surveillance is based, in part, on the fact that affiliate groups and/or persons within the group have criminal law violations in the past while participating in similar situations, these records should include appropriate documentation.

6. Any compelling community safety issues should be fully articulated.

These recommendations are, perhaps, the most restrictive approach to information collection under these circumstances. They are nonetheless presented as an avenue to afford both the strictest protection of citizens' rights and the greatest protection to the agency from liability.

TECHNOLOGY AS A TOOL IN FUTURE DEVELOPMENTS

Intelligence cannot exist without the acquisition and processing of information; it is virtually impossible to deal with the management and sharing of information without considering technological implications. Current and emerging technologies can and will enhance how agencies and personnel obtain, analyze, and share information, while redefining how intelligence is disseminated to field personnel. Digital communications and networking are changing when and how police communication occurs. The proliferation of computers and the emergence of analysis software provide the potential to augment information collection, automate portions of the analysis process, and improve intelligence work products. Information is the currency of intelligence and technology is changing how this currency is capitalized and "spent."

This section serves as a primer for concepts, trends, resources and issues concerning information technology and intelligence. Exploring future technologies and their applications is often a difficult process (see Cowper's chapter elsewhere in this volume). Anticipated changes and advances do not always take place or occur with anticipated rapidity. For this reason, we focus on how existing technologies can be applied in a broader and more efficacious manner.

Software to Aid the Intelligence Process

As with any other aspect of police management, there are a number of vendors who will develop proprietary software for intelligence records, analysis, and secure electronic dissemination.⁴ For most medium and small agencies, the expense of these systems may be prohibitive. There is, however, a wide array of "off the shelf" software packages that can be used to aid the intelligence function. These include:

- **Databases:** A law enforcement agency can use commercially available databases to create an intelligence records system that is searchable on a number of variables (e.g., names, addresses, dates, offense types, etc). Most current databases permit the user to custom design the variable fields (defining the variable, its format, its length, etc.) and include images as well as text. Software designed for general data management purposes can be a useful tool for collecting, organizing, and analyzing basic forms of information. Suitable programs may be part of the standard software package included with the purchase of a computer.

⁴ Discussion of or reference to specific software products and/or information services in this section should not be considered an endorsement of the product by the authors, editor, or publisher. Rather, the references are illustrations to supplement discussion of the issues. See the summary of Information Technology Initiatives of the U.S. Office of Justice Programs at <http://it.ojp.gov/index.jsp> as well as the International Association of Chiefs of Police Technology Clearinghouse at <http://www.iacptechnology.org/>.

- Spreadsheets: The analytic capacity of most current versions of spreadsheet software is reasonably robust. For example, data from an open register can be entered and compared, complete with different graphing options, to identify associations and trends. Virtually any kind of data can be analyzed and converted to bar graphs, scatter plots, line charts, area charts, radar graphs, surface charts and other graphing options to both aid in the data interpretation and presentation. Programs currently in use to support other agency functions (records tracking, budgeting, scheduling, deployment, etc.) may be suitable for use in support of the intelligence function.
- Mapping Programs: Inexpensive mapping software, such as Microsoft Streets and Trips or Microsoft MapPoint, can be very useful for both analysis and presentation of intelligence data. The maps can be used for strategic intelligence illustrations of any geographic-based variable of interest (e.g., people, groups, meetings, commodity distribution, trafficking of contraband, etc.). In addition, programs such as these have integrated databases that, although typically limited in character, nonetheless provide sufficient capability to include descriptive information about entries on the map. Each new generation of mapping software improves the accuracy and coverage of the product, making most “off the shelf” programs useful, even in small town and rural areas.
- Statistical Programs. For strategic analysis, statistical software with a graphic capability is very useful. Perhaps the best known, and most powerful, is SPSS.⁵ To be most effective, the SPSS user must have a sound knowledge of statistics. Most undergraduate and graduate courses in social science statistics use SPSS in the process of teaching students; although not training in the conventional law enforcement sense, officers assigned intelligence functions may be well-served by completing such a course at a local college or university. There are a number of other

⁵ <http://www.spss.com/>

statistical analysis programs, often at a lesser cost and somewhat easier to use. The tradeoff is that most of the less expensive and easier programs have fewer analytic features and options.

- Intelligence Analysis Software: Software to assist in organizing, collating, integrating, and presenting data for analysis is an invaluable tool. Perhaps the most widely used analytic software is I2 Investigative Analysis Software.⁶ I2 allows users to organize and analyze information; although in many ways similar to conventional database and spreadsheet programs, the software is designed to specifically support information management and analysis. This software also has numerous applications that assist in the preparation of intelligence work products. For a law enforcement agency that is able to have an intelligence analyst on staff, analytic software is an essential investment. Generally speaking, to maximize the use of this software, analysts need to attend training programs offered by the software vendors.
- Word Processing: An essential element of the intelligence cycle is the dissemination of information to consumers who can make use of that knowledge. It is not enough to collect and analyze information; resulting intelligence insights need to be passed along to others. In most state and local agencies, the intelligence function needs to support the production of written reports of various formats and lengths. Pre-loaded or inexpensive programs can aid in this process and most computer-literate officers can easily prepare an adequate product.
- Data Visualization: In the course of preparing written and oral briefings analyst frequently employ software to provide visual depictions of complex data and/or relationships. Such visualizations can be provided using a number of general-purpose software packages, including RFFlow⁷ and

⁶ <http://www.i2.co.uk/Products/>

⁷ www.rfflow.com

Microsoft Visio. Visualization software may not facilitate data analysis and may not be specifically designed for crime and police data. These programs do, however, allow users to translate analysis and output from other software packages into understandable depictions (e.g., link analysis, link matrices, event matrices, telephone call analysis, activity and commodity flowcharts, etc.).

- Presentation Programs: Analysts also use a range of preloaded and purchased presentation programs in the course of preparing briefings and reports. Technological advances have made it far easier to use multimedia presentations to communicate information to consumers. Rather than simply delivering an oral briefing, analysts may use software such as Microsoft PowerPoint or Corel Presentations to collate tables, charts, figures, maps, diagrams, text, and digital media. While information contained in multimedia presentations may not be substantively different than those found in their “low tech” predecessors, it might be more accessible and understandable to the consumer.

Information Technology Management

Beyond the software applications discussed above, current and emerging information networking technologies are also reshaping how the intelligence process operates. Although the intelligence analysis process remains largely stable, technology is advancing how information is acquired, shared, transmitted, and disseminated.

These changes have the potential to improve the efficacy of LEI, but they also raise new legal and privacy concerns. With each passing year, networking technologies continue to advance; more data can be transmitted at a lower cost with fewer errors. In the coming decade we will certainly see the continued proliferation of wireless computer and network technologies in everyday life. The Internet, now a staple for

many Americans, will become even more widely used as it becomes easier and more common to conduct research, plan, organize, communicate, and live from day-to-day in a world marked by increasingly seamless virtual and physical integration. These broader technological advances open new doors for information sources, acquisition, management, sharing, analysis, and dissemination⁸.

Through the mid-1990s information sharing between agencies typically occurred via the physical transmission of case materials, telephone calls, or physical meetings. Computers assisted in these processes; however access and application were limited, particularly for users in small and medium-sized jurisdictions. The increasingly lower costs of networking technology and the commonality of Internet protocols for information sharing (in all sectors of industry and government) create new potentials. Increasingly, our vision of LEI is not simply discrete units/designees working in departments across the country and occasionally sharing information and analysis. The future of LEI is the establishment and refinement of a network. Agencies and their designees will not work in isolation; new technologies create the possibility for information and intelligence products to be shared in real time (subject to legal and security restrictions). Agencies increasingly enjoy the ability to share text as well as images, audio, and video, giving new depth and texture to intelligence information and products. As agencies develop these networks, two important elements must be kept in mind.

⁸ The Internet creates many opportunities to facilitate investigations and analysis, but it also creates challenges for police organizations and the intelligence community. The Internet contains a wealth of information, some of which is of value, but much of which is incorrect, invalid, or simply erroneous. Investigators and analysts need to use care to ensure the validity of information gleaned from the Internet. The Internet has facilitated a tremendous advance in our ability to access information, a situation that also creates considerable concern over privacy rights. Finally, there is a wide range of unresolved legal and ethical considerations concerning the use of “open source” information in support of LEI.

First, with the pervasive presence of computer crime and unauthorized network intrusions,⁹ it is essential that exceptional security be built into any network. The significant growth of wireless networks and Bluetooth peripheral connections only serve to aggravate the security problem. Among the security issues to be considered are: security and quality control for information entering the system; the physical security of devices (computers, and peripherals) used in the intelligence process; protocols for who has access to systems, information, and facilities (this includes officers who are not assigned to intelligence duties and non-sworn support personnel); computer system security, integrity, and encryption; and, monitoring the access and use of information and systems to ensure protection from external threats and internal misdeeds.¹⁰

Second, facilitating information exchange requires a certain measure of compatibility among LEI functions. Significant recent advances have been made by the Global Justice Information Sharing Initiative, a federal project launched to further the proliferation of LEI and to enhance the efficacy of these efforts through improved information sharing.¹¹ Global has done a significant amount of work in developing consistent definitions, protocols, and data standards – including the XML standard for Internet protocols – to ensure system compatibility. The results will increase connectivity, interoperability, and, consequently, better information sharing.¹²

⁹ Although security and access issues have been long-term concerns in the development of LEI, technologies add new dilemmas and issues. See <http://www.cybercrime.gov/> and <http://www.crime-research.org/>.

¹⁰ Data security standards need not only protect intelligence records, but must also conform with legal issues, such as the data security standards of 28 CFR Part 23.

¹¹ See http://it.ojp.gov/topic.jsp?topic_id=8 for information and documents.

¹² For more information on the Office of Justice Programs' Information Technology Initiatives or the Global Justice XML Data Model at <http://it.ojp.gov/>

HOW DO WE MOVE TO WHERE WE NEED TO GO?

To meet these goals of seamless, reliable, secure electronic data exchanges as well as the creation of a knowledge base of LEI among personnel at all levels of American law enforcement agencies there are several challenges that must be faced. Perhaps, the most fundamental, and critical of all challenges is that law enforcement agencies must recognize the need and value of an intelligence capacity. Agencies that fail to recognize this are unlikely to perceive the potential benefits of program development and training, regardless of national standards. Providing an accurate understanding of the intelligence function; moving beyond the “status quo” in policing to allow top leaders to embrace the need for and value of intelligence; showing its value in counterterrorism and countering organized crime; and establishing the necessity of having a complete law enforcement intelligence “network” across the country are elements that must be confronted in this challenge.

In accepting this new standard for LEI, law enforcement officers and agencies must develop a consistency in the meaning, use, and interpretation of critical terms and phrases. Intelligence is often used generically, with different interpretations depending on the experience and perspective of the user. Without a common lexicon, as well as a consistent understanding of the products and processes associated with terminology in the lexicon, there will be reduced levels of communication and less efficacious information sharing.

Despite recent advances and the promise of emerging technologies, for the foreseeable future LEI will remain a process couched on human interaction and intervention. Computer applications and technology streamline and make efficient the process of acquiring, analyzing, interpreting, and presenting information and intelligence

to consumers. These processes cannot (and perhaps should not) take place in the absence of human intervention. Existing technologies cannot replicate the actions, decisions, choices, and strategies of a skilled and trained analyst. Computer networks can augment, but not replace, the personal and professional networks developed by those working LEI assignments. Further, while technology fosters the acquisition of many forms of information, some of the most valuable investigative and LEI leads are based on information gleaned through the interactions police personnel have with suspects, witnesses, victims, and informants.

While it is the most common challenge confronting any new initiative, it is necessary to note that sufficient resources must be devoted to the intelligence function. Disparity of raw resources and/or the inability or unwillingness to devote resources to the intelligence function will limit the ability of any intelligence initiatives to be meaningful. Resources include personnel assigned to the intelligence function, tools and equipment allocated to intelligence responsibilities, on-going training, travel funds, support staff, and even office space and supplies. Not all agencies will make a proportional investment. In turn, this will result in different qualities of intelligence products, different capabilities for information sharing, and different responses to information received. It should be noted, of course, that in many cases the lack of resource investment may not be the result of indifference to the intelligence function, but overall limited resources that must be rationed among all police functions.

Training and re-socializing personnel is an essential ingredient for the comprehensive evolution of LEI. In order for the intelligence training standards of

the National Criminal Intelligence Sharing Plan (NCISP) to have an effect, the ability to enforce the standards must be developed. With respect to this challenge, a major obstacle must be overcome: If a law enforcement agency does not have access to high-quality, effective training, the value of the standards is diminished. For the training to be effective, those individuals providing the instruction must be subject matter experts, be effective trainers, and have curricula that are consistent to the standards. Regardless of how well the training standards are framed, if a law enforcement agency receives substandard quality training or training programs that do not adhere to the standards, the goals will not be met.

Another challenge is the recognition that in some agencies it is unlikely that an intelligence capacity will be developed. If a law enforcement agency is incapable of developing an intelligence function, then the effects of any standards for information sharing and training are negated. There are several factors that are embodied in this challenge. First is that the infrastructure of a law enforcement agency is incapable of performing the intelligence function. The inability to develop and implement a strategic vision, inefficient resource management, a poorly structured organization (such as either over-specialization or under-specialization), and/or ineffective personnel deployment may inhibit the ability of the department to create a functioning intelligence capability. If a law enforcement agency is unable to perform the intelligence function because of structural inefficiencies, then standards are largely irrelevant for that agency.

Second is related to geographic limitations, to expertise and connectivity. Despite the capacity for travel and the ability to communicate through networking technology and digital wireless telephones, the fact remains that there are

locations in the United States that are geographically isolated. Geographically remote locales often are the last to receive training and technical assistance on any issue. It could be argued that such locations have a lesser need for the intelligence capacity. Conversely, such locations could also be attractive to terrorists and criminals as a place to meet and develop plans and logistics under the assumption that the law enforcement agency will not be as sophisticated or equipped to deal with them.

The third factor is that personnel have no interest in the intelligence function and/or do not feel the function applies to them. The experience of many who have worked with law enforcement intelligence has found cases where agencies are well managed, but simply do not believe the intelligence function is needed or, perhaps, that it does not apply to them.

Fourth, past abuses of law enforcement intelligence and fear of lawsuits make executives unwilling to create an intelligence function. Regardless of the rhetoric and plans associated with the “new and improved” law enforcement intelligence, past abuses are not easily erased from memory. Somewhat related to this challenge is the fifth factor: political opposition within the community and/or by elected officials to having an intelligence function in a law enforcement agency. While the will of a police executive may be to create a new law enforcement intelligence unit, there are communities within the U.S. that will not support a police leader who proposes such as unit.

Finally, different types of law enforcement agencies have different types of needs. The eclectic nature of law enforcement agencies in the U.S. inherently serves as a limitation. Beyond the layering of governments, there are many specialized agencies of which

variability alone poses challenges of jurisdiction and applicability of generalized standards. Whether American law enforcement agencies can overcome these and other challenges will be critical in determining the state of LEI in 2020. As is often the case, the challenge lies not in recognizing the barriers and limitations, but in developing strategies and acquiring resources with which to overcome those circumstances.

CONCLUSION

Forecasting is always a tenuous activity – it is typically an educated guess based on known social and demographic trends. However, a significant variable for which there are limited reliable trends is the political environment. Despite these factors, the authors have proffered three elements in looking at LEI in 2020:

1. An examination of a short yet significant trend in change and developments in LEI that were propelled by the terrorists' attacks of 9/11.
2. Conservative forecasts of how these current trends will mature over the next decade.
3. Potential obstacles to the realization of LEI goals and standards, notably as articulated in the NCISP.

As is the case with any analytic activity, intelligence analysis and information sharing can aid law enforcement agencies to work more efficiently and effectively. This is particularly important in the new unfunded mandate of homeland security faced by state, local, and tribal law enforcement agencies.

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28 Code of Federal Regulations Part 23

Chapter Nine

POLICE INFORMATION MANAGEMENT

Sean P. Varano, Jeffrey M. Cancino, James Glass, & Roger Enriquez

EXECUTIVE SUMMARY

Information has played a central role in modern police organizations since data collection procedures were first instituted in the early 1930s. The amount and complexity of information, along with the sophistication of analysis, has evolved substantially over a short period. While the collection and analysis of information was intermittent in the early 20th century, it has become routine for many police departments. For example, a 2000 survey of law enforcement agencies found that 60 percent of all agencies use computer-driven records management systems, 40 percent have automated personnel records, 32 percent maintain computer generated dispatch data, and 30 percent perform computer-driven crime analysis. Although such systems are more common among larger agencies, a sizable percentage of smaller agencies also reported extensive use of information systems. While 80 to 90 percent of law enforcement agencies serving populations of 100,000 or more reported using computer-aided crime mapping, 30 to 50 percent of agencies serving populations between 25,000 and 100,000 also employed some form of computer crime mapping (Hickman and Reaves 2003).

Crime analysis systems, one type of information management system used in police organizations today, have been adopted with considerable fervor over the past decade. Not only have law enforcement organizations adopted such technology, many report that these systems are important to their organizational missions. Mamalian and

LaVigne (1999, 3) surveyed 2,004 police departments across the U.S. and showed that 85% of the respondents indicated that crime mapping was a valuable tool for their department. Recognizing the importance of information and technology, the federal government established the Crime Mapping Resource Center (now the Mapping & Analysis for Public Safety program) to educate and promote the successful management of information and technology in ways that have wide-range social, political, and economic implications for law enforcement and their constituents.

Computer-aided crime analysis is capable of revolutionizing policing by creating a framework for integrating information, technology, and police resources. Law enforcement organizations across the United States are using this approach to address a host of community problems. Research shows that police departments have linked information and technology to study violent, property and drug-related crimes (Groff and LaVigne 2001), hotspot identification and police workload need assessments (Rich 2001), and evaluate community policing initiatives (LaVigne and Wartell 1998).

While the term “information technology” covers a wide spectrum of topics, this chapter discusses the role of information and information systems in modern law enforcement agencies. We briefly discuss the evolution of information management from the pioneering Uniform Crime Report (UCR) to large scale federal funding that has pumped millions of dollars into local and state police organizations to enhance strategies for gathering and analyzing data. We also discuss the *role* that information plays in police organizations, followed by the symbolic nature of information. Here, information is characterized according to symbolic organizational accountability and prestige. The subsections that follow identify other sources of information, such as

Record Management Systems (RMS), dispatch systems, and intelligence systems (e.g., Field Interviews). The chapter concludes with illustrative (e.g., maps and figures) accounts of the San Antonio Police Department's (SAPD) strategies for using information to better inform patrol operations. Finally, we argue that the future of policing is most effective and efficient when information technology (i.e., its collection, process, and analysis) is less reactive, and is applied at the patrol level in more proactive ways. For example, the use of hand held wireless computers by officers is likely to be a common police practice for the purpose of retrieving information in a timely manner.

HISTORICAL PERSPECTIVE ON POLICE INFORMATION SYSTEMS

As American policing evolved from the political to the professional model, reformers recognized a need for: (1) the collection of information and (2) the use of technology (i.e., software) to analyze such information. Professional model reformers such as August Vollmer and O.W. Wilson endorsed a concept known as *knowledge based policing*. This concept emphasized administrative efficiency and organizational effectiveness via information and technology. Early technological advancements included the introduction of motorbikes, vehicles, and later, the use of forensic science to help solve crimes (Uchida 1993, 27). Advances were not limited to transportation, however. Indeed, one of the more salient contributions during the professional era was the use of mobile communication devices. For example, the introduction of motorized patrol corresponded with the need for officers to stay in communication with headquarters (i.e., dispatch). Police organizations accomplished this task by developing two-way communication devices, which in turn, allowed officers to stay in the field and respond to multiple calls for service.

While police reformers recognized that collection of information would be a slow and accumulative process, in 1930 it became a reality when the Federal Bureau of Investigation (FBI) established the Uniform Crime Report (UCR). The UCR was the first¹ systemic attempt to collect police data from jurisdictions across the United States. The UCR served as a model for other data systems in the criminal justice system. For example, in 1931 the Wickersham Commission praised the FBI and encouraged other criminal justice agencies to model databases after the UCR (Dunworth 2000). Arguably, the UCR can be viewed as a significant accomplishment in the criminal justice system. The commitment to collecting and “digesting” crime data was important in several respects. First, reformers were committed to efficient and effective policing and crime data would shed insight into their own departmental operations. Second, cross-jurisdictional data collection could reveal something about the relative “health” of communities.²

While imperfect, the UCR remained “the [n]ation’s only barometer of crime levels” (Dunworth 2000, 375) for the next three decades. The President’s Commission on Law Enforcement and Administration of Justice in 1965 identified several shortcomings regarding the quantity and quality of information collected within the framework of the criminal justice system. While the UCR was an important measure of crime trends, the Commission reported a gross underreporting of crime (i.e., dark figure of crime) that made assessment of crime trends difficult. For example,

¹ While the UCR was one of the first attempts to systematically collect crime data in the United States, Decker argues the attempts to quantify crime data dates back to the early 19th century and possibly earlier (as cited in Dunworth 2000, 374).

² Cross-jurisdictional comparisons of crime data are fraught with problems that could affect the picture of crime including different crime definitions and different data collection procedures. Although the FBI has warned against making cross-jurisdictional crime comparisons, it has been routinely conducted since the inception of the UCR.

victimization surveys revealed crime to be extensively *underreported*. The Commission solidified the need for timely, accurate, and meaningful information. In addition, the Commission identified the federal government as a key player in coordinating such data collection strategies (Dunworth 2000, 376). The federal government would go on to spend millions of dollars in grants to increase data collection procedures across police departments.

THE ROLE OF INFORMATION IN POLICE ORGANIZATIONS

Before proceeding further, it is important to distinguish between three concepts: (1) information, (2) information management, and (3) analysis. *Information* refers to a broad range of data available to police executives, patrol officers, and administrative staff, such as crime events, victim/offender characteristics, criminal histories, dispatch records, and the like. Information is used to evaluate recent and emerging trends, forecast future events, prepare and present reports, and inform local, state, and federal agencies. Information, however, is not exclusive to crime. For example, police departments collect non-crime related information regarding police personnel, performance indicators, and other work-related information (e.g., citizen-police complaints).

A related concept, information management, relates not only to information itself but how the information is further utilized within police organizations. Thus, *information management* refers specifically to types of technology devised to collect, analyze, and report information. For example, a police department often has one system to manage criminal incident and arrest data, a separate system to manage

dispatch data, and a third system to manage administrative data. However, collection of information does not necessarily ensure the capacity for the third concept: analysis.

From a practical perspective, police departments regularly characterize *analysis* of information in terms of crime analysis. Crime analysis involves the collection and processing of information for the purpose of problem solving and planning. Information is analyzed in ways that represent spatial, temporal, and topological patterns of crime. For purposes of this chapter, the terms *information*, *information management*, and *information technology* are used interchangeably, and reflects the marrying of both information and technology that produce an analytical outcome that police can use in their daily operations. In the next subsection, we consider the role that information management plays in police organizations by addressing its symbolic characteristics, followed by the strategic and tactical role of information management.

The Symbolic Role of Information

Manning (2001) argues that information and technology are an inherent part of attempts to “rationalize” policing. In this respect, information-technology is viewed not just as a discrete process with specific functionality, but part of a larger institutional shift in policing. In general, the early 20th century involved a broader movement toward organizational accountability and rationalization; and policing was a beneficiary of this movement. For instance, collecting and analyzing information created a more bureaucratic work environment for police (Gaines, Worrall, Southerland and Angell 2003). Information is crucial to the rationalization process of policing; it is central to budgeting, management, personnel allocation, and career guidance. Moreover, it serves “the public in an explicitly calculative fashion” (Manning 2001, 84).

Innovation in policing is driven by internal and external pressures to resemble rationalized bureaucracies. There are “market-driven demands” placed on police organizations to increase efficiency and effectiveness and information technology plays a part in this transformation (Manning 2001, 88). Information technology is characterized according to two distinct symbolic policing purposes: (1) formal authority and (2) organizational respect and prestige.

Symbolically, information technology represents the formal authority system of organizations (Manning 2003). Here, the quality or usefulness of information gathered is not necessarily important. Instead, information represents organizational-technocratic imperatives dictating that certain commands and processes are followed, regardless of their practical application. Stated differently, information technology is bureaucratic in nature and sets standards of accountability. Police case studies documenting the degree of information technology initiatives support the conclusion that technology is regularly underutilized (Skogan, Hartnett, DuBois, Bennis and Kim 2003). It is not uncommon to hear officers’ frustrations about conducting field interviews (FI)³ because such information is filed away and never analyzed. Officers are sometimes concerned that FI’s serve a management versus crime fighting purpose.

Information technology also holds the symbolic potential for providing a degree of respect as it implies access to resources, commitment to innovation, organizational leadership, and a degree of sophistication among employees. A lack of information technology can also signify a “backward” agency unable or unwilling to keep up with

³ A field interview or field interrogation (FI) is when an officer encounters an individual on the street that may or may not be involved in delinquent/criminal activity. A field interview can be a useful way of documenting where and when contact was made, but also document any other additional intelligence gleaned during the encounter. From an investigative standpoint, field interviews can be a way of documenting who frequents certain areas, associates of individuals in the case where more than one individual is interviewed, or personal identifiers such as vehicles, style of dress, tattoos, or other distinguishing marks.

technological changes. For example, in 1992 the Commonwealth of Massachusetts merged the Metropolitan District Commission (MDC)⁴ police force with the Massachusetts State Police in an effort to better coordinate resources. The Massachusetts State Police absorbed much of the MDC personnel into their operations. Former MDC officers deeply resented the merger because they were reassigned from a technologically advanced organization with mobile computers to a department that was technologically antiquated. A former MDC officer reported that “a good number of patrol cars *still* don’t have mobile computers, nearly 15 years after the merger” (O’Connell 2004). This attitude is reflective of the pride associated with being part of “technologically advanced” organizations. Indeed, there is a history of assigning accolades to public organizations based on their level of technology. New York Police Department’s Compstat program has received awards from Harvard University and recognition from former Vice President Al Gore due to their commitment to implementing information-driven crime reduction and management practices (Weisburd, Mastrofski, Greenspan and Willis 2004).

The Strategic and Tactical Roles of Information Management

While information technology is symbolic in nature, value lies in its ability to increase organizational effectiveness and efficiency. The rapid development in information technology “has promised and sometimes delivered significant improvements in information processing capabilities” (Dunworth 2000, 379). There are three areas where information and information management (as defined by the ability to record and analyze such data) capabilities have the greatest potential to

⁴ The MDC performed, among other duties, primary patrol over urban roadways and most of the state owned public parks.

positively influence police organizations. Information management holds the potential to help: (1) better understand cross-sectional and longitudinal features of crime, (2) assist patrol through enhanced communication and remote connectivity, and (3) enhance personnel management (e.g., problem officer early warning systems). For the purpose of this chapter, we focus exclusively on crime analysis related data sources and analytical strategies.⁵

Sources and General Applications of Crime Data

As discussed earlier, police reformers developed the UCR as a way of providing a national crime measure. Recall that the UCR is limited because it only provides an aggregate picture of crime levels. More precisely, it represents only aggregated crime totals for predefined crime categories. For example, index crimes are considered the most serious and include murder and non-negligent manslaughter, forcible rape, robbery, aggravated assault, property crimes of burglary, larceny-theft, arson, and motor vehicle theft.⁶ Yet there are limitations to UCR data that hamper its practical application in terms of tactical and strategic decision making (Maxfield 1999).

Police departments have more recently been developing record management systems that collect additional elements about crime events such as temporal characteristics, spatial locations, victim/offender characteristics, features of motivations, and weapon involvement, none of which are reported as part of the UCR. Crime information is often managed in Record Management Systems (RMS). Dunworth (2000,

⁵ Walker, Alpert, and Kenney (2001) describe how police information can be used to predict problem behavior among police officers.

⁶ Included among the non-index crimes are negligent manslaughter, nonaggravated assault, forgery and counterfeiting, fraud, embezzlement, stolen property, vandalism, prostitution, weapon offenses, sex offenses, drug laws, gambling, etc.

380) argues that a comprehensive and fully functioning RMS system “should include crime and arrest reports, personnel records, criminal [history] records, and crime analysis data.” RMS systems can also store information that is important to officer safety, such as integrating weapon ownership information. In the case of domestic violence calls, such information would be useful in determining whether residents of the location legally own a firearm. A recently implemented RMS system in New Bedford, Massachusetts includes facial recognition software that can scan individual digital images and identify people who share common facial features but different names. These integrated systems present functionality that centralizes most crime-related information.

The generation of crime data (e.g., dispatch, criminal incident, arrest data, etc.) is usually initiated via citizen emergency calls for service to the police. In the case where a citizen discovers a crime, such as burglary, they are likely to call “911” and request that an officer respond to the scene.⁷ The dispatch officer will determine the priority of the call based on the seriousness of the crime, as well as whether the incident is still in progress (a “hot call”). A police officer then responds to the crime, conducts a preliminary investigation to determine whether a crime has been committed, and “takes a report” if the decision is made that a crime has occurred. A police report typically contains basic information about the complainant or individual making the call, the location of the event, property damage information, victim information, and any known information about suspects. In most cases, the preliminary reports are handwritten on standard incident report forms at crime scenes.

The use of information systems for the purpose of recording crimes can vary

⁷ This typical scenario differs by crime type. While citizens usually bring crimes to the attention of the police, other types of crime (e.g., truancy, curfew violations, drug sales/buys, prostitution, loitering, etc.) are more likely to be discovered through proactive police investigations.

across agencies. In some departments handwritten (or typed) reports are then sent to a team of data entry clerks for data processing. Officers in other departments are responsible for processing their own reports during their shift by returning to the station and recording the information in the departmental records management system. In more advanced departments officers have mobile data terminals or mobile computers in their patrol cars that allow officers to complete the electronic submission of the report while in the field.

Many larger departments, and some smaller agencies, have a specialized unit responsible for managing crime and other data sources (Hickman and Reaves 2003). These units are usually known by a name resembling “Management Information Systems (MIS).” MIS units are comprised of sworn personnel and non-sworn technical personnel who work in tandem to manage the large volume of information that comes into police departments. Data entry personnel are usually included in this unit. MIS units perform multiple functions that include maintenance of infrastructure (i.e., equipment, networks, software, and communication systems), data entry of police reports (if applicable), “cleaning data” by verifying the accuracy of the entry, and other tasks. Organizationally, MIS units are located within the administration (in contrast to enforcement) of police departments. The crime analysis unit in the Detroit Police Department, for example, is located within the Major Crimes Division while the Records Management Unit is located under the Administrative Assistant Chief.⁸

⁸ See http://www.ci.detroit.mi.us/police/pdf/complete%20flowchart_www-4.pdf for Detroit Police Department’s organizational chart.

Other Crime-Related Information: Dispatch Systems, Field Interviews, and Case Management Systems

Police organizations collect and use a variety of information. The following underscores three major information sources available to, and used by, police personnel. These include dispatch data, field interviews (i.e., intelligence), and case management systems. Police dispatch data are one of the most voluminous sources of information. Dispatch systems are commonly known as “E-911” or computer-aided dispatch (CAD) systems. These systems can be conceptualized as the link between citizens and government services. Early 911 systems can be traced to the 1950s but were not universally adopted until the 1990s where they are present in over 85% of all jurisdictions (Dunworth 2000, 385).

From an organizational perspective, dispatch data reflect citizen requests for service. Dispatch data *do not* necessarily provide an accurate picture of the total volume of crime in a location, but instead, reflects the level of citizen service needs. Police are often dispatched to a much larger volume of potential complaints than official crime statistics reveal (Maxfield, Lewis and Szoc 1980). On average, the City of San Antonio records approximately 85,000 official crime incidents per year, but over 850,000 calls for service. A substantial part of this discrepancy can be explained by police officers making the determination that a crime did not occur once they have responded to the location and conducted an investigation (Klinger 1997).

In many ways, dispatch operations serve to filter information between the police and public. Citizens requesting police services initiate such requests through centralized dispatch centers (e.g., E-911 systems). While the nature of dispatch varies

between agencies, dispatchers are responsible for directing non-emergency/emergency calls. For some minor non-emergency situations the dispatcher might instruct a caller to make a report at a local department substation or make a report via telephone or internet-based report system. Dispatchers also determine if a call is a high priority such as “man down” (presumably from a violent crime), “shots fired” or “crime in progress” and assign the necessary patrol resources to handle the situation in an expedited fashion. Dispatch data can be useful for determining police workload and response time.

Field interviews (FI) are a source of information derived from police-citizen contacts. As previously mentioned, police-citizen FI contacts serve as an intelligence-gathering tool. Information is recorded on FI cards (actual card or other form) that contain personal information of those contacted including name, date of birth, residence, and other distinguishing features including style of dress and tattoos. FIs can be useful for documenting individuals who, for example, “hang out” in high crime neighborhoods or crime prone locations such as city parks or shopping malls. Field interview forms also capture information on vehicles (e.g., make, model, year, and vehicle identification number) associated with the encounter. Interviews are proactive in nature and may prove useful in the future. More advanced RMS systems will include a FI component that has the capability to query individuals and vehicles against other data systems.

In terms of case management systems, police regularly collect and/or access information that is managed by external third parties. Automated fingerprint systems, national and state criminal history data, and firearm identification systems

are regularly used by police organizations. Automated Fingerprint Identification Systems (AFIS) collect and store images of fingerprints. AFIS systems are coordinated at the state and national level. The Integrated Automated Fingerprint Identification System (IAFIS) is a national database that stores ten-print fingerprint images and integrates this information with criminal history information. Fingerprints are collected for criminal (e.g., pursuant to an arrest) and non-criminal (e.g., when individuals apply for employment requiring criminal history checks) purposes. Prior to implementation of the IAFIS system in 1999, manual fingerprint searches took approximately three months. Requests are now submitted electronically and take approximately 2 hours, thereby increasing public safety.

The National Crime Information Center 2000 (NCIC 2000), a revised version of the NCIC system, is maintained by the United States Department of Justice's Criminal Justice Information Center and provides a variety of information to law enforcement agencies. Among these law enforcement services are criminal history, fingerprint searches that query "wanted persons" files, and probation and parole information. The enhanced NCIC 2000 system also supports graphical files such as mug shot photos, images of signatures, and images of personal possessions (e.g., automobiles). In general, the availability of digital images and other data elements can increase officer safety. For example, the NCIC 2000 system includes interoperability features that directly interface with mobile computer systems in patrol cars. Overall, NCIC 2000 represents an assortment of sources for investigators and patrol officers. The efficacy of the NCIC 2000 system is highly contingent on the quality of initial data entry.

Using Information in Police Organizations

The capacity of police organizations to collect information has evolved considerably since the UCR. Government units have invested billions of dollars over the past few decades to build the information-technology infrastructure for law enforcement. The Office of Community Oriented Policing Services (COPS), one of the United States Department of Justice's major grant funding agencies, reports that it has committed over \$1 billion in technology grants since 1995 (Office of Community Oriented Policing Services 2002). The COPS office allocated nearly \$400 million to crime fighting technologies in 2003 (United States Department of Justice 2005). Information technology now represents a key area of police expenditures.

Information is the lifeblood of the modern police agency. In essence, the collection and management of information plays a critical role in many police organizations. Current technological infrastructures permit organizations to collect and record a plethora of data. Such information has the potential to "revolutionize" policing in ways not fully realized (Dunworth 2000, 379). The challenge presented to executives and analysts is what to do with this information and, furthermore, how can this data assist an organization in achieving multiple organizational goals. Related to this challenge is analyzing data in ways that are useful for patrol officers.

Crime analysis offers significant ways to improve the daily operations of law enforcement agencies. It provides the capacity for "systematic analysis of data drawn from a series of criminal incidents rather than focusing upon a single incident" (Dunworth 2000, 390). Reuland (1997) identified four functions of crime analysis: administrative support, investigation, clearing, and prevention.

Administratively, information can be used to create patrol officer deployment strategies. Deployment strategies are commensurate with the size of the jurisdiction, nature of the crime problem, and complexity of the organizational structure. In smaller jurisdictions, for example, deployment strategies are relatively one-dimensional (e.g., patrol officer). Large cities, in contrast, have to coordinate coverage of multiple precincts and a variety of specialized units including traffic, investigations, and administrative support.

Crime analysis is also useful from the perspective of crime prevention and intervention. Police departments have invested heavily toward increasing their capacity to successfully reduce levels of crime. Depending on the problem, an analysis plan might involve dispatch data, incident/arrest data, information on probationers/parolees, criminal history systems, and field interviews or other intelligence files. Information is limited only by the data available to crime analysts and their creativity in understanding how it can be applied.

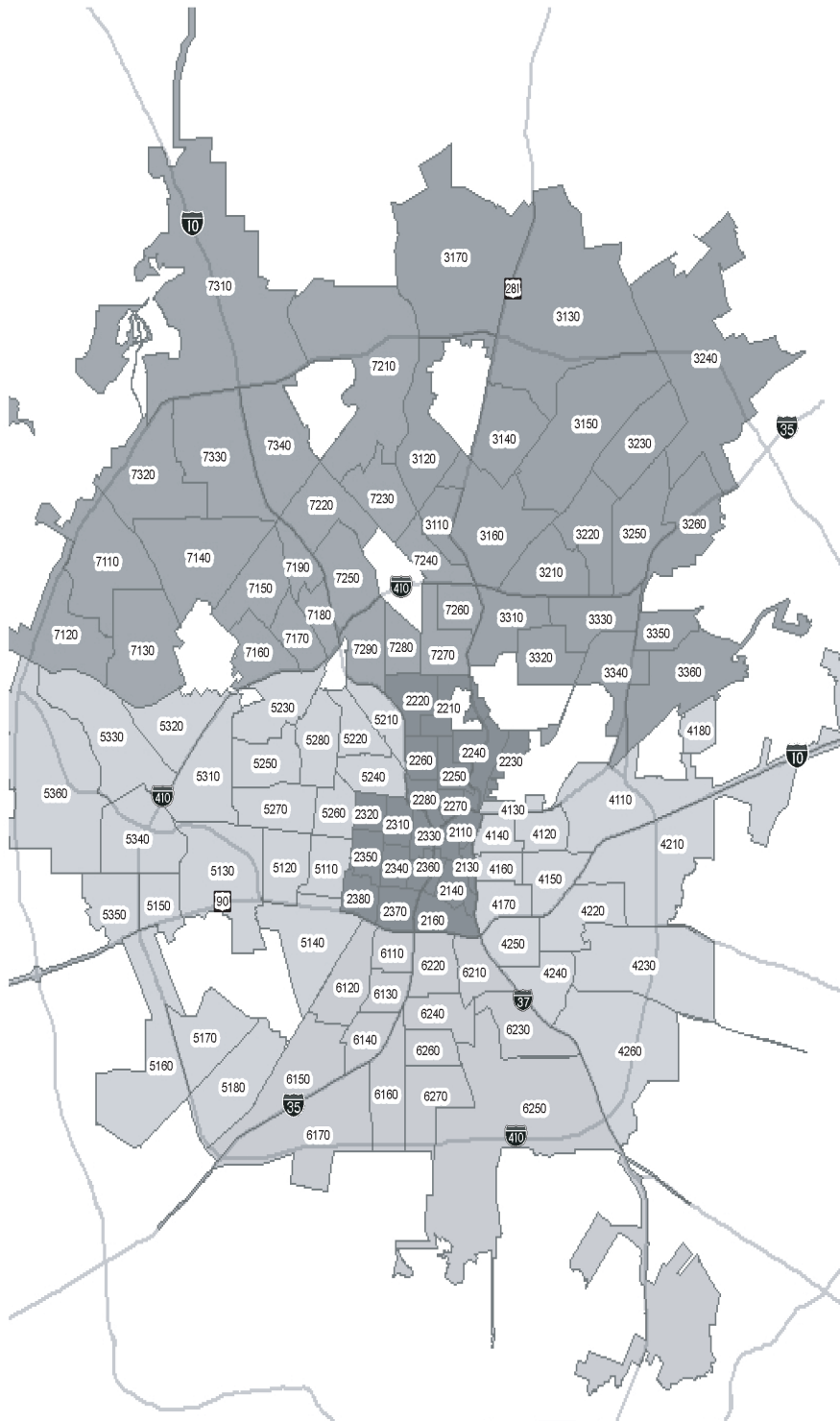
In contemporary police organizations, specialized crime analysts may be sworn police personnel or non-sworn civilians. It has evolved into a largely specialized function that requires analysts who possess sufficient skills, analytical competencies, and an understanding of police-related business (Hickman and Reaves 2003). In smaller-to-midsized agencies, sworn officers who have demonstrated these competencies are responsible for crime analysis. In contrast, in large departments, civilians assume analyst roles. The following subsection describes ways that information and technology are used within the San Antonio Police Department (SAPD) to help understand crime patterns and trends.

Crime Analysis in Action: San Antonio Police Department

“Knowledge” represents the “linchpin of effective crime control and prevention” strategies (Glensor, Correia and Peak 2000, 123). Organizations can be differentiated based on their ability to collect, analyze, and disseminate information. The challenge faced by police departments is bridging the analysis of information with individual officer decision-making in an intentional way (Greene 2000). Greene (2000) articulates a model of moving the consumption of information beyond management, and down to line-level officers providing policing services. Based on SAPD’s various kinds of data collection, quality of Research and Planning Unit analysts, and overall use of technology, we argue that such developments have the potential to influence data-driven patrol operations.

The SAPD employs over 2,000 sworn personnel; approximately 1,000 are assigned to patrol. Geographically, the city is divided into six service areas and 113 patrol districts (see Figure 1). These patrol districts vary in size from .3 to 26.3 square miles with populations ranging from less than 1,000 to over 22,000. Each of the 113 patrol districts is manned by at least one officer per eight-hour shift throughout the year. The geographic dimensions of patrol districts are drawn in such a way as to normalize the anticipated workload. As Figure 1 shows, Loop 410 creates a beltway around the City of San Antonio. This roadway represents the major route connecting all of San Antonio.

Figure 1. Service Area (n=6) and Patrol Districts (n=113) Maps of San Antonio, TX.



To truly “revolutionize” policing as suggested by Dunworth (2000), information technology must have the capacity to create data-driven patrol approaches. By data-driven patrol, we are referring specifically to patrol and investigative strategies that are grounded in temporal and spatial characteristics of crime. Crime analysis units and/or personnel represent basic commitments to implementing data-driven patrol.

“Crime analysis” refers loosely to the analysis of crime patterns. There is no commonly agreed upon crime analysis “template” or standardized analytical strategy to address crime problems. Common strategies for presenting police information are through summary statistics that document citywide crime frequencies. Table 1 shows the total number of serious personal and property crimes that occurred in San Antonio between 2002-2004. These crime codes do not represent an exhaustive list of all crimes that occurred during the specified period; instead, they reflect serious crime categories that drive community and law enforcement concerns. Considering the frequency of different types of crimes, the data indicate that burglary is the most reported, followed by auto theft, aggravated assault, and robbery.

Table 1. Yearly Crime Trends in San Antonio, TX.

Crime Type	2002	2003	2004	% Change (2002-2004)
Murder	100	85	95	-5%
Aggravated Assault	7194	4570	4948	-31%
Rape	464	537	677	46%
Robbery	2114	2071	2132	1%
Arson	582	550	538	-8%
Auto Theft	5743	6202	5667	-1%
Burglary	13368	14619	14720	10%

Another concern is crime *trends*. Trends represent an evolving change in crime patterns. Table 1 presents the change in crime between 2002-2004. Interestingly, trends were not consistent across crime types. For example between 2002-2004, San Antonio experienced a 5 percent decrease in homicide and a 31 percent decrease in aggravated assault, but witnessed a 46 percent increase in rape. For property crimes, there was a 10 percent increase in burglary, but an 8 percent decrease in arson and 1 percent decrease in auto theft.

The information presented in Table 1 lacks tactical significance. This information gives command staff or patrol officers no ability to understand changing crime patterns faced in the past, thereby limiting any ability to make changes in patrol strategy to address emerging crime patterns. Figure 2 presents a snapshot of 30-, 60-, and 90-day crime trends based on the analysis date of January 11, 2005. The table disaggregates many of the crime categories from Table 1 into more distinct groupings. Murder, for example, is disaggregated into capital murder, murder, and manslaughter. Robbery is similarly disaggregated into aggravated robbery and robbery of businesses and individuals. The “aggravated” designation refers to the use of a weapon during commission of the crime. Disaggregating tactical crime trends gives additional insight into emerging crime problems.

Figure 2. Tactical Analysis of Recent Crime Trends in San Antonio, TX.



CITYWIDE



CRIMES AGAINST PERSONS

CRIME TYPE	LAST 30 DAYS	LAST 60 DAYS	LAST 90 DAYS	2003 YTD	2004 YTD	% Change
Capital Murder		1	3	28	17	-39%
Murder	3	7	15	66	71	8%
Manslaughter		1	4	16	13	-19%
Agg Sexual Assault	20	62	99	774	793	2%
Sexual Assault	21	59	121	815	784	-4%
Agg Robbery Individual	80	167	251	818	989	21%
Agg Robbery Business	36	81	126	578	476	-18%
Robbery Individual	50	108	166	784	790	1%
Robbery Business	5	19	34	155	144	-7%
Agg Assault	36	102	187	1,021	938	-8%
Assault	428	1,057	1,878	10,176	9,495	-7%
Agg Family Assault	6	35	59	336	282	-16%
Family Violence	620	1,476	2,426	10,715	11,358	6%
Deadly Conduct	45	101	166	820	855	4%

PROPERTY CRIMES

	LAST 30 DAYS	LAST 60 DAYS	LAST 90 DAYS	2003 YTD	2004 YTD	% Change
Burg Habitation	492	1,301	2,209	10,361	10,134	-2%
Burg Building	201	742	1,119	5,073	4,993	-2%
Burg Vehicle	1,134	3,267	5,507	23,837	25,469	7%
Theft Vehicle	259	745	1,287	6,655	6,219	-7%
Arson	26	57	94	563	466	-17%

OTHER CRIMES

	LAST 30 DAYS	LAST 60 DAYS	LAST 90 DAYS	2003 YTD	2004 YTD	% Change
Drug Arrest	448	935	1,421	6,045	6,327	5%

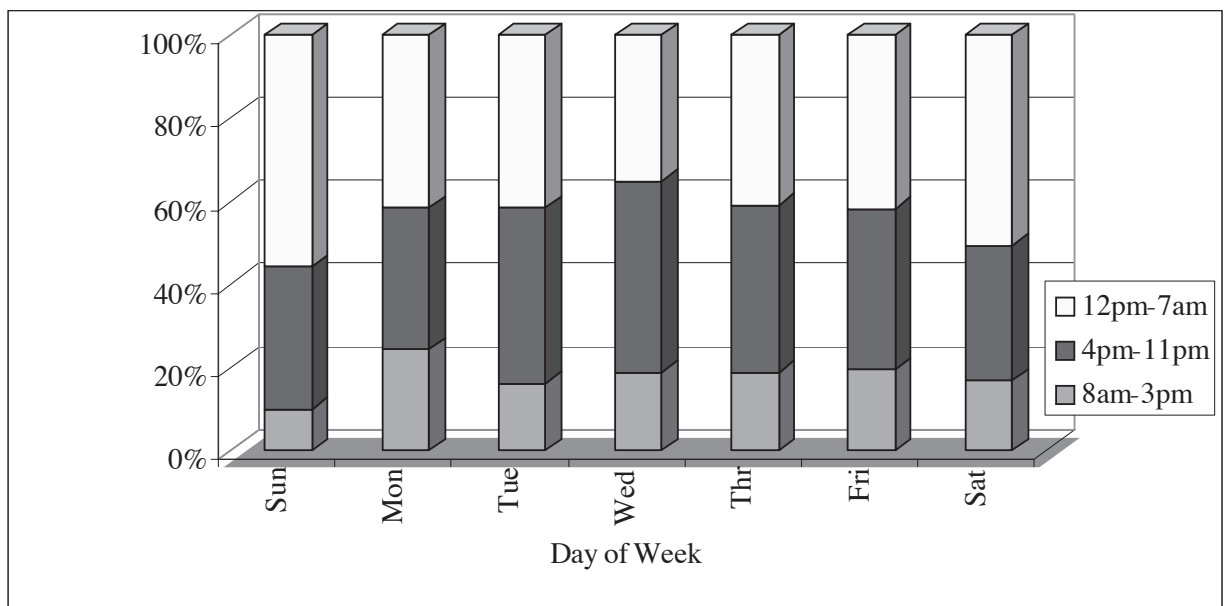
Analyses of crime data focus on questions of when (temporally) and where (spatially) crime occurs. Crime is not a social phenomenon that occurs at random. Crime follows certain temporal patterns by time of day, day of week, and season. Traffic problems, for example, may be more prevalent during early morning or late afternoon when people are commuting to/from work. Citizen complaints for disorderly youth might be greatest after school dismisses. In fact, research suggests that temporal patterns to juvenile crime corresponds closely with school dismissal hours (Snyder and Sickmund 1999).

The chart presented in Figure 3 represents temporal characteristics of 2004 armed and unarmed robberies that occurred in San Antonio. The chart reveals the relationship between weekday and time of day the robberies occurred. The three time categories reflect periods between 8am-3pm, 4pm-11pm, and midnight to 7am.⁹ Visual inspection of the chart indicates an interesting data pattern. Late night robberies (those occurring between midnight and 7am) occur on weekend nights and least frequently during weekday nights. Robberies that occur on weekdays occur earlier than those that occur on weekends. The smallest percentage of robberies occurred during day light hours regardless of weekday. There was, however, a notable peak in robberies that occurred during the workday on Mondays.

⁹ Each category goes through the end of a particular hour. For example, the first category covers the period between 8am and 3:59 pm. The three groups are exhaustive and mutually exclusive of one another.

It is possible that such temporal patterns are influenced by land use. Robinson's (2004) notion of "spatial interplay" suggests that geographical concentration of crime is associated with land use (e.g., commercial versus residential). Socialization patterns may vary based on day of week, which increases chances of victimization. Further inquiry into this situation could possibly reveal victims of weekday robberies that occur between 4pm and 11pm are employees of local companies socializing with colleagues who become unwitting victims. Similarly, robberies that occur on weekend nights might be reflective of cultural norms that delay socialization patterns to later on weekends. Nevertheless, understanding such temporal patterns provides insight into how patrol resources should be deployed and how prevention efforts might be implemented.

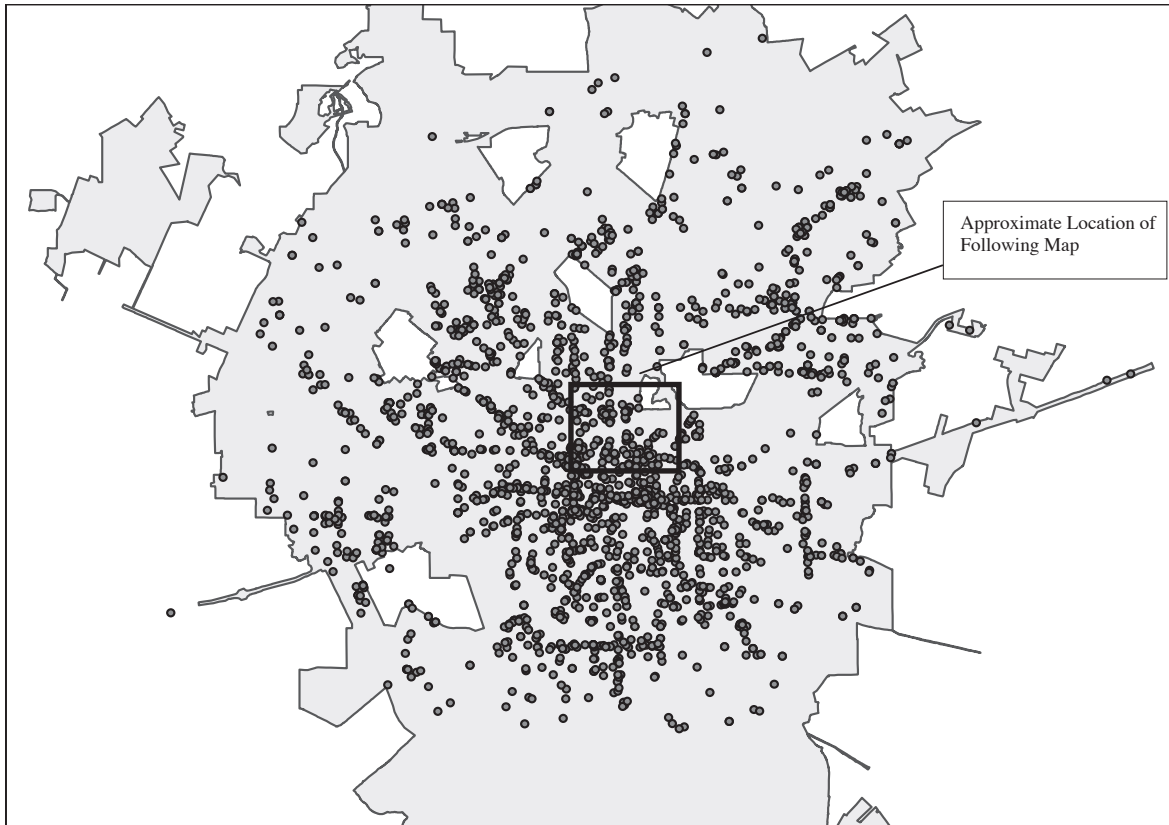
Figure 3. Temporal Characteristics of 2004 Armed Robberies in San Antonio, TX.



Crime also follows certain spatial patterns. The idea of crime “hot spots” for example denotes that crime is not randomly assigned but instead is disproportionately concentrated in certain locations. Most police departments divide their jurisdiction into smaller geographical units known as “zones,” “precincts,” “sectors,” or “districts,” and assign officers to such geographical locations across shifts. The SAPD divides the city into 6 service areas and 113 patrol districts (see Figure 1). Some agencies use geographical units based on Census Bureau “tracts” or “block groups.” Geographical assignments ensure that resources are not heavily committed to certain areas, while ignoring others.

Figure 4 depicts the locations of all 2004 robberies that occurred in San Antonio. Each dot represents one robbery event that was recorded by SAPD. This style of computer map is sometimes referred to as a “pin map.” When computers were not available, departments placed pins on large city maps that were mounted on walls. Each pin represented a crime event and police personnel used such maps as a way to track crimes geographically (Mamalian and LaVinge 1999). Several important features should be readily apparent. First, there were no reported robberies in a large part of San Antonio during 2004. Similarly, robberies were highly concentrated in the central part of the city. The graphic suggests that robberies tend to cluster in groupings. Although Figure 4 provides some inferences where robberies are disproportionately concentrated, it is difficult to make absolute conclusions regarding density.

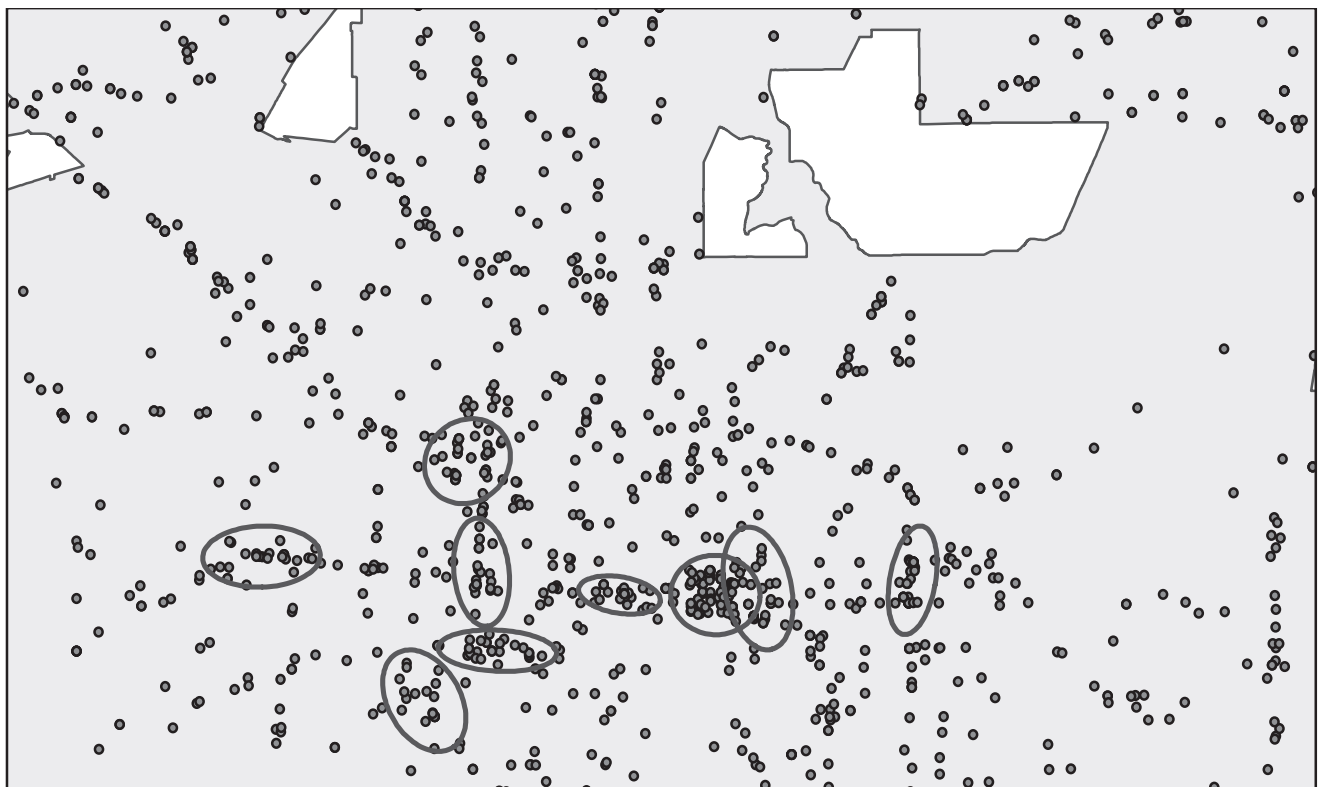
Figure 4. Spatial Distributions of 2004 Robberies in San Antonio, TX.



While citywide pin maps depicting the locations of crime events are interesting, their limitations are notable. They are of little value if one is attempting to utilize such information to direct crime reduction patrol strategies. To account for this problem, hot spot analysis has been developed as a way of determining specific locations where crime is disproportionately concentrated. Hot spot analysis amounts to a statistical evaluation that evaluates the clustering of events. Hot spot analysis can be conducted using a host of analytical tools, yet one of the most common is a free software program developed on behalf of the National Institute of Justice known as *CrimeStat*.

Figure 5 presents a hot spot analysis of San Antonio's 2004 robbery incidents. The map includes crime incident location but also shows an overlay of nine specific robbery hotspots computed with *CrimeStat*. The computation was based on statistically significant clustering of 20 or more robbery events. The advantage is that it specifies possible geographical points where robberies concentrate. Such analysis would then prompt additional analysis with the intent of identifying what may be responsible for these events. It could be that features of land use explain high concentrations of robbery.

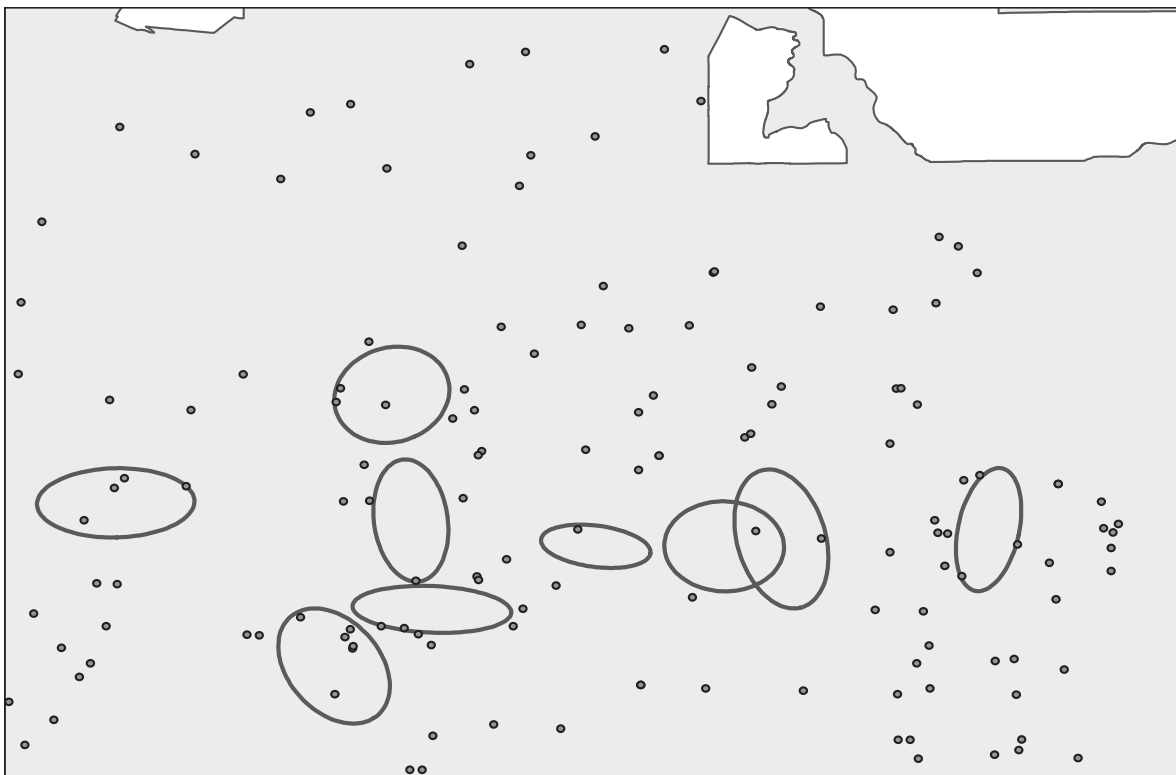
Figure 5. Hot Spot Analysis of 2004 Robberies in San Antonio, TX.



Another strategy for understanding the dynamics of crime hotspots is to map such events with residential locations of known perpetrators. Figure 6 depicts the same nine

robbery hotspots with an overlay of residential locations of individuals on probation for robbery. One of the crime truisms is that offenders commit crimes in close proximity to where they live. Thus, a police crime reduction effort could possibly begin with identifying individuals with known histories, and who reside near these locations.¹⁰ The figure indicates that some hotspots encompass the residence of one or more known robbers while several do not. If this information was being used for investigative purposes, detectives could link characteristics of the events reported by victims to help solve the crime.

Figure 6. 2004 Robbery Hotspots & Home Address of Robbery Parolees in San Antonio, TX.



¹⁰ This discussion is much more complex than suggested here. Rengert (2004) argues the distance that offenders travel to commit their crimes is closely connected to the type of crime. Individuals are likely to travel further distances for confrontational crimes to avoid being recognized. However, knowing where offenders live provides a meaningful point of analysis for any problem-solving effort.

Finally, we use a slightly different hot spot analysis technique to demonstrate the relationship between “time” of data and concentrations of motor vehicle theft. The hot spot analysis technique is a spatial tool provided by a leading spatial software program. As shown in Figure 7, the light gray areas are locations with low concentrations of auto theft while the dark gray, white, and black areas are the highest. One advantage of this strategy is that it presents a more complete picture of all crime events. Combining this information with a time of day analysis could possibly reveal points of police intervention.

Figure 7. Temporal and Spatial Distributions for 2004 Burglaries of Vehicles in San Antonio, TX.



The most interesting finding is that there appears to be a strong spatial quality to auto thefts in San Antonio. Auto thefts that occur during A and B shifts were highly concentrated along Loop 410. Loop 410 connects most areas of San Antonio with an interstate and parallel service roads that run along the main thoroughfare. The service road creates an easy exchange of traffic between the major roadway and surface roads that result in a complex but reasonably efficient traffic network. Numerous commercial establishments are located on the 410 service road throughout San Antonio. Thus, the high concentration of auto thefts along Loop 410 is likely related to the high concentration of commercial retail establishments. There is also a high concentration of auto thefts in the center city during A shift (6am to 2 pm). Features of land use and routine activities of residents and tourists should also be considered when examining the A and B shift crime patterns. Large numbers of shoppers frequent the commercial establishments during the day and evening hours creating sufficient opportunities for criminals to strike.

The figure for shift C (10 pm to 6 am) shows remarkably different patterns when compared to A and B shifts. The Loop 410 patterns observed during the A and B shifts largely disappear. While there appears to be higher concentrations of auto thefts in North San Antonio during C shift, nighttime auto thefts follow greater levels of geographical dispersion. One might argue that thefts are more likely due to the cover of darkness.

Overall, the data presented above is not an exhaustive crime analysis strategy. Instead, it represents one approach to integrating a variety of analytical techniques when processing information. Note that the evidence presented moved from a discussion on broad crime trends to a more narrow focus on type of crime, time of crime, crime location, and offenders.

MOVING BEYOND THE SYMBOLISM OF INFORMATION: THE FUTURE OF INFORMATION MANAGEMENT IN POLICE ORGANIZATIONS

At the dawn of the 21st century, police organizations are under pressure to institutionalize information technology. On one hand, internal pressures result from new management models that place greater demands on efficiency and accountability. On the other hand, external pressures are characterized by the public's demand for law enforcement organizations to resemble more professional bureaucracies. Recent attention to terrorism and national security has also placed pressure on police departments to collect, analyze, disseminate, and act upon terrorism-related intelligence. The fact remains that police departments are ill-prepared in responding to terrorism. While the federal government often assumes the role in collecting and disseminating terrorism-related information, local law enforcement is the first-line of defense. Consequently, local and state agencies need the appropriate infrastructure to collect and share data in a timely manner.

As the law enforcement community looks toward the year 2020, a series of recommendations are intended to increase the use of information technology. We recommend that attention focus on three core areas. Police organizations must: (1) continue to expand the technological infrastructure, (2) expand technical and analytical capacities, and (3) become information-driven aimed at proactive police strategies.

Recommendation One: Expand Information Infrastructure

The most important concern is for police organizations to build the capacity to collect and analyze information. An adequate collection process rests on the quality of the physical infrastructure, adequacy of software, and degree to which the equipment and

software “fit” the business model. The Department of Justice’s Office of Community Oriented Policing Services (COPS) has developed an excellent guide to assist law enforcement agencies that are in the process of planning or implementing such initiatives (see Harris and Romesburg 2002).

Infrastructure

Computer technology accelerates at such a quick pace that it is difficult to stay ahead of the curve. The sophistication of software applications and demand to expand the breadth of data collection requires that systems be developed to handle not just current technical needs, but anticipated future needs. It is vital that planning stages be coordinated by an individual (or individuals) who understands information technology and data collection (e.g., how cases are processed, how information is shared throughout an organization, etc.). Currently, there is an assortment of crime mapping software applications available. Some proprietary record management systems include crime analysis modules that provide a seamless integration of data collection and analysis functions. It is important that crime analysis software applications, systems both integrated with RMS systems or those that function independently, have the capacity to create customized reports. This capacity provides managers and analysts with the ability to create reports to fit local needs.

Newer RMS systems do not include adequate analysis functions. For example, the NIBRS-compliant RMS system in Massachusetts provides little-to-no ability to create customized crime analysis reports. In addition, the standardized off-the-shelf reports are inadequate for any analysis beyond basic summary statistics. To further complicate matters, there is a limited capacity to extract and upload data into standard database

systems, thereby limiting the ability to perform rudimentary crime analysis. Hence, RMS systems amount to expensive file cabinets that function merely to store information. Infrastructure planning should also consider the different kinds of analysis tools. Common off-the-shelf crime mapping and spatial analysis tools provide the ability to import, spatially analyze, and present crime data. These programs are quickly becoming standard crime analysis tools.

Other types of software infrastructure that directly impact police performance are data mining sources, such as Arizona's Coplink and Chicago's Citizen Law Enforcement Analysis and Reporting (CLEAR) system. Coplink is a web-based software that permits police personnel to consolidate, share, warehouse, and identify relationships within other sources of criminal information. CLEAR is a comprehensive database that contains millions of incident reports and other information dating several years that can be linked with a single query. More importantly, such queries can be performed from any of the 2,000 wireless, touch screen notebooks in Chicago Police Department vehicles.

Another way to utilize technology in the interest of public safety is for all states to employ Victim Information and Notification Everyday (VINE) systems by the year 2020. In 1997, Arkansas was the first state to implement VINE. In general, VINE system consists of a network of computers placed in county jails, prosecuting attorney's offices, the Department of Correction, the Attorney General's Office, and the Department of Community Correction, and local courts. Information is shared among these agencies in order to input and disseminate information on an offender's custody status. Using a touch-tone telephone, victims may register with the VINE system. After registration is completed, a victim will be notified of custody and/or

court status changes of an offender. Victims may also inquire about the status of an offender 24 hours a day, 7 days a week.

In terms of expanding the technological hardware used in the field, federal grants from the U.S. Department of Justice have allowed police officers to take a variety of information to the streets. Using handheld computers officers are better equipped to process information. For example, the Wayne County Sheriff’s Office in Michigan has successfully used these hand-size computers when serving warrants and identifying suspects via mug shots and criminal histories. It is highly possible that by the year 2020, these hand held computers will be equipped with in the field finger printing functions, as well as detection of bio-hazardous materials and gases for first responders.

Data Quality

Data quality is a critical, yet overlooked, aspect of information management. The saying “garbage in, garbage out” is more important than it might first appear. There is an alarming lack of oversight of data collection/data entry processes in many organizations. Responsibility for the supervision of data entry varies between agencies. Below are some common practices:

<u>Generates Data</u>	<u>Quality Control Responsibility</u>	<u>Recording Mechanism</u>
Patrol Officer	Patrol Shift Supervisor	Data Entry Personnel
Patrol Officer	Data Entry Staff Supervisor	Data Entry Personnel
Patrol Officer	None	Data Entry Personnel
Patrol Officer	None	Directly Into RMS System by Officer
Patrol Officer	Computer System Validation Rules	Directly Into RMS System by Officers

The five models indicate both different levels and types of supervision. Data quality control functions relate most specifically to ensuring reports are complete and accurate.

Common mistakes include missing data, miscoding crime types (e.g., simple assault versus aggravated assault), or miscoding of weapons. For example, a distinguishing characteristic between simple and aggravated assault is the presence and/or use of a weapon. Moreover, assault and battery are differentiated from other forms of assault in that the victim must be harmed through physical contact. Issues of quality control would ensure that weapon codes are properly recorded when weapons are used or that the nature of “harm” is recorded in situations of assault and battery. There is no “best” model for quality management, yet the chosen model should be able to measure data quality levels. The bottom line is that subsequent analysis depends on the initial quality of data entry.

Recommendation 2: Enhance Analytical Capacity

Community and problem-oriented policing advocates have long supported the adoption of problem-analysis strategies that move beyond reactive policing. Therefore, we propose a model where police personnel are trained and encouraged to consider proactive strategies aimed toward reducing the *causes of crime*. The “crime triangle” concept suggests that a motivated offender and vulnerable victim must come together in time and space for a crime to occur. Thus, proactive policing strategies should consider features of offenders, victims, and locations that are conducive to crime.

The analytical capacities of organizations are also contingent on their ability to use data sources to *answer* questions. Personnel should be trained in the practical application of crime analysis and crime forecasting techniques. Crime analysis capabilities often develop in ad hoc ways. In departments where crime analysts are sworn officers, it is not uncommon to find that such officers do not have specialized crime analysis training. Instead, such personnel are selected (sometimes against their will) because

they are known to have a “knack” for computers. Thus, the actual use and application of information is limited by technical abilities.

Another way police departments can develop their analytical capacity is to civilianize their research and planning units. There are two major benefits of hiring civilians for the purpose of managing data. First, by hiring civilians, departments avoid significant sworn officer turnover within these specialized units. When sworn officers are re-assigned, promoted, or retire, units are compromised with high attrition rates and burdened with re-training duties. The second benefit is that civilians are more likely to hold an area of expertise and have some aspect of formal training, such as a degree in geography or information technology. Numerous universities across the country offer degrees that take advantage of cutting-edge software. Currently, San Antonio, Dallas, and Boston Police Departments’ research and planning units are civilianized. However, these units still report to sworn police management that resides under the Office of the Chief.

Recommendation 3: Creating Information Driven Organizations

There are two crucial components for transforming police departments into information-driven organizations. First, we recommend institutionalizing procedures for moving information (e.g., crime analysis) out of the conference room and into the hands of patrol and investigative personnel. Second, police must make the organizational changes necessary for utilization of information management resources. Such strategies relate to resource allocation (e.g., deployment) and changes to reward systems.

Moving Information Out of the Conference Room

Earlier in this chapter we identified the adoption of technology throughout the field of law enforcement, yet the practical significance of such change remains unclear. One

reason is that police managers have not been successful in demonstrating the tactical or strategic significance of analysis strategies. Just a short time ago “crime reports” were limited to “green bar” paper reports that were generated on mainframe style computer systems. These reports were not useful due to their size and complexity. While managers might have considered these reports useful for documenting crime trends or basic features of crime events, they were limited for patrol officers and detectives. Thus, crime analysis was largely a management function and had little practical appeal for patrol.

The development and integration of personal computers and software that allows users to easily manipulate data presents opportunities to share information. Analysts have the technical capacity to manipulate data into charts, tables, graphs, or maps. Despite such capabilities, the average patrol officer does not take advantage of this information. Hence, it is the police managers’ duty to figure out *how* information should be institutionalized tactically. Crime analysis reports should be made regularly available to those closest to the crime problem – patrol officers and detectives.

Changing Reward Systems

Police managers may experience resistance when trying to convince line-level personnel to *use* information technology because there is a lack of incentives built into the current reward system. Employees are likely to operate in a way consistent with reward systems. Departments that prize traffic tickets and base annual reviews on such criteria should not be surprised to find that most officers devote a substantial amount of time to traffic enforcement. Compstat and similar initiatives are based on the idea of delegating responsibility for reducing levels of crime. The command staff is expected to be aware of current crime trends and initiate directives at reducing local problems. They are rewarded

when crime is down and held accountable when crime is up. This type of a strategy codifies the role of timely and accurate information by linking it directly to performance measures. This provides incentives that encourage information driven crime reduction strategies.

CONCLUSION

The access to, and analysis of, information has transformed policing in many ways. The role of information has evolved since the pioneering Uniform Crime Report. The collection, analysis, and sharing of information is the future of law enforcement. It can alter how police managers *and* line-level officers fundamentally approach their jobs in the fight against traditional street crime. Information sharing also appears to lie at the heart of emerging law enforcement issues such as local, regional, and national efforts to combat terrorism (Carter, 2004).

The salience of information management has captured the attention of the law enforcement industry. Today, many police agencies report the use of computer-related information management systems. Recent statistics indicate that nearly two-thirds of all police departments use records management computer systems, forty percent report computerized personnel records, thirty percent computer-driven crime analysis, and almost twenty percent automated booking systems. Most dramatically, almost 60 percent of all police departments serving populations greater than 250,000 report using computerized information systems when determining how to allocate resources (Hickman and Reaves 2003). It is expected that these numbers will continue to rise.

Compstat has played a critical role toward advancing information-driven decision-making in contemporary police organizations. Compstat was implemented in

the mid-1990s as a mechanism for bringing crime reduction strategies to the forefront of law enforcement in New York City (see Bratton 1998 for a more complete discussion). Like other police departments, the New York City Police Department lost focus on the importance of its crime control mission as command staff and line officers were victim to low expectations and little accountability for crime rates (Weisburd et al. 2004). Weisburd et al. (2004) argued that part of the reason behind the lack of accountability was that NYPD was “flying blind.” “It lacked timely, accurate information about crime and public safety problems as they were emerging; had little capacity to identify crime patterns; and had difficulty tracking how its own resources were being used” (2). Compstat represented a critical organizational shift focused on infrastructure, disseminating information about crime patterns, and crime reduction strategies.

Surveys of police organizations reveal Compstat or similar models have been adopted at increasing rates over the past 25 five years. A sample of over 500 of the nations largest law enforcement agencies indicated a rapid diffusion of Compstat starting around 1998 (Weisburd et al. 2004). Approximately 20 percent of the sample reported implementation of a Compstat-like management model by 1999; a high rate considering the national attention to NYPD’s success commenced just 3-4 years prior. Respondents indicated Compstat had the greatest potential to reduce serious crime, but also other residual benefits such as increasing policing skills. The authors extrapolated the 1974-1999 trend through 2029 and predicted that technology will reach a saturation point of 90 percent by the year 2007. If this is accurate, Compstat will represent one of the most quickly adopted forms of innovation (Weisburd et al., 2004).

While information management certainly has the potential for “revolutionizing” policing, it is important to consider *how* information is used for it to truly impact the law enforcement community. Manning (2003) and others (e.g., Dunworth 2000) effectively argue that information technology has largely failed to achieve its potential to change policing. Compstat and similar models have been institutionalized but with the rare exception such initiatives continue to play a largely symbolic role. One of the most pressing issues the law enforcement community will face over the coming decades is how to better utilize information in ways that change how policing is fundamentally performed.

Information and information management will likely have their most dramatic impacts on policing when they move out of the conference room and into the hands of line-level patrol officers. Crime analysis still remains primarily a management function even in some of the most progressive police departments. New technology has provided the ability to detail more crime specifics, depict more dynamic visual presentations of crime, and even forecast crime trends. However, information technology will continue to be symbolic until it moves beyond a glossy report and changes line-level crime reduction strategies.

As police organizations develop their capacity for analyzing crime, they fall short in devising strategies for actually using information technology in a meaningful way. Little consideration has been given to how data driven decision-making can benefit the patrol officer. The success of Compstat and similar information management models lie in their ability to directly impact patrol functions. If information management is to revolutionize policing by the year 2020, then collection and analysis of information must become integrated into patrol operations by using the latest hardware and software in the field.

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Chapter Ten

EMERGENCY RESPONSE PLANNING: THE PRACTICALITIES

Alan Beckley

EXECUTIVE SUMMARY

This chapter is written on the ancient premise that “failing to plan is planning to fail.” Planning is necessary in a complex world to ensure the ability to make an adequate response to any possible emergency of whatever magnitude, whether foreseeable or not. For example, a few weeks prior to the 1995 Oklahoma City bombing, agencies from all over the city took part in a disaster drill. Although this drill did not prepare these agencies to deal with a bombing, it did prepare them to work together in the face of disaster. To the benefit of Oklahoma City, the drill is credited with helping the community respond as strongly as it did in the face of this devastating attack (Schafer and Bonello 1999).

Planning must be done in a logical and incremental manner but with an open mind, using creativity and innovation. We should be working towards a vision of the future that sets into place adequate responses to all kinds of incidents with the aim of protecting the community. Planning is the responsibility of the emergency services and should comprehensively cover the short, medium, and long terms— usually thought of in chronological terms of one, five and ten years. Conversely not to plan is bordering on negligence as many things can be in place in preparation for emergencies, particularly databases where assistance and guidance can be sought, along with checklists and aides to assist the memories of hard-pressed emergency service workers.

Determining the Future

“Why are we concerned about the future of policing? It is because we need to plan for changes in service demands, responsibilities, resources, and applications of new technologies. Planning permits us to perform our tasks both efficiently and effectively. That is, we can more fruitfully accomplish our goals without wasting employee expertise and time, equipment, or money. Forecasting gives us a window to the future that permits the opportunity to develop long-range plans and prepare contingencies for smooth and effective changes in direction.” (Carter and Radelet 1999, 491)

This chapter is an overview on why and how organizations should plan, including: recommended integrated emergency management; management of the scene of the incident; clearance of casualties; liaison of emergency service organizations; management of the media; logistics and welfare at emergencies; the legal aspects of major incidents; and, the conclusions drawn by the paper. Planning should be future-oriented, as long-term commitment is required to build in costing in budgets and implementation may take several years to achieve fruition (for example flood defences).

‘Homeland security happened to us overnight ... I think we have a pretty good idea where it is we want to go, but we don’t have 15 years to get it done. I think next year and particularly the years out are going to be the harder years because it’s going to be not just about talking about integration but making integration happen’.

Source: George Foresman, assistant governor of Virginia for commonwealth preparedness (2004)

INTRODUCTION

Why have another look at emergency response planning? Because, despite 9/11 and many other incidents, it appears that governments still do not have a coherent, coordinated approach to managing major and critical incidents. We have recently (December 2004) witnessed a natural disaster in Asia where over 200,000 people are

killed or missing in the deadly tsunami natural disaster. Major or critical incidents, whether man-made or natural disasters, are frequently not preventable but their deadly effects and ‘knock-on’ effects on the social infrastructure can always be mitigated. This is where planning is essential; in assessing the risk beforehand, planning for countermeasures and contingencies, responding quickly and effectively and then restoring normality as soon as possible. Planning takes time, technique, experience and expertise. It also requires accurate risk assessment based on sound intelligence. In this article we are restricting our discussion to response to emergencies, not intelligence, which is covered in other chapters in this publication.

‘Far too many departments across the nation lack even the most basic levels of training, equipment and manpower’

New York Fire Department Captain after 9/11 (News report, 2001)

It is first essential to understand that the objective of the planning function is to achieve operational excellence; it is not the avoidance or mitigation of liability, although this will result as a welcome side effect. Second, the author strongly believes, as a long-term head of a police department’s ‘operations branch’, that a *nationally agreed* and implemented response to emergencies is essential to achieve a coordinated, coherent, and effective response to saving lives and property and mitigating damage. It is only when the emergency services of the police, fire, ambulance and local authority emergency planning unit work together in a pre-agreed seamless, coordinated, and integrated approach, backed up by other appropriate agencies and public utilities, that an effective, efficient, and humanitarian response results. A nationally agreed response to disasters and civil emergencies including terrorist incidents does exist in the United Kingdom

and this article will mainly refer to this national approach. That is not to say that other systems do not have merit; it is merely that the article must focus on one favoured system to ensure a manageable and concise content.

'We desperately need the federal government's assistance in setting standards, evaluating equipment and sharing that information with local law enforcement'

Source: Police Chief Charles Ramsay, Washington DC after 9/11 (2002)

Planning therefore is a combination of using expertise and experience from the past, placing that information in the context of the present, and then extrapolating this data into an innovative and comprehensive vision of the future. To achieve this effectively, techniques such as futures studies may be utilised to inform the process. Planners may use familiar techniques such as 'SWOT' analysis, brainstorming, nominal group technique, or more sophisticated methodologies such as Delphi conferencing or cross-impact matrices.

'The purpose of futures studies is not to know the future but to make better decisions today'.

Source: Jerome C. Glenn Futures Research Methodology (1999) American Council for the United Nations University

The reader might ask why it is necessary to plan; the answer is that responding to emergencies is such a complex, multi-agency, and multi-layered assignment that it is essential to put into place a framework of prepared actions that can be activated in quick time, utilising an effective and efficient method. A cursory look at recent publications reveals the complexity of the task.¹ Homeland Security experts in

¹ See the Bibliography at the end of this paper

government and industry listed the US government's most important priorities for 2005 to include:

- Intelligence/information sharing via secure networks.
- Use of data mining, modeling and simulation to predict terrorist acts.
- An integrated terrorist watch list, including information about individuals with ties to known terrorists.
- Interoperable wireless communications for voice and data.
- Virtual and interconnected emergency operations centers.
- More surveillance technologies, including sensors, unmanned aerial vehicles and cameras.
- Wider use of biometric technologies for identification and verification.
- Proactively pushing emergency information to the public through wireless phones and other handheld devices.
- Use of Extensible Markup Language to help facilitate information sharing.
- Instant messaging and other real-time communications.
- Improved cybersecurity.
- Use of radio frequency identification tags on shipping containers.
- Public/private funding for technology research.
- More first responder funding.
- Comprehensive information technology procurement vehicle that will enable the 22 agencies in the Homeland Security Department to quickly and efficiently buy goods and services.

This chapter will examine only a few of the items in this list; particularly the human resource and logistical implications.

'The court was left with the impression that there had been a breakdown in communications at a command level between the emergency services. Each diligently pursued its own duty but there was a lack of liaison between them.'

Source: Kings Cross Fire disaster London: Public Enquiry chaired by Desmond Fennel QC 1988

In the UK the integrated response to major incidents mainly relies on two management features. First, the Police are the agency that coordinates all actions at the scene of a major incident. Second, all agencies respond at a three level approach: strategic level (Color Code = Gold), tactical level (Color Code = Silver), and operational (Color Code = Bronze). We will discuss more of the detail of this later but the underlying reason for its success is good communications; inter-service radios work with each other and all emergency service workers understand the integrated response, how it works, and that they should be involved in effective liaison with other responders.

'You must actively pursue opportunities to improve the response to multi-service incidents ... to break down artificial barriers between the services. Because greater co-operation between the emergency services is a key factor in providing better services to the public in saving lives.'

Source: Jack Straw (UK Home Secretary) Joint Emergency Services Conference: November 2000 (UK)

This chapter is mainly aimed at the police service, but all emergency service responders in the UK (for the reasons stated above) are working to the same principles. A further important fact to note is that although the system of managing disasters and civil emergencies is intended for large incidents, exactly the same principles apply to small incidents such as road traffic collisions. The principles can be used for the sliding scales of minor through to major incidents.

Emergency: A dangerous event that normally can be managed at the local level. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5121, et seq., as amended by the Disaster Mitigation Act of 2000, Pub L. No. 106-390, 114 Stat. 1552 (2000) (the Stafford Act) defines an emergency that can result in Federal assistance.

“‘Emergency’ means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.”

Before going into detail, it is useful to recall the basic responsibilities of the emergency services: to serve and protect the public; to maintain plans and procedures to ensure public safety; and, to ensure a sufficient, suitable and effective emergency response. The official UK government policy on ensuring these responsibilities are effectively delivered is through the Integrated Emergency Management system.

INTEGRATED RESPONSE TO DISASTERS

Integrated Emergency Management (IEM) embraces four features and organizations of the emergency service response – police, fire, ambulance, and local authority emergency planning units. IEM involves five key areas of work: intelligence and risk assessment; prevention (measures from assessment and added ‘control measures’ and counter-measures); preparedness (contingency planning); response (structures for and coordination of response); and, recovery (wider community/support programs). An accepted definition of the integrated management approach to major incidents is: “A flexible, multi-agency approach, across the public, private and voluntary sectors where advanced coordinated planning is critical to the successful management of incidents” (Civil Contingencies Secretariat 2004).

Assessment

It is important to accurately assess the risks relating to the realistic likelihood of specific incidents occurring via the use of sound intelligence and using a recognized and reliable risk assessment methodology. To put this process into perspective, the UK can expect, on average, to have five major incidents per year (including severe storms, floods, train crashes, terrorist bombings, and ferry fires). Therefore the future can be extrapolated from the past. The assessment cycle can be broken down into three steps:

Step One: Identify the Risks

- Political, professional & leadership risks
- Financial, economic & contractual risks
- Social, physical & environmental risks
- Legal risks
- Communications (competitive/customers/citizen) risks

Step Two: Assessing the Risk

- Highlight the risk
- Plot the risk using risk scales.²

Step Three: Action the Risk

- Action required
- Consider possible series of actions
- Consider timescale.

Risk – Actions:

- **Prevention** – ‘counter-measures’ to stop the threat occurring
- **Reduction** – actions that reduce the likelihood or limit the impact to an acceptable level
- **Transference** – the impact is passed to a third party (insurance or penalty clause)
- **Contingency** – actions are planned and organized to take effect as and when the risk occurs
- **Acceptance** – the risk manager accepts that the risk will occur

Prevention

The prevention stage is to activate the measures identified from the risk assessment and action ‘control measures’, counter-measures and contingencies if (realistically) the risk cannot be removed all together.

² Risks can be assessed during step two by considering them against the likelihood of them happening and the impact of their outcome from which process they can be prioritised. Decisions can then be made as to what action should be taken to prevent or mitigate the impact of the risk.

Preparedness

This stage is partly to do with contingency planning and partly to do with the capability of the emergency services to respond to major and critical incidents. The capability issue involves the necessity to identify training needs, competencies, skills, and abilities that will be required to respond to the risks identified in the earlier stage. A skills audit of the staff that is in place can be completed. If gaps are identified in these processes action and training plans may be put into place to address the needs. This issue also refers to the physical ability to respond to major and critical incidents. Do the emergency services have sufficient numbers of staff, equipment, and back-up facilities (such as administrative and technical support) to respond effectively? Preparedness is also about communication and the message should come from the top – from central government whose leadership should demonstrate unequivocal support for all planning efforts. An example is the UK government leaflet delivered to every household in the country on the subject of *Preparing for Emergencies: What You Need To Know* (HM Government 2004).

Response

How do the emergency services deploy themselves at the scene and how are the many things organized that are necessary to protect the scene? Consideration needs to be given to preventing contamination of the scene of the incident and preserving evidence. Plans must also address safeguarding the health, safety, and welfare of the victims, emergency service workers, and, on occasions, suspects and terrorists remaining at the scene. This stage examines how to physically organize, manage, and deploy resources at the scene, taking into account good communication and liaison between agencies. This may involve basic considerations such as feeding, personal needs, and welfare requirements. The other aspect of this stage is how to de-brief attendees at the incident and how to ensure that lessons learned are recorded for the benefit of a more effective response in the future

and to advise future training events. Other agencies and organizations involved in the rescue and protection of lives and property should also be considered in this stage of planning the chronology of major and critical incidents.

Recovery

Recovery is usually the forgotten stage of major incidents once the immediate rescue of victims has been achieved and the first responders are thinking of departing from the scene. Recovery may take a long time to effectively achieve, especially where there is significant loss of life or property. The wider community itself, public utilities, inspectorates, and many other organizations in the public and private sector may need to be involved. Persons involved in the major incident or their near relatives may need additional support of a physical, mental, and material nature while trying to get their lives back on track. These are the main issues relating to integrated response to major and critical incidents. A similar integrated emergency management system is recommended in the USA.

An emergency management program examines potential emergencies and disasters based on the risks posed by likely hazards; develops and implements programs aimed toward reducing the impact of these events on the community, prepares for those risks that cannot be eliminated; and prescribes the actions required to deal with the consequences of actual events and to recover from those events.

Emergency activities are divided into four phases that form a cycle. The phases of the cycle are:

- Mitigation—Taking sustained actions to reduce or eliminate long-term risk to people and property from hazards and their effects.
- Preparedness—Building the emergency management function to respond effectively to, and recover from, any hazard.
- Response—Conducting emergency operations to save lives and property by taking action to reduce the hazard to acceptable levels (or eliminate it entirely); evacuating potential victims; providing food, water, shelter, and medical care to those in need; and restoring critical public services
- Recovery—Rebuilding communities so that individuals, businesses, and governments can function on their own, return to normal life, and protect against future hazards.

Source: **Federal Emergency Management Agency (FEMA)**



POLICE FIRST RESPONSE

The first responder at the scene of a major incident is usually a police officer, but could be any member of the emergency services. The ‘golden rule’ for that first person at the scene is the difficult one of restraining themselves from getting involved in rescue so that they can perform the fundamentally important role of the first contact point at the scene. In the UK, the role of the first responder has been defined to include: NOT becoming involved in immediate rescue efforts (under the belief that their role in facilitating communication and coordinating the initial response is most important); assess the scene for size, scope, and type of incident; inform local emergency services control room; maintain contact; and, start an Incident Log. This process sets the stage for the management of disasters and civil emergencies into action.

Major Incident?

In the UK a major incident is “Any emergency that requires the implementation of special arrangements by one or all of the emergency services” (Civil Contingencies Secretariat 2004). Examples of this definition include: rescuing or transporting large numbers of people; involvement of large numbers of victims; handling many inquiries (not necessarily in the same area); and, large-scale emergency services response to an

incident. It is important to realise that an incident that is a major incident to one branch of the emergency services may not be for another branch. For example the recent ‘Foot and Mouth Disease’ incident in the UK was a major incident for the police, but not for other emergency services. However, the official, nationally recognised definition of major incident is sufficiently wide to take account of most types of incident.

The fact that an incident is a major incident should be identified at a very early stage as it brings into being many pre-determined actions and repercussions that arise from the accurate planning described above. In the UK, any person in the emergency services can call an incident as a ‘major incident’; this does not depend on seniority or a specific branch of the emergency services. It is well recognised that it is better to call an incident a ‘major incident’ as soon as possible, rather than trying to call it as such at a later time. The reason for this is that the call of ‘major incident’ sets into motion many back-up facilities (hospital beds, medical facilities, casualty bureau staff, etc.). Waiting to classify an incident as ‘major’ may cause delay in staffing and activating facilities. Taking this extra time has obvious detrimental effects on incident response.

In the USA a major disaster is defined as:

“Major disaster’ means any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought) or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President, causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of State and local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.”

Source: Federal Emergency Management Agency (FEMA): IS 230 Emergency Management Manual <http://www.fema.gov/pubs>

Moving forward into the incident, as resources are arriving at the scene, the next actions will have an important impact on the success or failure of the effective management of the rescue operation. Our first actions are therefore to set up:

- Forward Control Point (FCP)
- Cordons – Inner and Outer
- Safe Routes – in and out possibly with a traffic system and marshalling
- Rendezvous Points

The issues relating to these actions are not included in this article (see Beckley 1997 and other material published by the author).

Gold, Silver, Bronze

The recommended response to major and critical incidents is at three levels—operational (bronze), tactical (silver), and strategic (gold). The operational level of response is the management of ‘hands-on’ work at the incident site or associated areas. This level of management will be adequate for most incidents of minor impact such as road collisions. Where the officer at the scene (of whatever rank) decides that this level of response is not adequate for the specific circumstances of the incident, the next level of tactical (silver) response will be activated.

The tactical level of management has the following responsibilities:

- Determine priorities in allocating resources
- Obtain further resources as required
- Plan and co-ordinate when tasks will be undertaken
- Assess prevailing risks
- Strike an overall balance between tasks and risks
- Take appropriate risk reduction measures
- Give due regard to the health and safety requirements of staff and public.

At the Incident Control Point, the Incident Commander will hold inter-agency coordinating meetings with all organizations appropriate to that incident. The attendees of the meetings are usually liaison personnel from the relevant agencies with the ability to make real-time decisions about the resolution of the incident. The Incident Officer must also take into consideration that an incident may encompass several locations, sometimes over a widespread area (for example, flooding incidents).

Where the incident is of more serious nature, the strategic (gold) level of management will be implemented. The gold level of command will usually be based at one of the emergency services headquarters (most commonly, police headquarters) and will be responsible for:

- Establishing a framework for the overall management of the incident
- Determining the strategic aim and objective, and reviewing them regularly
- Formulating and implementing an integrated media policy
- Ensuring there are clear lines of communication with tactical commanders and managers
- Ensuring there is long-term resourcing expertise for management/command resilience
- Prioritising the demands of tactical commanders and managers
- Allocating resources and expertise to meet tactical commanders' requirements
- Undertaking appropriate liaison with strategic managers in other agencies
- Planning beyond the immediate response phase for recovering from the emergency and returning to a state of normality
- Avoiding and preventing engagement in details and decisions more properly and effectively managed at lower levels

Where appropriate, the Gold Command will set up a Strategic Coordinating Group (SCG) chaired (usually) by a senior police officer and comprised of senior managers from all the key agencies involved with the response to the emergency.

Scene Management

Management of the scene of any emergency incident is essential from the very first minutes of its origination. Experience has proved that decisions and actions taken in the first few minutes determine the outcome of the incident. Therefore, it is vital that all staff is trained in the correct response and management of emergency incidents. Once time has elapsed after the first response, more senior managers should be deployed to the scene of the incident to take control over the longer-term management issues. Once a Silver Commander (usually a police officer of Inspector rank or above) has been appointed and arriving at the scene, their first considerations would be:

- Setting up an Incident Control Post (ICP)
- General management of the incident
- Direct police tactics
- Safeguarding the security at the scene
- Appointing a property team
- Organizing traffic control, rendezvous points, and casualty clearance
- Arranging hospital documentation teams and mortuary facilities
- Liaison with all other agencies, including coordinating all the emergency services, inter-agency meetings, and inter-service communications
- Appoint an Incident Coordinator to facilitate actions on behalf of the Silver Commander
- Recommend whether to set up a Gold Command

Setting up an Incident Control Post (ICP)

It is for the Tactical (Silver) Commander to decide where to set up the Incident

Control Post. Several factors may guide the decision. If the incident is dynamic and fast moving, such as firearms or hostage situation, it is important to make decisions quickly with a good knowledge of the scene. If the incident is located in a specific, fairly small location it is usually advisable to site the ICP close as possible to the scene but some basic criteria exist in that it should be:

- **Safety** – cannot be ‘over-run’ for example by protestors or affected by natural manifestations such as flooding
- **Accessible** – readily accessible by foot and vehicle, and of an appropriate size with facilities available
- **Conspicuous** - readily identifiable to other emergency service staff
- **Secure** – access only to persons who need to be there who are involved in the incident
- **Communications** – has access to all types of communications necessary to ensure the effective resolution of the incident – may need a specially designed communications vehicle or ‘pod’.

Where the incident does not fit the descriptions above, that is, that it is a widespread incident and not dynamic for example an incident relating to flooding – it might be advisable to site the ICP at a police station where all the above criteria exist and there may be a purpose built incident room available. The functions of the ICP, which will comprise of the Incident Officer (Silver) and several other members of emergency services staff, are:

- Close liaison with the Incident Officer – in touch at all times and constantly assessing the resources required to resolve the incident
- Close liaison with all other agencies in the incident through the Coordinating Group
- Recording a comprehensive log of all tactics, actions, and decisions by the Incident Officer

- Recording the duties of all personnel
- Controlling access to the scene
- Giving regular updates to the Strategic (Gold) Commander

Safeguarding the Security at the Scene

It is essential that the scene of an emergency is secure and safeguarded for several reasons. First, to protect the area as the scene of crime; there may be forensic evidence that can be destroyed by careless or unnecessary actions at the scene. Second, to limit the number of persons at the scene as far as possible so that ‘elimination’ marks such as fingerprints and other trace materials are limited. Third, it is essential where the scene of an incident is dangerous to limit the risks as far as possible by ‘sterilizing’ the area. This may include evacuating all members of the public and media representatives to ensure the health, safety, and welfare of all parties. The primary means of safeguarding the security of the scene is by the use of the inner and outer cordons. The incident commander should also consider the necessity for emergency flying restrictions at the scene or communications overload.

Organizing Casualty Clearance

The responsibility of dealing with casualties at an incident rests mainly with the ambulance service; however, the police must liaise with ambulance personnel to effect the speedy removal of casualties from the scene. This is one of the purposes of traffic control. The ambulance service may decide to operate a ‘triage’ system of dealing with casualties that involves prioritizing injured persons so that the most serious injuries are dealt with first.

Planning for Mortuary Facilities

Where persons have died as a result of the emergency incident, it is necessary to take into account further issues. In the UK, the deceased persons become the responsibility of

Her Majesty's Coroner. To satisfy the official Inquest, HM Coroner must establish the identity of the deceased and the cause of death. Establishing the identity of the deceased may prove quite difficult where there are no survivors of a disaster and their bodies are disfigured. Where there are a large number of deceased (over 20) the capacity of local morgues may be stretched beyond their capability. It may be necessary to organize a temporary mortuary. In the UK and other countries, there is a high level of evidence required to establish the positive identification of deceased persons in these circumstances, therefore it is crucial to preserve forensic evidence at the scene. Certain types of evidence of identification will be taken as positive such as fingerprint, DNA, and dental record matches. Personal descriptions and records of clothing are less authoritative. HM Coroner will give direction in these matters about individual identifications through an 'Identification Commission' that also feeds information into the casualty bureau. Pre-planned contingencies are required to provide the necessary facilities, personnel, and equipment to facilitate identification, possible post mortems, and undertaking facilities.

Liaison With All Other Agencies

Throughout the emergency incident there is a need to establish and maintain effective liaison and communication between all the emergency services and other key agencies involved in resolving the situation. Successful liaison is affected through regular meetings, updates, and reporting both up and down the chain of commands. Liaison officers should ideally be well briefed to complete their job effectively with the details of the aims and objectives of the incident, the command roles and responsibilities of each agency, and to be able to identify individuals performing specific roles. The liaison officers should also have at their fingertips basic information about the incident such as the rendezvous points, the location of the cordons, and relevant contact points of key

individuals. In this way they can effectively and efficiently pass communications from the scene of the incident back to their organization to ensure actions are completed to successfully resolve the incident.

The Incident Commander at Silver level and the Overall Incident Commander at Gold level will hold coordinating group meetings with the liaison officers. These meetings will be used for a number of functions, including: reviewing progress; establishing resources, expertise, and specializations required in the incident; identifying common objectives; confirming policy; resolving conflict between agencies where it exists; establishing a common approach to the media and appointing spokes persons; identifying financial considerations; and, keeping records of meetings.

EMERGENCY SERVICES - OPERATIONS

When considering integrated emergency management (IEM), the official responsibilities of the emergency services should be identified. Under the British model, the police are responsible for coordination of all the emergency service efforts to resolve the emergency incident. They also have executive functions relating to terrorist incidents regarding security and intelligence matters, and will restrict access to the scene of an incident even to the other emergency services for safety or security reasons. An overview of the functions of the police is to:

- Coordinate all emergency services
- Save life
- Protect/preserve the scene of the incident
- Investigate of the cause of the incident
- Collate/disseminate casualty information
- Identify victims
- Restore normality

At the scene of an emergency incident, the Ambulance Service is responsible for dealing with the casualties and the Fire and Rescue Service are responsible for rescue; all organizations are responsible for restoration of normality. The fourth emergency service is the County Emergency Planning Unit (CEPU), which is responsible for working with the other emergency services and assisting to support victims and their families. The CEPU will also hold a massive amount of information and databases on where and how to obtain equipment and other resources in times of necessity.

Use of Other Specialists

At any time incident commanders may call specialists depending on the requirements for the specific incident. Negotiators may be required in hostage situations. Psychologists may be of help when the motives or mental capacity of the suspect in an incident are unknown. In order to engage specialists in times of emergency, the police and local authorities must maintain databases and contact points. In certain circumstances, the emergency services can call on military aid for widespread searches or wide area natural disasters and, of course, terrorist incidents (Ministry of Defence 1989).

Care of Relatives and Survivors

Following a major or critical incident, it is necessary to make appropriate arrangements to ensure the welfare of relatives of the victims, survivors and witnesses to the incident. Relatives and survivors need special attention to ensure their safety and security. In the UK, the function of relatives and survivors reception centers is usually carried out by the local authority emergency planning unit that has identified suitable premises in advance.

Media Management

Whenever a serious or critical incident occurs the world's media will attend in a very

quick time frame. Frequently, media will be on hand before the emergency services have geared themselves up to the appropriate level of response. Emergency services need to focus their attention on rescue and restore normality, while also providing correct and accurate details of the incident (particularly those that are a matter of public interest). To do so it is essential to manage the media. The emergency service managers must recognize that members of the media are seeking live and still pictures of the incident, along with audio and visual interviews with the emergency services, witnesses, and relatives. The hunger for newsworthy content of bulletins is so compelling that some media representatives will go to great lengths to get a 'scoop' story; therefore there must be a strategy to manage access to the scene of the incident, participants, and injured persons in hospitals.

'VIP' Visits to the Emergency

Within a short space of time after the notification of a major or critical incident it will be suggested to the person in charge that a VIP would like to visit the scene or injured persons in hospital to raise the spirits and morale of emergency workers and victims of the emergency. The uplifting effects of such visits are also accompanied by the complications of managing the logistics of such commitments. Visits from VIPs will result in extra security precautions, possible public order complications, additional media interest, and 'photo opportunities'. Therefore there will be additional strain on the emergency services' response and stretching the level of staffing already deployed. In addition there may be the need to make special arrangements such as helicopter landing sites, additional liaison with VIP protection officers, and a myriad of other extra commitments. Where the visit is at several locations such as hospitals, the scene of the incident and relatives reception centers, this obviously adds considerably to the complicated management of security, sensitivity, and confidentiality.

Logistics/Welfare

Logistics and welfare relating to the management of civil emergencies and critical incidents involve the complex coordination of a number of resources and factors, including staffing, refreshments, transportation, communications, welfare, and equipment. It is usual, at the start of a critical incident, to appoint a person with experience in logistics management to this essential and vitally important role. A delay in the appointment to this authoritative role or using a person without the necessary expertise may seriously jeopardize or delay the successful resolution of the emergency incident. It is the role of the operational managers (Bronze command) to identify the number and qualities of staff and other logistics that are needed at the emergency incident. This information is conveyed to the logistics manager, who will provide the resources. For further details of managing logistics, please see other publications from the author listed in the bibliography.

Staffing

It is essential that the person in charge of the incident have available to him/her, in the shortest possible time, the optimum number of staff with the appropriate skills and abilities to affect the rescue of victims and the eventual restoration of normality. With this in mind, the logistics manager will need to identify the location and availability of staff with the relevant training, skills, abilities and get them conveyed to the scene of the incident with as little delay as possible. Highly trained staff is a rare commodity and personnel with specific skills or qualifications may be difficult to locate and extricate from their normal deployment. This is where the skills of the logistics manager are needed, along with the full backing of the organization's executive management. This situation is exacerbated when the emergency incident goes on for an extended period of

time. The logistics manager must have the ability to plan ahead for staffing (and other) needs in the event that an incident response last days or even weeks.

Refreshments

An essential supply line at the scene of a major incident is that of liquid refreshment and food. Clearly, emergency services personnel cannot operate at optimum effectiveness unless their bodily needs for fuel and energy are met. Other considerations will be where extreme weather conditions are present. In cold conditions, hot food and drink will be required; conversely in hot weather, cold drinks and food are equally important.

Transport

When managing major or critical incidents and emergencies, one particular problem to solve is that of the convergence of motor vehicles at the scene. Many emergency service vehicles will converge on the scene and cause obstruction and access problems. The worst examples of this have even prevented injured persons from being swiftly and effectively removed from the scene to hospitals. Clearly, some traffic management scheme needs to be started as soon as possible at the scene of the incident. Where an incident is of a long-term nature, the logistics manager may need to consider fuel supplies and access to vehicle mechanics to keep essential transport on the road as far as possible. With this objective in mind, it might also be necessary to consider vehicle recovery or breakdown facilities.

Communications

The logistics manager may turn to a communications professional to assist in providing all the communications facilities that are necessary at a major incident. All forms of communications should be considered, as the local telecommunications systems will very quickly become over-burdened. Landline phones, mobile phones,

fax, radio, e-mail, Internet, video technology, and even hand delivered methods will all be required. Coordination between the emergency services will also be an issue and common radio channels are a distinct asset but may need managing into command and operational channels.

Welfare

The logistics manager is responsible for the good welfare of all staff engaged on the major or critical incident. This means dealing with personal problems of the emergency service workers and also liaising and informing relatives, family, and other persons of messages from those involved in the rescue operations. In the case of protracted incidents, it may be necessary to make accommodation available to key personnel, therefore bedding and other furniture may be needed to ensure the optimum arrangements are in place.

PTSD/Stress

When emergency service workers are engaged in traumatic incidents where victims have been injured or killed, it is essential to consider the possible occurrence of psychological injury. Research has indicated this to be a very likely result of major and critical incidents, particularly in the case of mass casualties or where the injured/deceased are children. The result of psychological injury has been identified as post-traumatic stress disorder or PTSD. This phenomenon manifests itself in all people, including emergency service workers; however, this chapter will not discuss the detailed symptoms of the disorder. Persons who are in charge of the emergency operation should put into place actions to prevent or mitigate the psychological injury of all people involved in the incident.

Health & Safety/Risk Management

Associated with welfare is the health and safety management of the workplace, which is, of course, a legal requirement of managers in the emergency services. As far as reasonably practicable, managers must ensure a safe place to work. Clearly, in an emergency situation this will be a difficult task; however, instigating certain control measures should mitigate or prevent the likelihood of injury to emergency workers at the scene, members of the public and suspects (in a crime situation). One initial decision may be to appoint a trained safety officer who can keep a keen but independent eye on safety matters at the scene of the incident and ensure that personnel deployed watch out for their own safety. The safety officer should be identifying hazards and risks and quantifying those hazards and risks through a risk assessment process.

Equipment

The final responsibility of the logistics manager is that of providing appropriate equipment in a timely fashion. This can range from providing temporary lighting to heavy lifting equipment and clearly depends on the requirements of each individual incident. The logistics manager must have access to relevant databases for locating equipment with which to effect the safe and efficient restoration of normality.

Also under this topic, personal protective equipment ranging from rubber footwear to protective masks should be available to ensure the safety of emergency service workers as appropriate. As we have discussed in the section on health and safety, the health, safety and welfare of emergency service workers is of paramount importance in the management of major incidents and emergencies.

LEGAL ASPECTS

When considering the aftermath of emergencies and critical incidents our thoughts inevitably turn to the legal aspects. The danger for emergency service workers is the absolute 20/20 accuracy of the hindsight view of the incident. Under the extreme pressure of managing a major or critical incident, the commanders do not always think and plan with the forensic clarity of the courtroom. Attitudes harden and sides are taken when physical, financial, and insurance issues cloud the immediate euphoria of the restoration of normality. It is at the stage of retrospection that we have to consider the incident in this ‘compensation culture’ society when relatives and victims of incidents must have someone to blame and someone to pay them compensation. Readers may view this as an overly pessimistic and cynical view of society; however, we must consider the situation from the worst-case scenario in order to successfully plan to counter its effects.

It goes without saying that exhibit number one in any subsequent court case or tribunal following a major or critical incident will be the contingency plan (or lack of one). This inquiry will start from the organizational policy on contingency plans stemming from the statutory requirements to have contingency or the best practice or the thought leaders on the subject. Every prudent organization has in place contingency plans for recovery in case of emergencies; however, emergency services have a responsibility to manage and maintain effective contingency plans and deliver an effective response in times of civil emergencies. We will now discuss what this means in terms of the legal requirements to respond to this ‘duty of care’. For further details of the legal aspects of emergencies, please see other publications from the author listed in the bibliography.

Decision Making

When in the heat of a major incident or emergency it is essential for emergency service managers to realize that the decisions they make will be scrutinised at a later time with the benefit of hindsight. Therefore, it is essential that managers are aware of this fact and know what is expected of them. In the author's experience in the police service, this issue is not pointed out to managers nor is it satisfactorily discussed until, in many cases, after it is too late; the incident has occurred and there has been a major problem. Of course, it is also essential to realize that in extreme situations of stress and danger, not everything will go according to plan. It is necessary to train and exercise so that emergency service managers at least have experience of a simulated incident upon which to base their decisions. Indeed, research has shown that the only successful way to train emergency service managers to make effective and sound decisions during actual emergencies is to place them in the 'hot seat' during simulations and training sessions. But, most managers who have, in fact, managed such incidents will tell you that all the simulations in the world will never fully prepare you for the actual situation.

To establish a baseline from which to work on the standards expected for decision-making, it is useful to examine what courts will look for. Courts will question: the presence or absence of records; whether documents have been audited; whether there is independent scrutiny of actions and documents; the transparency and openness of the situation in the public domain; accountability of individuals and the organization; and, access to legal advice and if heeded.

Decision Making - Method

There has been much written on the methods of decision-making which we will not repeat here. To conclude our discussion from the detail on the courts' requirements

we will offer a summary of good practice. The minimum information requirements of good decision making are:

- 1 Define the aim(s) and objective(s) - evidencing applications of key human rights principles of legality, legitimate aim, and proportionality
- 2 Determine all relevant information
- 3 Assess all feasible options
- 4 Document the decisions reached or actions taken with reasons
- 5 Review the outcomes at regular intervals

CONTINGENCY PLANNING

When a disaster has occurred, the emergency service organization's contingency plan to prevent that occurrence will be exhibit number one at the Public Enquiry and/or Inquest. That tribunal has every right to expect that the document should be of a high standard and quality, consistent with supporting documentation and procedures, well planned, specific as to individual roles and responsibilities, and above all current. In view of this, every emergency service organization should issue guidelines; 'best practice' guides or 'blueprints' on acceptable standards of documentation to personnel delegated the task of preparing plans. It is a sensible precaution to pass any such guidance through the organization's legal adviser before general release.

Liability

Liability for contingency planning is shared between the author of a contingency plan and the operational commander in the emergency service organization. We will be discussing this mainly from the point of view of the police service. It follows for the police that where the plan is a local one, the local police commander will have the responsibility for ensuring there is a plan, that appropriate planning has been completed,

and that plans are current and relevant. If the plan is cross-basic command unit borders or demands a Police Department response, then the responsibility for preparation of the contingency plan rests with a Chief Police Officer, which is usually delegated to the Operations Department or Contingency Planning Department. The provision of contingency plans is a necessity that brings with it a constant problem of updating and monitoring. However, some general principles apply which may assist in identifying strategies to reduce the burden of preparing plans, and to give reason and purpose for their compilation.

Primary Objective of Contingency Planning

The pursuit of operational excellence based on knowledge, professional standards, and the law - not liability avoidance - should dictate the formulation of policy, training, and operational effectiveness in practice. It follows that contingency plans are not for the purpose of liability avoidance. They exist to assist the operational police response to set circumstances and fixed locations. For this reason, it is useless to write contingency plans that are impracticable or list resources that are not immediately available. Contingency plans should be the IMMEDIATE response to incidents that have been assessed as a likely occurrence.

Risk Assessment

The fact that a contingency plan is actually necessary should be the first consideration of risk assessment. Only foreseeable risks need be addressed. It is not good management to have a contingency plan for every eventuality as contingency plans need to be used with flexibility of operation. Thus, a cupboard full of contingency plans, which are of no practical use, will not ensure a litigation-free existence. Because no one can see a purpose in compiling contingency plans that are never used, the likelihood is

that those that are relevant will not be updated when necessary. The important factor in relation to risk assessment, whether a plan is written or not, is to record the reasons why decisions were reached. This statement is fundamental to the core of legal liability. No one should take on extraneous risk.

GUIDE TO RISK ASSESSMENT

A risk assessment is a systematic general examination of an activity. It involves identifying the hazards present (arising from all the existing factors) and then evaluating the extent of the risks, taking into account whatever precautions are already in existence. There are six steps that need to be taken to assess the risks associated with staging any event or assessing foreseeable hazards.

- 1 Identify the hazards associated with activities contributing to the event, where the event is carried out, and how the activities are to be undertaken.
- 2 Identify the persons who are exposed to the hazards.
- 3 Evaluate the risks, taking account of existing precautions (this will indicate the level of residual risk).
- 4 Devise a contingency plan/operational order which reduces the residual risks to as low a level as is reasonably practicable.
- 5 Implement the plan.
- 6 Monitor, review, and revise the plan as necessary to maintain its effectiveness.

Legislative Framework

Public authorities will have statutory responsibilities to ensure that contingency plans exist for commerce and industry involved in hazardous operations, such as the storage of hazardous chemicals. Plans will also exist for such hazards as underground or over ground pipelines containing liquid or gaseous fuel. Police and other emergency

services may also be responsible to prepare contingency plans or operational orders to protect vulnerable buildings or security targets (human or otherwise).

Need for Planning

There is also a need to plan for the ‘worst case scenario’ of terrorist and security incidents. The level of threat of these types of incident is constantly monitored by the national security services and advice on risk assessments should be gained from these sources. In recent times, because of heightened security threats, Homeland Security and the general public have been informed and mobilized to counter or make preparations to counter serious security incidents. Plans must be made to provide mass disinfections for CBRN (Chemical, Biological, Radioactive and Nuclear) threats.

Training of Officers

Having discussed the relevant legal issues on the subject of contingency planning, the reader should now realize the importance of staff training. In order that all the appropriate issues are considered by the person writing contingency plans and the officer responsible for signing that plan, (if different persons) he or she needs to be aware of those issues and establish sufficient information upon which to base the risk assessment and the content of the plan.

Negligent completion of contingency plans could be a problem and the responsibility would rest with whoever is in charge of the command unit (not the person who compiled the plan). If police officers that compile plans have not been properly trained, this could well be a cause for criticism in the event of a disaster. There is a well-established line of decided cases in the United States of America on this subject. We should also point out that there is now a statutory responsibility to train in the UK and to exercise plans to

ensure their effectiveness.

Self-Protection

Listed below is a short self-protection guide for all emergency service managers in relation to contingency planning. The guide is not exhaustive, but contains some useful ideas and issues. There are many legal books on this subject, but they are difficult to locate, as they are not specific to emergency service situations. You may also wish to initiate a policy whereby all documents are identified, accounted for, and preserved when a major or critical incident occurs. This is an essential precaution that is frequently forgotten.

- Are contingency plans
 - Necessary? - Risk assessment.
 - Workable? - Roles / responsibilities to reflect actual procedures.
 - Training? - Does staff know plans?
 - Legally flawed?
 - Monitored, evaluated, and current? - If not - re-write.
- Self-protection - stick to the plan
 - Learn the lessons of previous incidents
 - Plan properly for all foreseeable circumstances
 - Exercise and update plans
 - Adequate training of staff
 - Ensure all actions are recorded
 - Adopt a rational/logical decision-making process
 - Above all - **ACT REASONABLY**

CONCLUSION

When the emergency services respond to emergencies or major and critical incidents a number of key elements must be observed. Planning is essential to ensure an effective emergency services response to major and critical incidents and it is a

responsibility for these organizations to have plans in place. The integrated emergency management response to emergencies should be agreed nationally to ensure a holistic and corporate approach. There should be a common understanding of the integrated emergency management system across the emergency services and there should be multi-agency training and exercises. There should cross-agency communications functionality and effective liaison between emergency service agencies. The media should be managed effectively with a pre-planned and agreed approach. Emergency service organizations should ensure that precautions are taken regarding the legal aspects of major and critical incidents; there should be effective assessment of risks and sound policies, practices and procedures should be in place.

We have seen that responding to emergencies can be pre-planned using the ‘aides-memoir’ and techniques in the preceding pages. In this way, the emergency services can prepare their organizations to adequately and effectively respond when an incident occurs. Having contingency plans and countermeasures in place is an effective foundation to enable an appropriate and proportionate response to most incidents. Clearly, there will always be incidents so large and overwhelming that the emergency services response will be dwarfed by the enormity of the disaster. It is essential to understand that the objective of the planning function is to achieve operational excellence; it is not the avoidance or mitigation of liability, although this will result as a welcome side effect. The objective of achieving operational excellence is surely the goal of all public authorities.

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- Central Office of Information www.coi.gov.uk

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Chapter Eleven

THE CHANGING LANDSCAPE OF AMERICAN POLICE ORGANIZATIONS

Edward R. Maguire & William R. King

EXECUTIVE SUMMARY

“Taco Bell was the only restaurant to survive the Franchise Wars. Now all restaurants are Taco Bell.”

-*Demolition Man*, 1993

The movie *Demolition Man* depicts a questionable future in which Taco Bell is the only restaurant chain to have survived the “franchise wars.” We live in an era of corporate mergers and acquisitions, where, with increasing regularity, our local banks, hospitals, hardware stores, and other firms are either put out of business or are acquired by large global, multidivisional corporations. As a result, the landscape of American business has changed substantially. It is becoming more and more difficult to do business with “mom and pop” stores because they are being replaced by less personal franchises and corporate divisions. Moreover, our affinity for these small, local, personalized businesses seems less powerful than the social forces driving them out of existence. Despite George Bailey’s protests in the popular 1946 movie, *It’s a Wonderful Life*, generations of small businesses like Bailey’s Building and Loan are now little more than fond memories. One observer has termed this trend toward increasing corporatization the “McDonaldization of Society” (Ritzer 2000).

Although nobody seriously disputes the idea that the face of American business is changing, few observers see the seeds of such dramatic “landscape” changes in the policing industry. Yet, there is a small but growing body of research evidence to suggest

that similar changes may be afoot in policing. In this chapter, we argue that the landscape of American policing is slowly beginning to experience three fundamental and related changes: the overall number of police agencies is shrinking; the remaining agencies are becoming larger; and agencies are becoming more structurally complex. These changes in the landscape of police organizations are likely to produce significant differences in how communities are policed. The era of the small-town police department epitomized by Sheriff Andy Taylor and Deputy Barney Fife is giving way to a future of larger, more complex organizations that are likely to be less personalized, more bureaucratic, and more technocratic.

The changes we foretell in policing are consistent with a general perspective on modernization outlined more than a century ago by the eminent German sociologist Max Weber. Weber argued that while rationality (especially in the form of bureaucracy) is an important mechanism for achieving coordination, control, productivity, and efficiency, when taken to excess it can trap people in an “iron cage of rationality.” The iron cage is oppressive, legalistic, impersonal, mechanized, and in general, poorly suited to deal with anything but the most routine transactions (Weber 1958). The iron cage might be especially poorly suited for human service organizations who process people rather than things (Hasenfeld 1972).

We begin by providing a mosaic of evidence for the three fundamental changes that we have outlined. We then draw insights from organization theory to explain the social forces that may or may not be encouraging such changes. In particular, we explore how three organizational theories –contingency theory, institutional theory, and population ecology theory– can help us understand the future of the American policing industry.

THREE CHANGES IN THE LANDSCAPE OF AMERICAN POLICING

We have argued that three fundamental changes are occurring in American police organizations: the overall number of agencies is shrinking, and the remaining agencies are becoming larger and more complex.¹ We now examine the evidence for these assertions.

1. A Reduction in the Number of Police Organizations

Police agencies are publicly funded agencies with a near monopoly over the delivery of police services.² We tend not to think of them as going in and out of business like organizations in the private sector. As two leading U. S. Justice Department officials during the Clinton administration, Jeremy Travis and Joseph Brann, declared: “police departments do not go out of business; good or bad, they survive” (Travis and Brann 1997, 1). Police departments have been likened by some observers (Crank and Langworthy 1992; Leicht 1996) to “permanently failing organizations,” a phrase used to describe organizations that survive in spite of evidence that they are ineffective (Meyer and Zucker 1989).

A small body of research suggests, however, that police agencies are not immortal; they disband with sufficient regularity that observers interested in the future of policing ought to pay close attention. In this paper we adopt a liberal definition of the term “disbanding” that includes two types: when an agency closes down permanently and its employees are not subsumed within another agency that takes over policing within that jurisdiction; and when an agency is taken over or *absorbed* by another agency. In both instances, one agency ceases to exist as a separate, autonomous entity

¹ We use the term “policing” to refer to all local level general purpose law enforcement agencies including sheriffs’ offices.

² Some researchers contend that government-funded police agencies are losing market share to the private security industry and other nongovernmental forms of social control (Bayley and Shearing 1996; Johnston and Shearing 2003).

and has thus disbanded. Disbanding refers to the end of an organization's structure and operations, although the organization's employees and equipment may later end up in another police organization. Very rarely do police agencies truly *merge* in the sense that the resulting organization represents a substantial blend of the component organizations. Far more often, one agency disbands when its structure (e.g., chain of command, rules and procedures) is eliminated and the agency ceases to operate. Some of these old employees may be hired by another agency, such as the county sheriff. These old employees typically don a new uniform, adhere to a different set of rules and procedures, and are paid by a different governmental entity (e.g., the county instead of a town). In most instances, however, the disbanding does not take the form of a true merger.

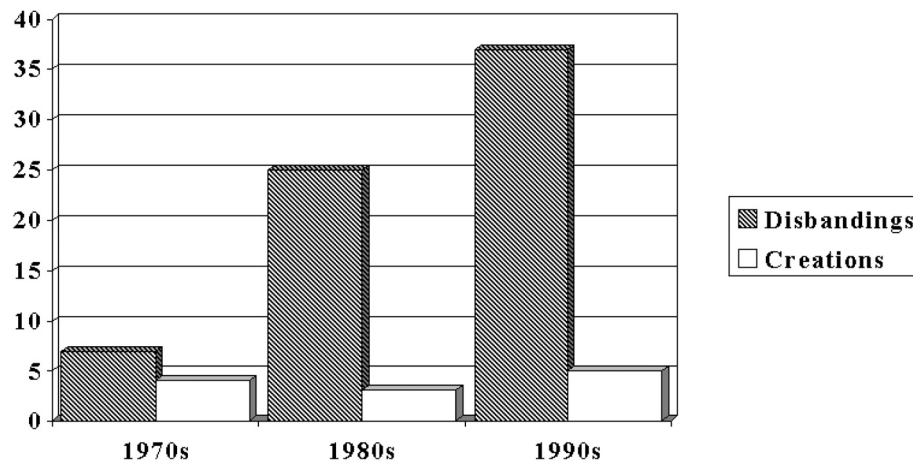
In an ongoing research project, one of us has studied the rates of police agency disbanding in three states (King 1999b; King, Langworthy and Travis 1997). Research indicates that at least in Ohio, police departments are disbanding at a far greater rate than new agencies are being created. Between 1970 and 1999, King (1999b) discovered 115 Ohio police agencies which had disbanded, and only 15 newly created agencies.³ King's research also revealed that in the two U. S. states with the greatest population growth during the early 1990s (Arizona and Nevada) only 6 agencies disbanded and 9 new agencies were formed. One would expect a greater number of newly created agencies in states experiencing such rapid population growth.⁴ It is difficult to draw

³ One reviewer asked us to discuss the total number of police agencies in Ohio. Previous research has demonstrated significant flaws in the methods used to count police agencies in the United States (Maguire et al. 1998). The first dependable census of law enforcement agencies was conducted in 2000 by the Bureau of Justice Statistics (US Dept. of Justice, 2003). That census revealed that there were 801 general purpose law enforcement agencies in Ohio in 2000. Therefore, with 115 disbandings and 15 new agencies, our rough estimate is that the total number of agencies decreased from 901 to 801, or roughly an 11% reduction. We caution readers that this is just a rough estimate.

sweeping conclusions about the entire policing industry in the U.S. from research in only three states. However, there are no reliable national data to test our hypothesis.⁵ Organizational disbanding appears not to be a rare phenomenon among local police agencies. Our strong suspicion is that every year, the number of police agencies in the United States shrinks.

Our suspicion is bolstered by a perusal of media reports, which indicate that even

Figure 1.
Number of Ohio Police Departments Created and Disbanded
between 1970 and 1999.



very large police agencies are not immune to disbanding. For example, in the early 1990s, three of the largest police agencies in the U.S. (New York City’s transit, school,

⁴ Between 1990 and 1996, Nevada experienced a population increase of 33.4 percent, and Arizona a population increase of 20.8 percent.

⁵ The 1996 Law Enforcement Directory Survey, the most comprehensive list of police agencies in the United States at the time, has been criticized for being incomplete (Maguire et al. 1998). When the Bureau of Justice Statistics carried out the 2000 Law Enforcement Directory Survey, they were responsive to the earlier criticism and made an effort to find the agencies missing from the previous wave. Thus, examining these two data sources side-by-side would lead to the erroneous conclusion that the number of agencies is actually increasing.

and housing police agencies- the 8th, 18th, and 21st largest police agencies in terms of full-time sworn employees in 1993) were folded into the New York City Police Department. Other recently disbanded agencies include the Compton Police Department in California (with 103 sworn officers, disbanded in 2000), the North Lauderdale Police Department in Florida (with 56 sworn officers, disbanded in 2001), and the Highland Park Police Department in Michigan (with 51 sworn officers, disbanded in 2003) (Cavanagh 2001; Cardenas 2005).

Overall, however, it appears that smaller police agencies are far more susceptible to disbanding than larger agencies. When a smaller police agency disbands, its locale (such as a village, town, township, or city) must either contract with another police organization to continue the provision of services, or merely let a larger agency with collective jurisdiction over the area encompassing the locale assume the responsibility. Every geographic region of the U.S., including unincorporated areas, has at least one police agency with overall jurisdiction for providing general police services (such as patrol, emergency response, investigation, etc.). In many states, this agency is the county sheriff, while in others it is the state police. Locales such as towns and cities may create their own agencies which, in effect, supplement the sheriff (or whatever agency has overall jurisdiction). But in the end, the agency with collective jurisdiction has the ultimate responsibility for policing that locale. Thus, when a local agency is disbanded, the agency with collective jurisdiction usually ends up policing the area. In Ohio, for instance, smaller police agencies are disbanding at a rate of about 8 times greater than they are being created, and county sheriffs are forced to pick up the slack. This means that agencies serving multiple communities (such as sheriffs and state police) are slowly

becoming responsible for larger geographic domains and larger populations. If this is true, they are also likely to become larger and more structurally complex.

2. Increases in the Size of Police Organizations

Police organizations are growing not only in the United States but also worldwide (Maguire et al. 1998; Maguire and Schulte-Murray 2001). However, due to data quality issues, no reliable national data exist for tracking changes in the size of American police organizations (Maguire and King 2004). In spite of these data problems, we present three forms of evidence to support our assertion that American police agencies are increasing in size. First, in the U.S., the median number of police officers per 1,000 population increased from 1.77 officers in 1975 to 1.98 in 1998 (Maguire and King 2004).⁶

Second, a visual analysis of yearly employment data gathered from 1937 to 2000 in police agencies serving 38 of the largest U.S. municipalities indicates that 28 agencies (73.6 percent) exhibited consistent increases in overall actual (not authorized) size.⁷ Seven of these agencies had relatively flat growth trajectories between 1937 and 2000, while only three agencies declined in overall size. Data from large, municipal agencies does not provide concrete evidence about what is happening in the majority of American police agencies (most of which are small). However, the results suggest that on average,

⁶ This analysis used the FBI's Police Employees data and includes agencies serving populations of at least a thousand and employing at least fifty full-time (actual, not authorized) employees in both 1975 and 1998. This left 1,258 agencies with data for both years (Maguire and King, 2004). When we calculate ratios of police per unit population for smaller agencies, we end up with a number of erratic values. These values begin to stabilize for agencies with 50 or more employees.

⁷ This sample of 38 municipal police agencies was assembled by selecting the 20 largest cities in 1930, and the 20 largest cities in 2000. The data for this year-by-year analysis come from the published version of the FBI's annual Police Employees data which were then compiled electronically by King and Heinonen (2004).

the largest police agencies in the United States are increasing in size.

Third, we selected the 390 police agencies that were surveyed by the FBI to construct its “Police Employees” database in 1937 and 1938. We then examined the Police Employees data for these same 390 agencies in 1970, 1980, and 1999. These agencies added a median number of 17 employees between 1970 and 1980, and 59 employees between 1970 and 1999. Further, 76.9 percent of them grew between 1970 and 1980, and 87.8 percent of them grew between 1970 and 1999.

Unfortunately, there are no reliable national data sources over time that would allow us to conduct a definitive test of our hypothesis that the American policing industry is growing, both in absolute terms and relative to the population. Therefore, we are forced to rely on a patchwork quilt of evidence. All of the analyses we presented in this section are original analyses that we conducted by merging separate data sources (some available only in paper documents) that have not, to our knowledge, been merged in the past. Although these analyses have some inherent limitations, the evidence we have presented here provides support for our hypotheses.

3. Increases in the Complexity of Police Organizations

Organizational scholars use terms like structural differentiation or structural complexity to refer to the various ways in which formal organizational structures become more complex. Organizations can become more complex in many different ways. There are four primary types of structural complexity: vertical, functional, spatial, and occupational (Langworthy 1986). Organizations become more vertically complex when they add layers of command or supervision; they become more functionally complex when they add new bureaus, divisions, or units; they become more occupationally

complex when they hire employees having different specialties, skills, or occupations; they become more spatially complex when they open new sites in different geographic locations. All four of these forms of complexity have been studied systematically in American police organizations. Therefore it is possible to explore the extent to which police organizations are increasing or decreasing their levels of structural complexity.

During the community policing movement, American police organizations were urged by many reformers to become less complex vertically and functionally, eliminating layers of command and empowering front-line officers to handle some of the tasks that were previously handled by special units. At the same time, police departments were under pressure to become more complex occupationally and spatially, hiring a diverse mix of employees with different skills and qualifications and opening new precinct houses and mini-stations in neighborhoods (Maguire 1997).

The evidence suggests that police organizations have heeded the advice of community policing reformers in some ways but not in others. Research has detected a significant increase in occupational complexity, with police agencies hiring civilians having a diverse mix of educational backgrounds and specialties. Spatial complexity also increased, with police agencies opening new precinct stations and mini-stations. These two changes are mostly consistent with the community policing reform movement. Vertical complexity increased in some ways but remained unchanged in others. Functional complexity either remained stable or increased; unfortunately, data problems prevent us from drawing a more definitive conclusion. These latter two changes are inconsistent with the community policing reform prescriptions (Maguire 1997; Maguire, Shin, Zhao and Hassell 2003).

Altogether, the evidence here suggests that American police organizations are

adopting more complex organizational structures. None of the four forms of complexity examined in the research literature have decreased during the 1990s. Two increased for sure, with two others showing mixed evidence of remaining stable in some ways but increasing in others.

THREE THEORIES OF ORGANIZATIONAL CHANGE

Providing empirical evidence that changes are taking place in the American policing industry is only part of the argument necessary to conclude that such changes will last long enough to have a fundamental influence on policing. Another necessary part of the argument should be a theoretical explanation that attempts to understand and explain these changes in a conceptually meaningful way. For that we turn to organization theory, a diverse body of perspectives on organizations and the factors that influence them. In particular, we introduce three theories: contingency theory, institutional theory, and population ecology theory. All three of these theories have been tested and have found varying levels of support in organizations of many types: public and private, manufacturing and service, profit and nonprofit.

Contingency Theory

Contingency theory is the simplest and most straightforward of the three theories we explore here. It asserts that organizations adapt to changes in their environments to remain effective or to enhance their effectiveness. It is an optimistic theory in that it views organizations as constantly involved in a rational search for more effective structures and processes. Contingency theory has received a modest amount of support in research on police organizations (Langworthy 1986; Maguire 2003). At the same time,

contingency theory is viewed by many critics as insufficient or unrealistic because it fails to account for the numerous forms of irrationality and ineffectiveness in organizations.

Institutional Theory

Institutional theory suggests that much of what organizations do is unrelated to their attempts to respond in a rational way to their environment, as suggested by contingency theory. Instead, organizations must respond to their institutional environment, which is composed of powerful groups and institutions (called sovereigns) like the media, politicians, public action groups, and other influential external forces. These sovereigns control important resources for organizations; resources such as money (especially for publicly funded governmental organizations, like the police), legitimacy, reputation, and prestige.

Many of the positions, policies, programs, and procedures of modern organizations are enforced by public opinion, by the views of important constituents, by knowledge legitimated through the educational system, by social prestige, by the laws, and by the definitions of negligence and prudence used by the courts. Such elements of formal structure are manifestations of powerful institutional rules which function as highly rationalized myths that are binding on particular organizations (Meyer and Rowan 1977, 343).

According to institutional theory, organizations that are structured and act in accordance with the expectations of their sovereigns will be deemed good. Unsuccessful organizations are those that cannot or will not change in accordance with the expectations of their sovereigns. These organizations will be deemed bad, and will suffer legitimacy and image problems. Consequently, they will face difficulty in obtaining necessary

resources from their environments, such as new members, money, and access to information held by other organizations (see Guyot 1979, 274).

In some instances, unsuccessful police organizations are reformed from without by their sovereigns. Such reform is often ceremonial (Sherman 1978); sometimes a commission is convened, an investigation is launched, a consultant is hired, or an employee (usually the chief of police) is replaced (Crank and Langworthy 1992). These symbolic ceremonies are designed to restore legitimacy to the organization and heal the fractured relationship between the police agency and its environment. In certain instances, however, the lack of legitimacy is so profound that the organization is disbanded by its sovereigns. Such instances represent the nexus of institutional theory and the next theory we examine, population ecology theory.

Population Ecology Theory

Population ecology is a perspective that seeks to describe how populations of organizations are influenced by patterns of organizational creations (births) and disbandings (deaths) (Carroll 1983; Hannan and Freeman 1984, 1989). Population ecologists base their perspective on a handful of assumptions. First, they argue that organizations are created (born), and disbanded (die) quite regularly. Often our ability to see such births and deaths is clouded by the handful of long-lived, aged, or persistent organizations that surround us. Some of these older organizations are quite well known (e.g., McDonalds, Burger King). For this reason, people tend to assume that most organizations are long lived, when in reality most have short life spans. For example, the field of domestic U.S. automobile manufacturers (the big three) appears to be quite resistant to organizational death. Yet in the early years of the automobile industry, there

were numerous auto makers, such as Nash, Studebaker, Packard, DeSoto, and Willys (among many others). Many of these manufacturers either disbanded or were subsumed by other manufacturers. Data on business ventures with 100 or more employees created in the U.S. in 1985 indicates that 58 percent of these businesses did not make it to their ninth anniversary (Duncan and Handler 1994). Likewise, the late 1990s saw the emergence of numerous “dot.com” organizations, few of which lasted more than a handful of years. Organizational births and deaths are common occurrences of significant importance for population ecologists (Aldrich 1999).

A second assumption of population ecologists is that strategically speaking, organizations are resistant to change; they cannot adapt strategically (Kaufman 1985, chapter 3). They are capable of changing in small ways at a sub-strategic level, but they have difficulty instituting more profound strategic changes in mission or core operating technologies. Consider dinosaurs as an example. A brontosaurus was capable of sub-strategic changes, such as deciding where to eat, avoiding predators, etc. It could not, however, rear up on its hind legs and become a tyrannosaurus rex, nor could it sprout flippers and swim through the sea. That is, while it was capable of making small tactical or other sub-strategic changes, it could not radically alter its core strategies. Likewise, most organizations can alter their products or services in response to real or perceived changes in their markets. Police organizations can change the allocation of employees (e.g., assign more officers to patrol), their tactics (e.g., adopt tactics appropriate for “broken windows” policing), or their management style (e.g., COMPSTAT). At the strategic level, however, organizations do not readily change even when their survival depends on it. For example, businesses devoted to

horses and horse-drawn vehicles dominated the personal transportation industry (as opposed to the mass transportation industry, such as railroads) before 1900. These horse-oriented businesses such as carriage and saddle makers, and horse breeders, however, did not adapt to satisfy the new consumer demand for automobiles.

Rather, automobiles were built by newly formed companies, which soon drove most horse-oriented businesses out of existence. This inability to change strategically means that most organizations (like particular dinosaurs) are created to address particular aspects of their environment, but cannot change when their environment changes radically (Stinchcombe 1965).

A third assumption of population ecologists is that radical environmental changes lead to the creation of other organizations, which might be better suited to handle that particular new environmental niche. New organizations are created all the time. For example, using a relatively restrictive definition of what a business is, Duncan and Handler (1994) report that there were 249,768 new businesses created in the U.S. in 1985. These new organizations sometimes drive pre-existing organizations out of existence by changing the environment and making it inhospitable for older organizations, much as horse-drawn carriage makers were driven out of business by automobile manufacturers. Outmoded organizations die and are replaced with organizations better suited for that particular environment through selection or replacement at the population level, but not through adaptation by individual organizations. Change occurs as organizations replace one another, not as organizations change internally, one-by-one. According to Hannan and Freeman (1989, 19), "...the diversity of organizational structures at any time reflects... a long history of foundings and disbandings of

organizations with fairly unchanging structures.” Put another way, when the jungle floods, brontosaurus do not sprout flippers and gills. They die and new fish are then created to fill the ocean.

WHY THESE THEORIES MATTER

In this section, we explore how these three theories can help us understand changes in the American policing industry. We examine the three fundamental changes we introduced earlier – a decrease in the number of agencies, an increase in agency size, and an increase in structural complexity– through the lens of each theory. The structure of our discussion is illustrated in Figure Two.

Change 1: Fewer Police Agencies

Figure 2:

Three Organizational Theories and Three Types of Change

Theory	Fewer Agencies	Larger Agencies	More Complex Agencies
Contingency Theory	1a	2a	3a
Institutional Theory	1b	2b	3b
Population Ecology Theory	1c	2c	3c

1a. Contingency Theory

Why are we seeing a slow decline in the number of police agencies in the U.S.? Contingency theorists have generally skirted the issue of organizational disbanding; however, the theory does suggest that at any given time, there are effective and ineffective organizations. Contingency theory suggests many ineffective organizations will discover or realize their ineffectiveness and implement rational changes designed to improve their effectiveness. Yet some ineffective agencies will not be successful in implementing changes, will implement the wrong changes, or will not change at all. These permanently failing organizations will perform poorly for long periods of time (Meyer and Zucker 1989). In some cases, these chronically unsuccessful organizations will be disbanded. According to contingency theory, organizations which fail to adapt to their environment will also fail to be effective. Unless there is some force or set of forces that keeps them alive in spite of their ineffectiveness, they will ultimately die.

Contingency theory suggests that one reason American police agencies are disbanded is their failure to achieve their goals effectively and their inability to implement changes to lift themselves out of their dysfunctional habits and practices. It may be that some police agencies are incapable of implementing necessary changes. For example, smaller police agencies may not have sufficient personnel to devote to drug task forces, to combating identity theft, or to serve as police officers in schools. Such personnel limitations may make some of these smaller agencies (that is, smaller agencies in areas where there is a drug problem, identity theft problem, or school crime problem) ineffective. In other instances, disbanded agencies may have ignored their goals or failed to adequately address serious problems in their communities although they may

have had the resources available to address these concerns.

1b. Institutional Theory

Institutional theory also suggests possible causes of organizational death or disbanding. The causes of death, however, are different from those suggested by contingency theory. Organizational scholars (studying a wide range of organizations besides police agencies) have isolated a handful of institutional causes of death (Hannan and Freeman 1988; Singh and Lumsden 1990). Overall, while contingency theory focuses on effectiveness and efficiency, institutional theory concentrates on legitimacy, public perceptions, and the way an organization is viewed by others in its environment. Perceptions matter more than effectiveness. Our discussion of institutional theory and police agency disbanding will focus on three correlates of disbanding: organizational age, organizational size, and legitimacy problems.

Generally, organizational scholars have found that organizations are prone to disbanding during certain periods of their lifecourse but there is some disagreement concerning the time period at which organizations are most likely to disband. Initial research found a liability of newness (Stinchcombe 1965), where the likelihood of disbanding peaked shortly after an organization was founded and decreased thereafter (Carroll 1983; Carroll and Delacroix 1982; Freeman, Carroll, and Hannan 1983). Later research found evidence that organizations suffer from a liability of adolescence, where the probability of organizational death is U-shaped and it peaks several years after an organization is founded. According to this perspective, the likelihood of disbanding is low immediately after founding, but peaks after several years, after which the likelihood of disbanding decreases again. Finally, more recent research indicates that there is

evidence for a liability of aging (or obsolescence) where the probability of disbanding increases with age (Meyer and Brown 1978; Ranger-Moore 1997). The most recent developments in this line of research indicate that increased organizational size can mitigate the likelihood of organizational disbanding (Ranger-Moore 1997), that disbanding depends upon an organization's strategy (Henderson 1999), and that turbulent times increase the likelihood of organizational disbanding (Ranger-Moore 1997).

Much of the research noted above suggests links among an organization's institutional environment, its legitimacy, and organizational disbanding. This focus upon the institutional environment and legitimacy is very applicable to police agencies, for they have few concrete indicators of good performance. Under such conditions it is likely that appearance and reputation become more salient. Organizations that are unable to maintain a good image in the eyes of their sovereigns, or those who cannot establish requisite linkages with these sovereigns, eventually lose legitimacy and experience resource acquisition problems. For example, disreputable police agencies will have difficulty recruiting qualified, high-quality employees; securing adequate resources from local governments; winning the support of the public on the streets, on juries, and in bond referenda; receiving professional accolades such as accreditation, certification, or awards; or obtaining external grants (Hannan and Freeman 1989). If these problems cannot be overcome, a public and visible reform ceremony is one possible remedy. Another remedy is organizational disbanding.

Research conducted with a variety of organizations indicates that a range of legitimacy and institutional problems can contribute to organizational death (Edwards and Marullo 1995; Minkoff 1993; Singh and Lumsden 1990; Singh, Tucker and House

1986; Weed 1991). Organizations which fail to establish relationships (such as partnerships, collaborations, and exchange agreements) with sovereigns and other organizations in their environment suffer greater death rates. Networking and exchange relationships with important constituents and established entities (including other, similar organizations) can impart legitimacy upon an organization and hence decrease the likelihood of disbanding. It is reasonable to assume that some of these resource problems are important during an organization's early years (such as attracting and recruiting qualified, high-quality employees), while other concerns become more pressing later (such as securing continued funding). This insight may help explain why some studies find evidence of the liability of newness, while others find evidence for the liability of adolescence or the liability of aging.

Finally, it is likely that increased organizational size buffers police agencies from threats in their institutional environment. Organizational scholars have used the term *liability of smallness* to refer to the propensity for smaller organizations to disband. The public often associates larger size with greater quality, and this probably applies to police agencies as well. Consider how many television shows and movies have used the New York City Police Department as their setting, as opposed to smaller police departments. Research indicates that when police agencies want to know what the state of the art in policing is, they often contact a very large police agency to see what that agency is doing (Weiss 1992). Often, these smaller police agencies emulate the larger agencies. We contend that this process of peer emulation is driven by a desire to copy reputable agencies and that in the absence of more detailed information, size and legitimacy become intertwined. Bigger is better, and thus size shields agencies

from disbanding.

Larger organizational size also allows agencies to change their structures symbolically and to buffer themselves from outside threats. First, larger police agencies can create special units, policies, and arrangements to address institutional demands (such as a public outcry). For instance, the danger of child sexual abuse might be addressed by a larger agency when it creates a specialized unit to combat pedophiles. Smaller agencies, however, lack the manpower to create specialized units and thus may appear to be unresponsive. Second, when faced with a scandal or public outcry from sovereigns who are unhappy with a police agency, larger agencies can eliminate certain units, reshuffle or demote employees, and engage in a process of breaking-up (or hiding) the offending unit or practice. Smaller agencies afford fewer places to hide troublesome employees and less opportunity to shuffle units about.

1c. Population Ecology

Population ecology theory is concerned with explaining the expansion and contraction of the “populations” of different types of organizations. The two main predictors used by population ecologists are the overall population size (the number of organizations of a certain type, such as police departments), and the resources available to that population (called “niche width”). It is a theory steeped in the terminology of biology and biological populations, so it may help to think of police agencies as animals of different types and sizes inhabiting an island with limited resources. Smaller police agencies are like mice, and are capable of using resources sparingly and require little territory. Medium sized agencies are like dogs, while very large agencies are like elephants. In some instances all three agency types can co-exist peacefully in the same

area, for each type generally draws its resources (for example operating funds, new members, and legitimacy) from different niches (think of the different tax bases available for each of these areas). At times, agencies must share resources (such as the pool of qualified job candidates), but if resources are sufficient, no one is harmed by this resource sharing. A greater number of agencies, or a single agency undergoing expansion, however, can alter the equilibrium of this balance. For example, an increasing number of large agencies will eventually draw resources away from the medium and smaller agencies as will a large, metropolitan police agency undergoing expansion. The large metropolitan area may annex neighboring areas or it may deplete the resource pool for medium and small agencies. Such a move would likely lead some medium sized agencies to disband, while other medium sized agencies look for new pools of resources. This, in turn may deplete the resources for smaller agencies. If these resource problems become serious enough, smaller agencies would be forced to disband too.

How then can population ecology theory explain a decline in the number of police agencies? We have provided evidence that larger agencies are growing larger, and are thus consuming more resources. This leaves fewer resources for smaller police agencies, and these resource problems have become severe enough that smaller police agencies are forced out of existence. Some of these resources are likely contingency-type resources (like the ability to specialize, to get specially trained employees, and get equipment). Other resources are institutionally based (such as legitimacy, the ability to network with sovereigns, and the ability to build a reputation for good work). Regardless of their type, resource problems can drive police agencies to disband.

Change 2: Larger Agencies

2a. Contingency Theory

Contingency theory offers a rational explanation for increases in organizational size— organizations grow as the demands on them increase. In other words, increases in size occur because they need to occur. In some cases, agencies may need to increase in size to enhance their effectiveness, but the research evidence does not support the more general view that larger agencies are universally more effective than smaller agencies. After summarizing the research on the linkage between police agency size and effectiveness, for instance, Maguire and Uchida (2000, 523) conclude: “probably the most consistent finding is that larger police organizations are not necessarily more effective, and in many cases they are less effective than smaller agencies.” It does make sense, however, that as population and workload increase, police organizations would increase in size. When researchers have asked police leaders what factors they think are responsible for promoting growth within their agencies, the primary influences they cite are all very rational, contingency theory-type explanations: increases in crime, calls for service, and population (Koper and Moore 2001). Yet, when we examine evidence from studies that rely on comparative data from large samples of cities or other jurisdictions, we find that less rational explanations such as the size of minority communities (controlling for crime rates) also influence police agency size (Maguire, 2001). Our interpretation of the evidence is that contingency theory, and the rationality on which it is based, offers a partial but incomplete explanation for growth in police agencies.

2b. Institutional Theory

Institutional theory suggests a less rational approach for increases in organizational size— organizations grow so they will be perceived as more legitimate. For the smallest organizations, legitimacy enhances the probability of survival. Small organizations are at significant risk for being disbanded, because they are frequently viewed as less professional and less legitimate —not real police— compared with larger police agencies. For those with doubts about this perspective, consider the words of Patrick Murphy, one of the most influential police executives of the twentieth century: “a great many American communities are policed by a farcical little collection of untrained individuals who are really nothing more than guards. These genuinely small departments (fewer than twenty-five sworn officers), to begin with, tend not to have much of a franchise by and large; with small territory and limited clientele, they do not face much of a crime problem” (Murphy and Plate 1977, 71-72).

While Murphy’s characterization of police agencies serving small communities is both controversial and overstated, he expresses a sentiment that we’ve heard a number of times from police professionals: when it comes to police agencies, bigger is better. Police organizations may seek to grow larger so they will be taken more seriously, so they will not be viewed, to use Murphy’s term, as “farcical.” Smaller agencies may actively seek to expand in size so they will be taken more seriously and viewed as more legitimate, not only by the community, but also by their colleagues in other communities.

2c. Population Ecology

Police organizations have been increasing in size. We cannot determine for certain whether increasing organizational size is a cause or an effect. It may be that increasing organizational size protects agencies from the likelihood of disbanding. As we noted earlier, larger agencies appear to be better buffered from their institutional environments, although there is little credible evidence that they are necessarily more effective. On the other hand, survival may be a matter more related to random chance and luck. Herbert Kaufman (1985, 67) argues that, "...the survival of some organizations for great lengths of time is largely a matter of luck. It seems to me such longevity comes about through the workings of chance.". Perhaps those agencies lucky enough to survive grow larger as they take on the responsibilities (and resources) of their disbanded peers.

Change 3: More Complex Agencies

3a. Contingency Theory

Contingency theory suggests that structural complexity increases when less complex structures are ineffective or inefficient. In other words, police agencies add ranks (vertical complexity), units or divisions (functional complexity), stations (spatial complexity), or occupations (occupational complexity) when there is a demonstrated, rational need to do so. As the demands on a police agency become more complex, the organization adapts to these "contingencies" in its environment by modifying its structure in a rational, deliberate quest to improve performance. There is some evidence to support this assertion. For instance, the two main studies that have examined the antecedents of police organizational structure both found

that the size of the agency was the major factor influencing structural complexity (Langworthy 1986; Maguire 2003). Since we would expect larger organizations to require greater structural complexity to support an increased need for coordination and control, this is a classic contingency-theory finding. At the same time, other research findings suggest that contingency theory is an incomplete explanation for increases in complexity. For instance, some research has found that the scope of tasks an agency performs is unrelated to its levels of functional differentiation (Maguire 2003). Other research findings that we explore in the next section also suggest that contingency theory offers only a partial explanation for increases in structural complexity.

3b. Institutional Theory

If contingency theory is a glass-is-half-full explanation for increases in structural complexity, institutional theory sees the glass as half empty. According to institutional theory, organizations are responsive to concerns about what they should look like and what structures they ought to adopt, regardless of whether those structures and approaches actually improve performance. Charles Katz has demonstrated, for example, that some police departments adopt gang units in the absence of a serious gang problem (Katz 2001; Katz and Webb 2006). For instance, in one agency he found that “the gang unit was created as a consequence of pressures placed on the police department from various powerful elements within the community, and that once created, the unit’s response was largely driven by their need to achieve and maintain organizational legitimacy” (Katz 2001, 37). Police

agencies with more complex structures -taller hierarchies, more specialized units, more stations, and a wider range of occupational specialties - may be viewed as more legitimate than agencies with simpler structures. According to institutional theory, police organizations will adopt more complex structures when there is strong external pressure from powerful “sovereigns” in the environment - including politicians, reformers, policy elites, funding agencies, the public, or the media - regardless of whether these structural changes produce anything other than symbolic effects.

3c. Population Ecology

Population ecology offers a very different perspective on why organizations adopt more complex structural forms. It asserts that as organizations age, they become more complex - a tendency that has been termed the “structural elaboration” hypothesis (Maguire 2003; Katz, Maguire, and Roncek, 2002). Simply, organizations add various elements to their structures over time, while simultaneously failing to shed structural elements added at earlier times. As a result, organizations become more complex over time as they age (King 1999a). For population ecologists, an increase in structural complexity is simply a normal byproduct of the organizational aging process and each surviving organization’s resistance to disbanding. Evidence for the structural elaboration hypothesis is mixed. For instance two studies (King 1999b; Maguire 2003) have now found that older police organizations have taller hierarchies independent of other causal effects like size. However, research has not isolated a causal effect of organizational

age on other elements of structural complexity.

INTEGRATING THE THREE THEORIES

Taken alone, these three organizational theories represent incomplete explanations for the three changes in American policing that we have discussed in this chapter: a decline in the number of organizations, and an increase in the size and complexity of the remaining organizations. However, integrating these three theories provides a more complete explanation for these three changes. All three theories help us understand why the number of police agencies is shrinking. Those agencies unable to handle their resource problems are disbanded. These resource problems may involve contingency-type resources, like personnel and money, or they may involve institutional-type resources, like legitimacy, prestige, or reputation. Some population niches (such as small police agencies located outside of an expanding city) do not provide sufficient resources to maintain a static number of police agencies, and hence the number of police agencies decreases. Some population niches do not provide enough resources to support an organization's attempts to change and adapt. Most disbanded police agencies are smaller, which suggests that smaller agencies have trouble adapting and thus ensuring a reliable flow of resources.

Once disbanded, some of an agency's resources evaporate and cannot be taken by another surviving agency (such as the legitimacy attached to a specific agency). Other resources, however, such as organizational members, equipment, and funding, can be used by surviving agencies. Adding these "left-over" resources (both contingency and institutional-type resources) to another agency explains the increasing size and

complexity of some agencies.⁸ Mainly, a pool of left-over resources makes it easier for surviving agencies to survive (e.g., they may assume the mission and/or territory of a disbanded agency and thus argue to sovereigns that their role is now more necessary). Furthermore, as we have argued above, increasing age leads to increases in structural complexity.

More generally, the lesson that we learn from this exercise is that there are multiple explanations for the changes that we have observed. While policy makers and practitioners tend to rely on rational explanations for these changes, the evidence also lends strong support to other less-than-rational explanations. Police agencies sometimes disband because they are ineffective or inefficient, but they are sometimes disbanded for other reasons. And when police agencies are disbanded, they are sometimes replaced by agencies that are less effective or less efficient.

Likewise, increases in size may be due to increases in police workload, but there are many instances of police agencies growing without any evidence of increases in workload. In fact, research has demonstrated that even when increases in workload promote growth in police strength, decreases in workload are not then followed by reductions in police strength. Police agencies grow for many reasons: to enhance legitimacy, out of simple bureaucratic inertia, or when they take over the functions or territory of disbanded agencies. Similarly, agencies may increase in complexity because such complexity enables them to perform better. But they may also increase in complexity to enhance their legitimacy, their reputation, or their prospects for

⁸ We are not suggesting that the increasing size of police agencies overall is the result of adding employees of disbanded agencies. It is probably very rare that one agency grows significantly by adding ex-employees of another disbanded agency.

survival. Achieving a genuine understanding of the three changes in policing that we have discussed in this chapter requires us to combine elements of all three theories and perhaps others.

CONCLUSION

We have outlined three changes that, while still small and difficult to detect or measure with any degree of certainty, may have a major impact on the American policing industry. Due to limitations in systematic longitudinal data on American police agencies, we cannot present definitive evidence of the extent to which these changes are taking root. But we have presented a patchwork of evidence that supports our assertions. While policy makers are prone to supporting rational, contingency theory-type explanations for these and other changes in policing, we have illustrated that other more subtle explanations also deserve some attention. Institutional theory, for instance, teaches us that organizations (and entire industries) sometimes change in a quest to increase their legitimacy, often adopting changes that have little or nothing to do with (or may even be antithetical to) increasing their effectiveness or their efficiency. Similarly, population ecology attunes us to the need to view trends in the policing industry from a more detached, more macro-level perspective than most of us are used to adopting.

Policing, as an industry, seems to be moving toward a smaller number of larger, more complex agencies. Although some municipal police agencies may take on the functions of other local agencies, it is primarily county sheriffs, county police,

and state police agencies that will begin “swallowing up” the smaller disbanded agencies within their jurisdictions. If this is true, agencies responsible for policing collective jurisdictions containing multiple, independent communities, will begin taking on a larger and larger share of the American policing pie. At the same time, citizens may begin to receive standardized policing services that are not adapted to the needs of their individual communities. In other words, if the changes that we have outlined do continue to occur, we may begin to witness the very opposite of the personalized and customized styles of policing that community policing reformers have urged police agencies to adopt.

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Chapter Twelve

THE FUTURE OF EDUCATION AND TRAINING FOR POLICING

Joseph A. Schafer & Sandy Boyd

EXECUTIVE SUMMARY

In the world of policing, education and training are typically distinct experiences. Educational experiences (completing college courses and degrees) are rarely linked with training experiences (new officer training, on-going firearms proficiency, new skills training, etc.). Further, agencies rarely do much to encourage education once an employee is hired. Officers either bring education to an agency as a new recruit and/or they continue their education after some time on the job. Training is provided both at entry and periodically throughout the career as dictated by legal mandate and need. Despite their distinctions, police education and training should be complementary processes and experiences.

This chapter considers current, emerging, and future issues relating with education and training for policing. We begin with a review of the current states of education and training. At the present time, education is experiencing a shift due to the rise of on-demand, flexible educational experiences. This shift has tremendous implications for the educational system as a whole. Police training also appears to be on the verge of a shift in pedagogy, the basic assumptions about students and how to maximize their learning experiences. Consideration of the current states of education and training lead to an exploration of possible, probable, and preferable futures in these arenas. Examining education and training as they might exist in 2020 is an important exercise, as police agencies may be able to capitalize on improvements in where, when, and how we conduct these activities.

The chapter concludes with a scenario describing a fictional officer's educational and training experiences in 2020. Although our vision is likely inaccurate in some areas (either overlooking changes that we actually will witness and/or incorrectly forecasting changes that will not materialize), the shifts we discuss seem likely at the time this chapter is being written. The shifts in practice, technology, and philosophy that are examined in this chapter are generally all in some stage of development. For the most part, these are not changes that *could* happen, they are changes that have already begun and will most likely be fully manifest by 2020.

INTRODUCTION

Though police education and training are fundamentally different, in an ideal world they should complement each other. Education should prepare a student to succeed in any training regimen or philosophy, or in any occupation regardless of major. The process of education is less a transfer of fact or philosophy than of the development of the skills of "learning how to learn." A college education is designed to build within each student the ability to critically assess new situations, undertake new learning as needed, and even to question the "facts" and underlying assumptions of existing canons of knowledge, when necessary (Carter, Sapp and Stephens 1989). Training is a systematic building of particular skills, knowledge, and abilities that transfer directly to the worksite. Police training helps an officer understand the "tools of the trade," such as applying state laws, using defensive tactics, and knowing how to de-escalate conflict situations. It is what an officer "falls back on" in high stress situations. Training curricula also contain a growing number of topics that embody a learning component quite different from wristlocks and takedowns. Domestic violence and child abuse, multicultural issues, legal rights of the accused and other topics too numerous to list now require

documented training (Buerger 1998).

There are several other dimensions that distinguish higher education from police training. Higher education tends to be more broadly focused and spends more time analyzing and discussing materials; training tends to be directed and subject to less critical analysis and debate. Higher education is usually delivered by instructors with levels of formal education exceeding the average levels held by the students, although these instructors may lack job-related experience in the field for which students are preparing. Training is delivered by instructors who have more job-related experience than the students, although these instructors may hold lesser academic credentials. The evaluation of learning is sometimes the same (e.g., objective examination questions), but is often broader and multi-modal in higher education settings (e.g., increased reliance on the assessment of more abstract notions, such as critical thinking and analysis).

Ideally designed, higher education prepares graduates to succeed in a range of occupational settings because they have learned to learn. Although graduates may still need to acquire the knowledge, skills, and abilities of a particular occupation, they are thought to be well prepared and able to thrive in their professional life because they have developed stronger skills in reading, writing, research, analysis, organization, critical thinking, and time management. Training, in contrast, is intended to simply teach the technical skills required to perform a particular job, such as being a police officer, in part or in whole. The skills acquired through training often do little to prepare the graduate to thrive in other occupational contexts. The completion of a bachelors degree in criminal justice provides the graduate with the skills to work in a wide range of social service and professional occupations; the completion of police academy training is far less transferable to other occupational venues.

Educational and training processes are reciprocally linked for many employees. This is especially true in career fields such as policing, where it is common for employees to enter with some level of higher education (e.g., beyond a high school diploma or equivalency degree), to complete the occupational training, and to further their education at a later date (through the completion of a college degree). In the future, emerging technologies and modes of training and education will enhance this situation. In the next decades we will see training become more flexible, customized, and on-demand; higher education will also advance in these areas, although perhaps to a lesser extent. This chapter focuses on the futures of the worlds of higher education and police training. In some cases, the boundary between these two worlds, which has always been permeable, will become increasingly blurred.

THE CURRENT STATE OF CRIMINAL JUSTICE EDUCATION

Criminal justice education has realized tremendous achievements in the last 70 years. As early as 1916, August Vollmer, a “founding father” of professional policing and chief of the Berkeley California Police Department, advocated college education for police officers (Carte and Carte 1975). Vollmer was instrumental in the development of the School of Criminology at the University of California Berkeley, which is generally recognized as the first higher education program specifically designed to prepare students to work in policing. In 1933, the School began to offer a four-year degree in criminology, the first such bachelors degree program in the country. This was followed by the establishment of degree programs at Michigan State University (in 1935) and the University of Washington (in 1936) (Charles 2000). Over the years, various federal commissions and professional organizations have continued to echo the importance on a

college education for police officers¹.

Most notably, criminal justice education was enhanced in the 1970s through the federal government's sponsorship of the Law Enforcement Education Program and Law Enforcement Assistance Administration (Carter et al. 1989). In response to federal funding to assist police officers in pursuing college educations, institutions of higher learning across the country quickly adopted programs in criminal justice (Fike, Harlan and McDowell 1977). The explosion of criminal justice programs leveled out in the mid-1970s, but they have continued a slower rate of growth at all levels (e.g., associates, bachelors, masters, and doctoral degrees). The authors are not aware of any data on the number of universities and colleges offering degree programs in criminal justice, although they certainly number in the hundreds, if not thousands. The lack of a definitive count is due to a variety of factors, including the structure of degree programs at 2-year institutions (i.e., offering general degrees with specializations in a specific field of study) and the fact that criminal justice can exist as a sole department, as a part of a joint department, or as a degree program in a non-criminal justice department. Even in the absence of degree-granting programs, consideration of criminology and criminal justice can be found in select courses in many universities and colleges (i.e., through departments of political science, psychology, and sociology).

Thus, in 2005, there is no shortage of colleges and universities offering students the chance to study criminal justice. This may occur as a degree program or as an area of study within other fields of social science. Beyond programs offered by

¹ Despite the political and professional support for college-educated police officers, empirical evidence has not provided strong and consistent evidence that educated officers perform their job "better" (see Miller and Fry 1976; Smith 1978; Smith and Ostrom 1974; Worden 1990). At the same time, education has been linked with promotion (Truxillo, Bennett and Collins 1998), success in training (Campbell 1992), higher self-rating of job knowledge and competence (Krimmel 1996; Truxillo et al. 1998), and better communication skills (Carter and Sapp 1992). The failure to empirically validate education's benefits may reflect that education does not produce tangible benefits; alternatively, this may indicate social science has not been able to adequately specify and measure the effects of education. Education effects are still being debated within the academic community.

traditional institutions of higher learning, criminal justice has long been a field of study in non-traditional institutions. In the last decade, the proliferation of the internet and high-speed data transmission systems has led to a rapid expansion of non-traditional degree programs offered, at least in part, via online learning modes. The popularity of criminal justice and its adaptability to non-traditional learning methods, coupled with the demand for more flexible degree programs has made criminal justice a very popular field of study at institutions offering degrees (in part or in whole) online and/or via more flexible scheduling (e.g., night and weekend classes, shorter classes, offering “life experience” credits, etc.). For example, the University of Phoenix, one of the largest non-traditional institutions, reports having some 10,000 undergraduates studying criminal justice. As discussed later in this chapter, the rapid expansion of non-traditional corporate educational institutions is one of the biggest factors likely to shape criminal justice education in the coming years.

There has always been considerable debate within criminal justice education over the preferred focus of degree programs (see Castellano and Schafer 2005 for a review of this debate). Is the intent of a college education to provide graduates with technical skills and information? Are such programs to assist graduates in developing professional perspectives on their future career field? Are students better prepared by being exposed to a broad liberal arts and social science curriculum, emphasizing social scientific perspectives on crime and criminality? Institutional variation can certainly be noted and most degree programs teach courses that are in line with more than one of these orientations. Nonetheless, most criminal justice degree programs can be categorized into one of the three (vocational, professional, liberal arts/social science) dominant views of criminal justice education.

Vocational programs are particularly visible among 2-year institutions. This is to be expected given the general preference 2-year institutions have for offering programs that teach job-specific skills (Etter 1998). Vocationally-oriented criminal justice programs tend to be closely akin to pre-service training for police and corrections personnel. In addition to learning foundational knowledge about the structure and operation of the criminal justice system, students are also taught career-specific skills, such as report-writing, traffic law, patrol operations, firearms safety and proficiency, and self-defense tactics. Some states have formalized the link between vocationally-based education and pre-service training by making graduates of certain programs eligible to begin work in corrections and/or policing. For example, graduates of select criminal justice programs at universities in the state of Michigan simultaneously complete their pre-service police academy training while earning a 4-year degree. In their contemporary form, vocational programs in criminal justice rarely exist independent of the other two goals. The aforementioned programs in Michigan also provide students with education related with their professional development and liberal arts/social science perspectives on crime and criminal justice.

The professional and liberal arts/social science (LASS) models of criminal justice education focus on providing students a broader set of tools and skills. The two models differ in terms of the skills that are emphasized. The professional model emphasizes topics that tend to be closely linked to employment in the criminal justice system, such as law, management and administration, and a basic understanding of crime and the operation of the criminal justice system. The LASS model emphasizes skills that are (arguably) more easily transferable to a range of occupational contexts, including communication (written and verbal), critical thinking, research and analysis; LASS programs tend to focus not just on the structure of the criminal justice system, but on

critical perspectives relating with the outcomes associated with criminal justice policies and practices.² For the most part, 4-year institutions tend to emphasize one or both of these models. Neither model prepares students for direct entry into most criminal justice careers (i.e., some form of pre-service and/or in-service training will be required) and both see strength in helping students develop skills that are broader and may provide employment opportunities outside of criminal justice. In recent years, more criminal justice degree programs (particularly those emphasizing the professional model) have become more varied, with departments offering degrees in closely-aligned fields based on growing student demand. This includes the growth of degree programs in forensic science, homeland security, national security, computer security/cybercrime, and intelligence analysis.

Calls for “better educated police” and mandatory degree requirements for new officers have been issued with enough frequency to become a cliché within policing circles. Although many have advocated criminal justice education as a mandatory entry requirement, few agencies formally require more than a high school diploma or equivalency degree to apply for employment (Hickman and Reaves 2003; Langworthy, Hughes and Sanders 1995).³ Even where education is not formally required, officers generally have some level of college education and many agencies informally prefer applicants who have some level of college education (Carter et al. 1989; Johnson and

² It must be recognized that all of the dominant models are limited in determining the extent to which actual goals are achieved. Determining whether one is better than the other is impossible, as such decisions rest on the subjective assessment of what outcomes are ideal.

³ Hickman and Reaves (2003) elaborate that the proportion of local agencies requiring any amount of college education for new officers increased from 10% in 1990 to 32% in 2000, but few required the completion of a college degree. In 2000, 8% of agencies required a 2-year degree, while only 1% required a 4-year degree. This represents an improvement from 1990 (when only 3% of agencies required the completion of a either a 2- or 4-year degree), but the situation is in stark contrast to the 1973 recommendation that “all police officers have an undergraduate degree or its equivalent no later than 1982” (National Advisory Commission on Criminal Justice Standards and Goals 1973, 367).

Cheurprakobkit 2002). It is difficult to assess the extent to which agencies informally give preference to applicants who possess a college education; anecdotal evidence does, however, suggest that many agencies prefer better-educated applicants. Additionally, some larger police departments formally or informally require bachelors and even master's degrees for advancement into higher ranks (Carter et al. 1989; Polk and Armstrong 2001).

Now more than ever there appears to be consensus that education is a valuable asset among current and prospective police employees. At the same time, we continue to see the standard debates about criminal justice education, its goals (e.g., vocational training, professional preparation, liberal arts education, or some mix of the three), the ideal pedigree of instructors (e.g., the importance of formal graduate education versus the importance of criminal justice work experience), and its position in the preparation, training, and development of police officers. Regrettably, most of these issues have been debated for more than three decades. The vigor of this debate is more akin to a low simmer than a rapid boil; they are matters discussed among criminal justice educators and policy makers, but the discussion tends to be circular, slow, and is rarely driven by the desire to achieve final resolution. Unfortunately, it requires little analysis of the future to predict these debates will still be simmering in 2020. Among other matters that remain unresolved are:

- How much education is necessary to effectively serve in specific police ranks?
- Is merely being educated valuable, or should degrees be in criminal justice in particular?
- Should police departments require a college education?
- Should there be a differentiation between the various types of

institutions providing such education and their educational-orientation (i.e., vocational, professional, or LASS)?

- Should there be a distinction between degrees earned via physical classes taken in the traditional manner at “traditional” colleges and universities, and those awarded by non-traditional institutions and/or via alternative modes of education (i.e., online, short-format classes, professional/life experience credits, etc.)?

THE CURRENT STATE OF POLICE TRAINING

Although the goal of police training has changed very little over the years, the subject matter has expanded and the modalities used to deliver that training have evolved. The subject matter continues to be reviewed, enhanced, and rewritten in response to emerging crime and safety concerns, changing laws, new insights into the nature of society and human interaction, and shifting views on the “best practices” in policing. Efforts are still being made to increase the professionalism of instructors by requiring a combination of education, time in service, and preparation through coursework and practice in teaching and training (Hickman 2004). Academies are seeking subject matter expertise first and then training instructors to transmit that expertise to the trainees. In many cases, instructors are not allowed to teach until they have completed a basic course in instructional skills.⁴

Basic academy training varies in length from state to state, and within each state, from department to department. On average, however, state and local police recruits complete 720 hours of pre-service training, exceeding minimum state training mandates by approximately 100 hours. Approximately one-half of these training hours

⁴ Ironically, the formal processes aimed at helping trainers learn to teach often exceed the formal processes used to ensure those in higher education have the skills to effectively teach.

are focused on a small number of topics, including: firearms skills, health and fitness, investigations, self-defense, criminal law, patrol procedures and techniques, emergency vehicle operations, and basic first-aid/CPR. Approximately one-third of academies include a field training component in their curriculum (Hickman 2004). In many regards, academy training has made tremendous advances in recent decades. Both the number of hours and the depth/breadth of academy curriculum content have been substantially enhanced from what was witnessed in the early years of formalized pre-service police training.

Technology is also increasingly used to facilitate instruction and assessment in academy environments. Examples of this include:

- Advanced technology classrooms that allow for computer-aided instruction and may offer students access to computer networks.
- Shooting simulators that place trainees in mock scenarios to assess judgment, policy comprehension, reaction time, and proficiency.
- Video scenarios and interactive video programs that place trainees in other types of mock situations to assess knowledge, judgment, policy/law comprehension, and skill.
- Self paced tutorials designed to facilitate learning outside of traditional classroom environments.

In-service training also varies nationwide, running the gamut from no hours required (found only in a few isolated and generally poverty-stricken jurisdictions) to a rough average of 40 hours a year, including firearms proficiency. Since 2001, a major expansion of in-service training has come not from state or local mandates (which remain restricted by local funding capacities), but from the federal Department of Homeland Security. Periodic training updates and coordinated-mobilization exercises

currently constitute a sizeable proportion of in-service police training activities. It remains to be seen whether this shift will enhance the overall safety and security of American communities, or whether it has diverted precious resources (training time, money, personnel, and equipment) toward a very narrow slice of police work.

Because of past research, trial and error, and civil litigation, the modalities of police training have a new look. There is still a huge dependence on a traditional lecture format for most material, with a strong reliance on objective examination as the preferred mode of assessment. Beginning in the basic academy, however, there is more opportunity for the trainee to learn, and to prove that learning, in different ways. Academies have begun to assess recruits based on other testing formats (e.g., essay exams, written assignments, performance in scenarios and simulations, etc.) and other forms of evaluation (e.g., “supervisory” assessments conducted by instructors and “peer” assessments completed by other recruits). As with other matters considered in this chapter, improvements have been realized, but much work remains. Although current training practices are a significant improvement over what has been done in the past, a number of criticisms can be made concerning the methods and outcomes of police training in 2005.

As previously noted, from state-to-state, training requirements, subjects, and methods vary considerably (Hickman 2004) and some (Albanese 1996) have argued current modes and standards are inadequate to keep officers abreast of the changes in law, procedures, research, and innovation. Albanese notes “we give police perhaps more authority over our liberty than any other occupational group; yet we fail to train them in any standardized way” (1996, 555). In many ways, training (particularly in-service training) focuses heavily on the transmission of new information, at the expenses of the development or maintenance of skills. Officers are trained in the impact of new laws and court rulings, but receive little

training in how to effectively use their discretion. The volume and content of police training is typically determined by legislative and administrative bodies; consequently, the introduction of bureaucracy may create training systems that are slow to respond to changes. King and Lab (2000) note that despite the emergence of the philosophy of community policing (and substantial federal resources earmarked for its expansion in American policing), pre-service training in some states has not changed to reflect this shift in the profession's vision of "how" police work should be accomplished.

In studying "consumer" satisfaction with police training, researchers have achieved mixed results. In some studies, early career officers have reflected on their academy training and offered positive assessments of the level of preparation they received, while other studies have achieved less encouraging outcomes (c.f. Brand and Peak 1995; Traut, Feimer, Emmert and Thom 2000). Formal training also faces the challenge of overcoming police culture. Haarr (2001) found officers' perceptions of aspects of community policing were enhanced via academy training, only to decline as they entered the field. Part of this shift could be attributed to officers experiencing community policing "on the streets" and undergoing a change in their assessment of the philosophy's utility. It could also, however, be a function of new recruits being acculturated to do their job in a way that is different from what they were taught while in the academy. The seasoned police officer who tells a recent academy graduate to "forget everything you learned in the academy" is a popular dimension of police folklore that, regrettably, has a basis in reality.

A key criticism made about current police training focuses not on content, but on modes of delivery (Birzer 2003; Birzer and Tannehill 2001; Charles 2000). Police

organizations are often referred to as “quasi-military” or “paramilitary” in nature⁵; analogously, police training has often been conducted in a militaristic fashion. Academies often focus considerable attention on neatness and appearance, to the point of conducting inspections, training recruits to march, and using training approaches found in basic military training (i.e., punishment via physical tasks, academy instructors serving as proxies for “drill sergeants”, emphasis on unquestioning obedience of commands, etc.). Extending this orientation toward “students” (police recruits who need to be controlled, molded, and indoctrinated) has resulted in the dominance of behaviorist instructional methods.⁶ These models treat students as “empty vessels” waiting to be filled with an instructor’s knowledge. There is a heavy emphasis on lecture; that academy students often refer to classroom instruction as “seat time” indicates the passivity in this orientation. In contrast, adult learning scholars have proposed the idea of “andragogy” to represent new visions of how academy learning might be better facilitated to engage students as dynamic actors in the learning process. This idea is more fully described in a later section of this chapter.

Behaviorist approaches are troubling not only because they view students as passive participants in the learning process. Birzer (2003) argues that passive approaches to police training are incongruent with current visions of how “good” police officers should do their jobs. Birzer notes that modern views of policing emphasize problem solving, analysis, research, and critical thinking; these are traits unlikely to be developed by behaviorist approaches to education. He notes that dominant modes of police training

⁵ See Cowper (2000) and Buerger (2000) for informative considerations of the ascription of military attributes in policing contexts.

⁶ See Birzer (2003) for a review of behaviorist and andragogy instructional methodologies.

create a paradox. Officers are expected to perform their duties via innovative, creative, and effective approaches that resolve community problems and preserve our visions of a democratic society, yet officers “are trained and learn their jobs in a very paramilitary, punitive, and authoritarian environment” (Birzer 2003, 32). Officers are trained and conditioned in a way that is largely antithetical to how we actually expect them to operate in performing their duties. The paradox is troubling.

In the aftermath of the 9/11 attacks law enforcement has been given the added responsibility of homeland security, a concept and set of practices still being defined. Adding a homeland security mandate to the duties of state and local police agencies has generated an evolving set of implications, including shifting needs for pre- and in-service training. Among the changes and challenges still being resolved is defining responsibilities and procedures for law enforcement agencies, particularly the role of state and local police within the national security and intelligence networks. Although the creation of the Department of Homeland Security (DHS) consolidated the efforts of many disparate and formerly autonomous agencies, its effect has primarily been at the federal level. How the structure and charge of DHS will affect state and local operations, training, and technological support has yet to be resolved. Additionally, homeland security responses have highlighted the critical need for state and local agencies to work with the private sector in developing greater risk awareness and asset protection capacities. Improvements have been realized, but much work remains, particularly in terms of resource and technology development, and the training of state and local responders.

Professional development remains largely ignored in most areas. Officers are left on their own to prepare for transfer, promotion, and other aspects of their career

development. In most jurisdictions, this is true both before and after an officer has obtained a promotion or special assignment. Officers are left to rely on informal mentoring from co-workers and peers as they pursue career advancement and acclimate to new job-expectations and demands. Analogously, police work is often a “career trap” (Albanese 1996, 556); limited options for lateral movement between agencies greatly restrict opportunities for advancement, professional development, and specialization. Albanese suggests this situation “produces cynicism, paranoia, and other destructive attitudes that work against the goals of good policing” (1996, 556).

THE STATE OF CRIMINAL JUSTICE EDUCATION IN 2020

One of the key themes found in this text is the notion that police work has become increasingly complex, a trend that we expect to continue in the years to come. In the past, police work was primarily about understanding law and criminal justice processes. With the rise of community policing, intelligence led policing, evidence based policing, homeland security, and a host of other non-traditional police expectations, police work in 2020 will encompass a much broader set of activities and will require that officers grasp a broader range of issues. For years, prominent federal agencies, such as the Federal Bureau of Investigation, have recognized that to be effective, contemporary law enforcement personnel needed academic backgrounds grounded more broadly than simply within criminal justice. Evidence can be seen in the broad list of skill sets the Bureau seeks from new Special Agents; at the time this chapter is being written, this list includes proficiency in accounting/finance, computer science/information technology, engineering, foreign languages, intelligence, law, and science, in addition to conventional law enforcement experience.

The specific responsibilities of the FBI do, of course, necessitate that they seek

Special Agents who bring diverse skill sets to the agency. It is reasonable to question whether and how this translates to the educational experiences of students hoping to enter policing in 2020. Examine the trajectory of the dominant and popular paradigms seen in policing since the early 1980s; virtually all focus on visions of police agencies and personnel as smarter and more efficient, working to understand and solve complex problems through analysis, researching “best practices,” working with diverse communities, and functioning in complex and changing environments. Consider the increasing pressure on all types of law enforcement agencies to work as a part of broader efforts to develop intelligence on criminal and terrorist threats, and to develop effective strategies for responding to critical incidents and disasters. Consider the growing number of crimes that occur within or because of the existence of computer environments. It is reasonable to extrapolate these trends to see how they will influence the education of prospective police employees at all levels (federal, state, and local) by 2020.

Criminal justice education will have to respond to “market demand” and change, at least to a limited degree, the materials and topics about which students are taught. Many institutions have already modified curricula to reflect the growth of community policing and problem solving. This trend will continue, with additional consideration of cybercrime, cybercriminality, computer security, intelligence analysis, data collection and analysis within criminal justice, international relations, diversity, and forensic science. We have already seen many programs expand beyond offering basic degrees in criminal justice; using their existing infrastructure as a foundation, a minority of colleges and universities has developed degrees emphasizing allied issues (i.e., forensics, security, and intelligence). The expansion of degrees may not be commonplace, but it is probable that institutions will encourage students to broaden their studies to develop stronger competency in fields of study that will compliment entry level policing, even at state and

local levels. This may include encouraging students to pursue coursework in disciplines such as urban studies, business administration, foreign languages, international relations, and cultural/area studies (e.g., African, Middle East, Muslim culture, etc.).

Additionally, simply having a degree in criminal justice without other supporting competencies may not be enough to compete for entry in all but the smallest local agencies. Competitive students will need more than a basic comprehension of law and the criminal justice system; they will need to understand the varied complexities of crime, communities, diverse populations, and problem analysis. Those seeking advancement into special duties and/or via promotion will increasingly turn to non-criminal justice degree programs (computers, business administration, accounting, finance, foreign languages, public administration, etc.) to provide them with the skills needed to compete for upward mobility. If these predictions come true, criminal justice programs will need to recognize and develop ways to respond to these trends, or risk becoming increasingly irrelevant and obsolete to consumers.

Beyond simply seeing changes in what students study, criminal justice education is, and will continue to be, caught in the current of changing modes of education. Beginning in the mid-1990s, the proliferation of the Internet, online communication technologies, and improved video media facilitated the growth of colleges and universities targeting working professionals. Targeting non-traditional students who were already working in their chosen field was not a new concept. For years, colleges and universities had offered correspondence courses, night and weekend classes, and experiential credits in an effort to attract students who could not complete college programs to conventional means. New technologies, however, were making it possible for colleges and universities to offer students learning experiences more closely related with those enjoyed by traditional students. Students in online courses could still complete their

coursework at their convenience and the integration of web sites facilitated interaction with their peers and instructors that was not possible under conventional correspondence course structures. New video media made it possible for instructors to deliver lectures to students in multiple geographic areas; physical distance was no longer a barrier to completing a degree program. In the last decade, a number of private and public universities have capitalized on these technologies to attract nontraditional students, including a number of private, “for profit” institutions.

These new types of degree programs have advantages and liabilities. Most importantly, education for nontraditional students has become an on demand enterprise. Both traditional and nontraditional students increasingly expect to be able to complete their courses and degree programs in the places, times, and arrangements which best suit their lives. On-demand degree programs have also made it possible for working professionals to complete degree programs that would otherwise not be available. Given their professional, personal and family commitments, the students might not normally be able to complete a traditional college degree. The fact that colleges and universities now make it possible for them to complete an education without ever leaving the comfort of their own home allows the students to complete degree programs for their personal and professional benefit. The rapid growth of a small number of universities focusing in nontraditional educational paradigms has forced traditional institutions to rethink how they reach students in their area.

Many valid criticisms have, however, been leveled at online and nontraditional degree programs. It is reasonable to question whether these programs offer educational experiences that are comparable to those enjoyed by traditional students in a traditional, face-to-face academic program. Programs targeting working professionals may also make use of faculty who are rich in job-related experience, but poor in advanced degrees

and teaching expertise. To ensure that students have similar educational experiences, some programs utilize predetermined textbooks, lesson plans, assignments, and other course materials. The result is a dilution of conventional academic freedom for instructors and has the potential to force instructors to teach classes in a manner that does not fit their expertise and/or view on how topics should be handled. Furthermore, it is common for programs to use a variety of means, such as offering life experience credits or portfolio assessments, to accelerate a student's progress through their studies. Academic terms may be only a few weeks in length, with limited interaction, and limited educational expectations, between students, instructors, and peers.

The purpose of this discussion is not to weigh the benefits and limitations on nontraditional degree programs. The authors contend that many nontraditional programs offer educational experiences that are not on par with those enjoyed by students in traditional degree programs. This is primarily a function of instructors who lack sufficient education, teaching experience, and academic freedom, coupled with the lack of peer interaction and depth of coursework, although exceptions to this criticism abound. It must be acknowledged, however, that nontraditional programs make it possible for working professionals to complete degrees they would otherwise not be able to attain. While the educational value of such non-traditional degrees are not always on-par with those earned from conventional programs, this situation begs the question of whether a potentially inferior educational experience is better than the absence of any advanced educational experience. In addition, the authors believe that nontraditional programs have permanently altered the landscape of American higher education. Learners expect universities to cater to their lifestyle, demands, and educational preferences. In order to remain viable universities and colleges must recognize that they can no longer expect students to complete courses and degree programs on the terms

defined by institutions of higher education. Students expect education to be on their terms and they are willing to take their tuition dollars to those institutions that recognized this reality.

Since its birth there has been considerable discussion and debate concerning the best model of criminal justice education. Should criminal justice degree programs focus on transmitting technical and vocational skills (e.g., firearms proficiency, driving skills, traffic law, officer safety, etc.) that will allow graduates to immediately enter the workforce? Should programs focus on teaching students professional skills (e.g., leadership, management, social scientific perspectives on crime and justice)? Should programs follow liberal arts tradition and teach graduates to communicate, research, and think critically? In 2020 criminal justice education will be approaching its 100th birthday; there is no evidence that this debate will be resolved by that time. Degree programs continue to pursue these and other goals to varying extents during the life course of criminal justice education. To some extent, this situation is beneficial; different students have different interests, career trajectories, and professional goals. Diversity in the orientation and approaches taken by degree programs helps them meet these varying needs. What remains unclear is if and when the “market” (i.e., prospective police employers) will be able to help the academic community of criminal justice to resolve these questions.

Online and nontraditional programs tend to embrace a professional approach to criminal justice education. For obvious reasons, it is difficult to impart many vocational and technical skills (e.g., shooting, driving, self-defense, etc.) through nontraditional educational modalities. In addition, students pursuing nontraditional degree programs are often already employed in criminal justice, negating the need to learn many of these technical skills. Because they are already working in their chosen profession students

may have a greater interest in professionally oriented degree programs, preferring programs that impart knowledge they believe will help them advance in their career or prepare for the shift into a different career field. Additionally, the students may be attracted to degree programs with instructors who have considerable real-world experience, as opposed to traditional university programs where instructors may have extensive formal education with limited field experience.

Although education as a formal entry requirement for careers in policing remains limited (Hickman and Reaves 2003), progressive police departments are increasingly attracted to applicants who have completed an associates or bachelor's degree program. In addition, agencies are increasingly requiring the completion of bachelor's and master's degrees for internal advancement, and are willing to offer appreciably greater pay to college graduates. A police officer wishing to continue career advancement may need to complete additional education in order to satisfy formal or informal departmental norms. The attraction of nontraditional programs for these types of students is quite obvious. They are likely interested in programs taught by experienced practitioners, with meeting times that offer flexibility based on their shift and duty assignments, and which can be completed in a relatively short period of time. For example, a number of traditional and nontraditional institutions offer executive master's degrees in criminal justice (akin to MBA degrees for business professionals). These terminal degrees are designed for working professionals seeking to improve their competency and to remain viable for further career advancement. Such programs are an indication that criminal justice is slowly beginning to meet the needs of a broader base of students.

The educational processes and opportunities for criminal justice employees have changed dramatically since the mid-1990s. It seems certain that this acceleration of change will continue to 2020 and beyond. Given the rapid emergence of this

phenomenon it is reasonable to question whether nontraditional programs offer sufficient rigor and education to their students. It is probable that by 2020 there will be greater dialogue about establishing standards for executive master's degree programs in criminal justice. Both students and employers will want to ensure the value of higher education and that programs are not "degree mills." The development of uniform expectations and standards concerning terminal graduate education in criminal justice holds a powerful and positive potential to enhance the integrity and quality of American policing. Students, agencies, communities, and institutions of higher education will all benefit if police leaders are increasingly well educated. Student experiences in non-traditional programs may not be near those of students in conventional programs, however their value will become increasingly evident.

THE STATE OF POLICE TRAINING IN 2020

Emerging and existing technologies have the ability to radically transform police training by 2020, but the extent to which this will actually occur remains to be seen. It seems reasonable to expect that the volume of police training will increase by 2020. State level requirements for the number of hours of training for new police officers have continued increase in recent decades (Charles 2000). For example, when the State of Illinois began offering academy training for state police officers in the 1950s, the course of study was 160 hours. The basic law enforcement training academy increased to a 240 hour program in 1970, to 400 hours in 1981, and to 480 hours in 1996 (Charles 2000). Other states have experienced similar increases in academy length as new subjects are deemed of importance. For example, following the September 11, 2001 terrorist attacks it has been suggested that new police officers need to receive training in disaster response, terrorism awareness, and the role of the police in national security intelligence.

In most states, adding these topics would require increasing the duration of academy training experiences. As new crimes and social problems emerge it seems likely that the volume of training delivered to new police recruits will continue to rise.

Police trainers have a long-standing interest in improving the quality and texture of the training delivered to students. Consider police firearms training; since the 1960s states have mandated the firearms proficiency standards that new and in-service officers must meet. Police trainers have recognized for decades that simply teaching officers to use one shooting stance to fire at a fixed paper target is not sufficient to prepare officers for the complexities of deadly force decision-making on the street. Agencies had experimented with any number of training programs to create more realistic scenario based decision-making training for officers. Examples range from Hogan's Alley ("a realistic, urban, practical problem training area" operated at the FBI Academy since 1987)⁷ to computer-based video simulators (first developed in the mid-1980s). The objective of these efforts is to train officers to use their own firearms as they receive and interpret information from the world around them. It is believed that teaching officers to make split-second decisions and use their firearm from a variety of positions will lead to more judicious application of deadly force in the real world.

The most significant future changes in police training are not related to how much training or what training police recruits will be given; rather, it is likely that the most profound changes will occur in *how* police recruits are trained. This shift is largely a function of consumer demands for more realistic, interactive, end-user driven computer video games that enable more realistic simulations of the world around us. Computer gaming technology has realized tremendous advancement since the days of Pong, Pac Man, and Nintendo gaming systems. Contemporary computer gamers demand virtual

⁷ Quote from <http://www.fbi.gov/hq/td/academy/pau/pau.htm> accessed 6 September 2005.

environments that include massive virtual worlds, the integration of multiple gamers, and broad freedom to move and act as they choose.

A prime example of the tremendous advancements in computer gaming and virtual worlds is Second Life⁸. Second Life allows subscribing members to create alternative identities that exist in a growing virtual environment. As of April 2005 Second Life was based in a virtual world of more than 12,000 acres. Members have the ability to create alternative cells including customizing their physical appearance and characteristics. The virtual world closely mirrors the world around us, including residential neighborhoods, churches, nightclubs, sporting arenas, and shopping malls. Users can have a customize house built, design their own clothing and art, and (using Second Life programming language) “build” their own inventions. Although based in a virtual world, Second Life has an actual functioning economy. Users can purchase “Linden dollars” using real money; they can operate businesses and engage in other transactions to earn more “Linden dollars”, which can be converted back into real money. Users can participate in a broad range of individual and group games and competitions. They can also simply choose to live out their virtual life in this virtual world⁹.

How does the technology such as Second Life correlate with police training in 2020? The underlying technology which allows a computer gamer to “do as they please” in a virtual environment can also be used to develop highly realistic and complex computer-based training simulators. The military is often on the leading edge of such developments as they seek new ways to simulate battlefield conditions to train soldiers and commanders. One example of applying gaming technology to real-world training is

⁸ References to specific technologies and corporations are used purely for illustrative purposes. They do not constitute a specific endorsement by the authors or publisher.

⁹ Description based on information from <http://secondlife.com/whatis> accessed September 2005.

Forterra Systems' Online Interactive Virtual Environment (OLIVE), which allows users "to train, plane, rehearse, and collaborate just as they would in the real world"¹⁰.

OLIVE users can create three-dimensional virtual environments in which practically any scenario can be played out. "Players" (such as police officers) from around the world can log into and experienced this environment. OLIVE is already being used as a training tool for military and emergency response planning purposes. Comparable programs that allow multiple users to interact as they progress through scenarios offer tremendous potential to improve the educational value of police training (see Cowper and Buerger 2003).

Computerized simulations can place officers in a huge array of situations without the resource burden of staging mock disasters or critical incidents. These types of computer-based simulators allow everyone from individual users to large groups of trainees to confront situations from the extreme to the mundane (see Cameron 2002). Rather than participating in mock events facilitated by their instructors, peers, or actors, police recruits can be placed on "virtual patrol." Using a computer console, they can control their assigned beat, dispatch report assignments and investigate complaints, engage in proactive patrol activities, and be placed into situations in which they must receive, interpret, and react to environmental information in a split second. Computer-driven simulation offers the benefit of being able to learn about trainees, their behaviorists, their assets, and air-conditioned cease. Trainees who have had passed problems accurately completing reports may be placed in a situation that will further development their skills in this area.

Computer simulators also offer tremendous opportunities for the training of

¹⁰ Quote from <http://www.forterrainc.com/tech.html> accessed 6 September 2005.

current police officers. At the present time police officers receiving in-service training are typically required to congregate in the same physical area at the same point in time. This means that police departments must take employees out of service to allow a training that may also require paying the officer to travel, stay in a hotel, and eat their meals away from home. All of these factors increase the expense of training and the inconvenience to officers (e.g., requiring an officer assigned to the night shift to attend a daytime training course during the hours when they would normally sleep). It is increasingly feasible for officers to remotely attend and actively participate in training programs. Night shift officers can receive training while still available to respond to emergency calls within their community. Officers from around the country can be trained in disaster response planning, including participating in complex and realistic scenarios, without the need to purchase air tickets, reserve hotel rooms, or provide per diems. As with new recruits, with computer simulations can track the long-term performance of in-service officers. Deficiencies can be more easily identified and corrected through the use of additional training and simulations.

This discussion should not imply the computer-based simulations are a panacea. At the present time they generally require users to interface with the computer via a keyboard, a mouse, and in some cases a headset. Although tremendous advances have been realized in the realistic nature of computer graphics and simulations, they are still not the same as the real world. These issues are largely irrelevant for many types of training intended to improve decision-making. More important are the trainee's perception of training and its level of worksite applicability (Boyd 1992). Furthermore, users are increasingly integrated into the computer systems around them. By 2020 we can expect significant advances in the extent to which simulation users become a part of

the virtual world they are experiencing. Existing computer-based simulators designed to enhance police firearms proficiency and motor vehicle operations were crude in their early forms; their current iterations, while not completely lifelike, are far more accurate and realistic approximations. It is more difficult to determine the extent to which these new technologies and practices will translate into improved street-level police operations.

As indicated in an earlier section, a review of police training needs to consider not just what students learn, but how material is presented and understood. Adult learning scholars have proposed “andragogy” as a model to contrast the traditional behaviorist learning approach typically seen in both pre- and in-service police training, among other venues (Knowles 1980, 1990).¹¹ Andragogy sees the student as active contributors to their own learning; the learning process becomes more self-directed (at least to the extent students collectively shape the classes they take) and students are encouraged to bring their personal and professional experiences into the learning process. Rather than serving as the agent responsible for filling the “empty vessels” (students) with knowledge, instructors are seen as facilitators of the learning process. It has been argued (Birzer 2003; Birzer and Tannehill 2001) that andragogy may be a better approach to police instruction because it places students into a role they are more likely to fill while actually performing policing duties; they will learn to analyze, think critically, solve problems, and collaborate with peers. In other words, students learn not just the substance of the course, but also vital skills valued and desired in modern policing.

¹¹ Out of fairness to police training, the authors note that behaviorist approaches continue to dominate much of American higher education. College students are “lectured at”, rather than being engaged as active participants in the learning process. The explanations for this situation are multiple and complex, but may largely distill down to the fact that most faculty members teach as they were taught. Faculty rarely have training in how to effectively teach and may not understand alternative models of adult learning and how they can be successfully implemented within college classrooms.

Rather than being taught that there is “one best way” to perform a specific task, students may learn that there are “better ways” and “our ways”; the decision on how to handle a situation generates a range of consequences that officers must evaluate in deciding how to use their lawfully granted discretion. In reality, this is how officers actually conduct themselves on a day-to-day basis; they evaluate circumstances, weigh options within the context of their personal experience, and select the course of action they deem most appropriate. Outcomes are rarely perfect, so officers must evaluate how to maximize benefits and minimize risks. It is argued that officers are better prepared for the complexities of policing if they begin to learn this reality and how to effectively negotiate within this occupational context, beginning in the police academy (Birzer and Tannehill 2001).¹²

Andragogy as a model for police training is not without its limitations. Police training, particularly pre-service training in academies is usually controlled by bureaucratic administrative agencies operating at the level of state government. These bodies may be reluctant to pursue other visions of pre-service police training, due to the failure to understand andragogy (or any other non-behaviorist approach to training), the fear of liability, a reluctance to release control over the training process (andragogy may result in subtly different educational experiences for different classes of students), among other forces. Further, it may be difficult to see how some topics (e.g., emergency vehicle operations, firearms proficiency, etc.) can “work” under an andragogical education

¹² Readers should not assume this notion is simply abstract and academic. There are police academies currently seeking to use non-traditional, problem-based approaches as the foundation of the learning process. In 2005, at the behest of the Michigan Commission on Law Enforcement Standards, the police training component of Ferris State University extended the notion of andragogy by implementing a “problem based learning” approach to pre-service academy training. From the first day in the academy, students are confronted with a broad range of problems and tasked with researching and developing solutions. Rather than experiencing academy training based on lecture and practical exercises, students are being educated to confront the complexities and challenges of police work by being trained to analyze and solve problems (Queen and Vander Kooi 2005). Similar efforts are underway in Canada (see the Police Society for Problem Based Learning, www.pspbl.com).

model. Even if andragogy is seen as a viable model of instruction for pre-service training, it is unclear to what extent it may be a viable way of providing shorter in-service training protocols.

The authors are not endorsing andragogy as the ideal way to train police personnel; although an intriguing idea, its merits have not been empirically established. Rather, we would argue that dominant paradigms have many failings. In the future, police trainers, leaders, and policy makers need to explore other ways of training police personnel to ensure that new and current officers are trained in a manner that overcomes many of the existing problems in training approaches (see Buerger 1998). Policing is becoming increasingly complex; behaviorist models of training may be ill-suited in preparing new officers for the challenges they will face while on the job. In addition, there is compelling anecdotal evidence (see Levin's chapter elsewhere in this volume) that militaristic approaches to training may discourage many bright, educated applicants from seeking employment in policing. A pre-service training process that denigrates and belittles students, treating them as inferior and needing control and discipline, may dissuade many young adults from seeking employment in policing; in effect, training programs can mediate the effect of recruitment efforts. It is reasonable to question whether dominant approaches to pre-service training are appropriate ways to treat and prepare new officers to be innovative, analytical problem solvers working in diverse communities.

POLICE EDUCATION AND TRAINING IN 2020: A FIRST-PERSON NARRATIVE

This is the first person story of Sergeant Melina Grace, a fictional officer in a fictional agency, the Youngsville Police Department (YPD). Her experiences and observations are likely to mirror those of many officers entering policing in the current

era. What follows is an imaginary entry from Sgt. Grace's journal¹³ on September 15, 2020. Through her eyes and experiences, we can explore the state of police education and training in the year 2020.

In the fall of 2005 I entered the Youngsville Police Academy as a young, wide-eyed twenty-two year old with two-years of college education and an assortment of work experience. I have a hard time believing that it's been fifteen years since I started my career as a rookie patrol officer with the Youngsville Police Department. When I first entered the police academy, we were all impressed and proud to be part of the new wave of policing for the YPD. After 9/11, law enforcement at all levels of government turned to the training function to better prepare us to not only preserve the public's safety, but to further that mission by ensuring our citizens' security. Now, I stand before a new generation of wide-eyed "kids" (most were born when I was in high school!) and I'm responsible for ensuring that they leave this facility with the knowledge and skills to protect and serve Youngsville. I also routinely prepare online training protocols and facilitate interactive virtual training simulations for my peers and mentors, in the hope that I can help these veteran officers better protect and serve the citizens of our community. New methods of training and new training technologies have radically changed when, how, what and why we train both new and old officers. The training experience is much different than it was fifteen years ago. We have moved well beyond the standard lecture-driven training that still dominated when I came on the job.

The new recruit classes I see today are not all that different from the officers who were in my academy class in 2005. More than five decades after various federal commissions recommended that all new police officers be required to hold a four-year

¹³ The authors have used a similar version of this fictive account (written with the assistance of Alan Youngs) in another publication exploring trends in police education and training (Schafer, Boyd, and Youngs, 2006).

college degree (a recommendation that was supposed to have been realized by the early 1980's!) and a century after August Vollmer helped establish the academic study of criminal justice, college education still is not a universal requirement. Some states have required the completion of college course work for decades and many departments have exceeded those state standards. For example, although my state only requires a high school diploma or equivalency degree, YPD requires that all applicants must have completed sixty credit hours. The reality, however, is that higher education is still not universally valued as a prerequisite for a career in policing.

Despite failing to place a formal value on education as a necessary prerequisite for policing employment, education continues to be of informal importance to many agencies and officers. All else being equal, most agencies prefer to hire a college-educated applicant to a high school graduate. Education also remains important for career advancement, with more progressive departments continuing to adopt standards for the minimum educational level required to seek promotion. As officers seek to rise through the ranks, they must often meet successively higher educational standards. More and more agencies are offering educational incentives, paying officers nominally greater salaries based on their level of education. Fortunately, these trends occurred around the time college programs have begun to do more to cater to non-traditional students seeking to balance work, family, and their education. Although it's still a "buyer beware" market, current officers have a lot of good options that will allow them to further their college education while still working their job and raising their family.

Education is not, of course, a panacea. There are fabulous cops who dropped out of high school, later earned their GED, and never attended further schooling. At the same time, there are cops with graduate and law degrees who are lazy, incompetent, corrupt, and all-around poor employees. Education does not make someone a good cop,

and the absence of formal educational experiences does not mean someone is a poor cop. That having been said, being at the academy has helped me realize that there generally is a difference between officers who do and do not have a college education. Educated officers, as a group, are better thinkers, more analytical, better writers, more effective time and task managers, and are more aware of the cultural concerns and current events (at local, national, and global levels) that are so important to policing and homeland security in 2020. People have been talking about the intangible aspects of education for decades and they really seem to be true. YPD requires some college education because we want new officers to be inquisitive and critical thinkers, although that's sometimes a pain when you are an academy instructor!

One thing that has really changed in the last few decades is how we go about training our officers, both in terms of our philosophy and the use of technology. The other day I was discussing firearms training with an officer who has been teaching that subject at the Academy for almost twenty years. She said back in the 1980's they first developed simulators to help officers develop decision-making skills. Trainees stood in front of a screen where medium-quality, two-dimensional video images were projected. There were a few dozen scenarios, each with a handful of variations. Trainees were supposed to "talk" with citizens as if they were really on the street. The operator could adjust the scenario at one or two points based on how the trainee was handling the situation. The whole focus was on developing the ability to verbally de-escalate situations, but to also recognize when de-escalation was not possible and to understand when deadly force was needed. It was a great technology at the time and was better than anything else that had been developed, but it is not very complex or realistic by contemporary standards.

Although YPD does not have the money to afford the cutting-edge training

simulators developed for policing, there are some incredible products on the market. At a recent trade show I was able to test out one of these “sims”. The computer-generated audio and video are incredibly realistic; you know it’s not real, but you have to keep reminding yourself of that fact. Officers have instant and virtually infinite interact with the characters in the sim, making it very much like the “real world”. With the old simulator, most rookies knew the scenarios and their variations before they ever stood in front of the machine; the possible outcomes of a situation were very limited. These new sims are not just focused on deadly force decision making. They can train officers to deal with domestics, a wide variety of traffic stop situations, questioning witnesses, and virtually any activity a cop might have to perform.

Some agencies are using sims to better train new officers in the analysis and resolution of problems. Policing has been problem-oriented for several decades, but it’s only recently that we have been able to really develop effective and dynamic ways to teach officers how to apply methods of analysis and explore the outcomes of the solutions they implement. Although we could do much of this scenario-based training with instructors or actors, in the long run it’s cheaper to have the sim. Also, because the environment is computer generated, the overall effect is an experience that is far more realistic than what can be achieved with trainer/actors operating in a mock apartment on “Hogan’s Alley.” The sims are also more accurate at remembering past performance. A recruit who has had trouble properly questioning victims of crime will be placed in more situations requiring proficiency in that area. If we don’t see improvement, that recruit may not graduate.

Even with the old standard lecture-presentation format still in use, the classroom looks much different. These classrooms are “smart” beyond what we had in 2005. Each student has a department-issued Personal Digital Assistant (PDA) to access a host of

training resources and a vast library of materials written about all aspects of policing. They can use their PDA to take notes, work on assignments, follow along in an instructor's lesson, and access tutorials. The PDAs are not connected to the main department network, so students cannot access the secure databases available to officers in the field. They can, however, access "dummy" databases to learn how to run checks, conduct data queries, use various YPD databases and online report filing systems, and conduct basic crime analysis.

In 2007, on my second anniversary, I met with my department mentor and revised my Individual Professional Plan (IPP). Since I was finally sure that law enforcement was what I wanted to do, Corporal Appleton suggested I think about completing my bachelors degree and submit my Professional Request for Training (PRT) for the next 2 years to the training and development sergeant. Shortly after that, I began an online program to complete my bachelor's degree. My timing was perfect, since I completed my degree and promoted to corporal right after my fourth year of duty.

In 2009, my revised IPP included my desire to continue with my formal education and attain my master's degree. Soon after I began my coursework at a local university, I got married and bought a house, so I had to shelve my formal education for a while. My life got a lot more complicated in late 2010 when I gave birth to twins. I was able to work up to until my 35th week in a light duty position. I took three months off to be with my babies and then was able to return to work on a 60-60 job share with another new mom. I didn't realize how lucky I was to have that option. My friends at other departments had to make the hard decision to go back to work full-time with infants at home or quit the job they love. I was able to take advantage of the department subsidized childcare at a site close to my assignment. After job sharing for a year, I returned to full duty in 2011.

At my biannual meeting with my mentor in 2011, my personal and professional goals were really taking form. I slowly began to take courses towards my master's degree and I requested advanced training in the areas of community policing, homeland security, instructional effectiveness and supervisory leadership. In 2013 I completed my Master's degree through an online program and was also promoted to the rank of sergeant. In the last ten years we have also seen changes in how agencies train officers for promotion and advancement. I was lucky enough to attend advanced leadership training in 2007. The YPD was committed to changing the culture of the department. This training helped create an environment that expedited the natural maturation process that all people must go through to allow their inherent leadership abilities to emerge. It also developed a truly shared, inspiring process vision for guiding the way through times of uncertainty. This process has served all personnel well during the past trying 15 years when more was expected with less resource. The process breaks down resistance to change and lets people openly communicate and take personal responsibility. It continues to promote leadership in a team environment.

I recall a quote by Alvin Toffler given to me at a Police Futurists Class in 2010, "An acceleration of change has consequences that are not necessarily a result of whether the change is good or bad, but just acceleration in itself creates consequences and some difficulties for us."¹⁴ I have been in law enforcement for 15 years during which time the world and law enforcement agencies have changed dramatically. Some of these changes were foreseen some not. The same will hold true for the next 15 years and I am confident the police officers of the future will meet the challenge.

¹⁴ <http://www.interlog.com/~blake/nov99/toffler.html>

CONCLUSIONS

There is considerable distance between the current state of education and police training, and the world of Sgt. Melina Grace. Many changes are already afoot, though they are more exemplary than industry standard. Training and education are still very much based on a “bodies in seats, sage-on-a-stage” model of didactic lecture, delivered in a standard format to a massed audience. The criticisms and limitations of this model, both within higher education in general, and police training in particular, merits an exploration and assessment of alternative approaches to criminal justice education, as well as pre- and in-service training. Some efforts to that end are underway, but considerable cultural and educational transformations are still required. The shift toward more customized, flexible, dynamic, and on-demand training and education is well under way, but further progress is needed. The proliferation of computer- and web-based learning technologies open new doors to delivering timely education and training via methods that make obsolete the need for physical classroom and temporally-fixed class times. Tremendous advances have been realized in the first decade of the online education revolution. As with other radical transformation, good practices need to be identified and cultivated, while poor practices are eliminated; the proverbial wheat must be culled from a considerable volume of chaff.

An exploration of the future of pre- and in-service police training also suggests we will witness significant shifts in instructional philosophies and tools. Presently, the limited number of compulsory in-service training hours tends to be devoted to instructing officers in changes in statutory law, the implications of new case law, and occasionally some skills-renewal exercises. As police organizations become more integrated within the online world and as computerized simulations improve in quality and decrease in price, training will take a much different form. Basic information

dissemination will be done in timely fashion in roll call (as it is already done in many agencies); training will be spread out over time, with scenarios mimicking the real-time development of problems. Instead of being absent from duty, bored or asleep in the classroom as they “listen” to extensive lectures, officers will be trained in modular segments interwoven with shift work. Formal classroom time can be limited to initial briefings, if needed, and the more important post-action assessment.

The technology Sgt. Grace appreciated already exists in the form of prototypes and some early production models, but most is not widely available. In many cases the technology will develop at a rate much faster than the purchasing capacity of local or even state budgets. There is already a considerable technology gap among police departments of various sizes and locales; regrettably, this situation is likely to persist. Some high-end technology will not be within the financial reach of many agencies. It is possible, however, that simulations software could be purchased at the state, regional or metropolitan level; users from a range of agencies could potentially go online to use and learn from these materials. Thus, technology may facilitate the closing of some technology gaps. Agencies that cannot afford the cost and lost personnel-power associated with sending an officer to off-site training might be able to grant that officer the time (in flexible “doses” over a longer time period) to complete online training or to participate in an online multi-user collaborative training exercise.

Policing is undergoing a fundamental shift from being a reactive, routinized process (fill out the proper forms and move on to the next call for service) to becoming an information-driven, analysis-dependent problem solving enterprise. The capacity to enforce the law, use force, and quickly respond to emergency situations will not disappear by 2020; however, the tasks and techniques that comprise the bulk of an officer’s routine activities will continue to evolve. Given this transformation, education

and more realistic training become increasingly important. Officers who can read, write, research, analyze, think critically, and have the skills (and disposition) to be life-long learners will thrive in the future. Officers with limited education, limited capacities to “learn new tricks”, and little interest in analysis and problem resolution will become increasingly marginalized. Training that engages learners and offers greater levels of complexity and realism will better prepare trainees to apply skills and knowledge in occupational settings. The technologies and philosophies driving emerging education and training modalities have the potential to produce new officers who have the skills to be life-long learners, take a broader perspective on situations, and who will be motivated by employment opportunities that harness these traits. The extent to which the realities of 2020 will mirror the possibilities we can imagine in 2005 remains uncertain, but the potentials for positive improvements offer hope for significant advances in education and training in policing.

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Chapter Thirteen

HUMAN CAPITAL IN POLICING: WHAT WORKS, WHAT DOESN'T WORK, WHAT'S PROMISING?¹

Bernard H. Levin

EXECUTIVE SUMMARY

The present chapter is a product of the author's tenure as Futurist in Residence at the FBI Academy, Quantico, Virginia, during the first seven months of 2005. The results of two studies are reported. Both were conducted with the intent of exploring likely futures of human capital development within the domain of policing. The variability of responses within each study was minimal, but the pattern of outcomes across the two studies differed markedly.

The first study collected data in a classroom setting from a group of upwardly mobile police managers who were attending the FBI National Academy. The participants in this study were anonymous. The results they reported led to the inference that they saw the future primarily as a linear extrapolation from the past and a much more challenging future they expected it to be. Perhaps as a function of the methodology, their view of the future did not include much regarding how managers might behave to increase effectiveness.

The second study collected data via an e-mailed questionnaire distributed to

¹ This work is a product of the author's term as Futurist in Residence at the Federal Bureau of Investigation Academy, Quantico, VA. Gratitude is expressed to Dr. Sandy Boyd of the College of Marin for significant assistance in the development of the questionnaire used to collect data for this project. Nothing in this document should be construed as endorsed by the FBI, the U.S. Department of Justice, or God. Any errors, omissions, opinions, representations, and misrepresentations are solely the responsibility of the author.

members of the Society of Police Futurists International (PFI) and the PFI/FBI Futures Working Group. These participants had significantly more experience in policing and a very different view of the future, compared to the National Academy students. The Futurists attended more toward broader political, social, and economic changes and how they would affect policing, and wrote at length about how policing could or should develop personnel who might prove competent to lead agencies into the rapid change they would be facing. As with the National Academy students, there was very little disagreement among responses made by the police futurists, although the specific sub-topics each chose to address did vary.

Based on the findings there are paths forward for the development of human capital in policing. In order to prepare for likely futures, present-day leaders can:

1. Change how they operate within the agency, even if they cannot change the agency itself.
2. Read how others have thought about the future of policing, e.g., the IACP's "Police Leadership in the 21st Century" (IACP 1999).
3. Join the Society of Police Futurists International (www.policiefuturists.org) and actively involve themselves in futures research (e.g., Cornish 2004).
4. Set specific goals, both short- and long-term, with the agency's likely future in mind.
5. Take an evidence-based approach to leadership.
6. Focus on developing the people who work for them rather than focus on disciplining the problem-prone.
7. Build a team orientation
8. Pay attention to people who are doing the right thing for the right reasons.
9. Solicit feedback from those who work for them and those who work with them, and then act on that feedback.
10. Build positive relationships with segments of the community before they need those relationships.

11. Encourage and support informal networking both within and external to the agency.
12. Encourage both line officers and administrators to look beyond today's brushfires, toward likely futures – and reward them when they do.

These two studies are the first to collect data on likely futures of human capital development in policing by means of groups rather than by asking one or a few individuals. The present outcomes should be viewed as suggestive rather than definitive; as with all scientific research, in order to adequately test the reliability and validity of the observed outcomes, replication will be required.

INTRODUCTION

With apologies to Lawrence Sherman, et al. (1998), the most time-consuming, frustrating, and challenging feature of leadership in modern law enforcement is what traditionally has been called personnel management. More recently it has been called human resources, and more usefully might be called the development of human capital. This chapter will outline the present literature, describe the results of two exploratory studies, and discuss the implications of the results for the future of human capital in policing.

Present Characteristics of Policing

Policing is an industrial-age, linear, hierarchical, centralized, specialized, and tradition-bound enterprise. It is paramilitary, having adopted the least functional characteristics of the military (e.g., command, hierarchy, tradition, and rigid structure) while abandoning the most vital characteristics of the military (e.g., quality training,

research, team orientation, leadership development, and mission/values consciousness) (Cowper 2000).

Leadership is getting things done through people. It can be argued that policing has not been very good at the development of either human capital or leadership. Policing agencies tend to promote and transfer people prior to training them for their new positions. Failure to deliver timely training has consequences. It costs us in terms of poor leadership, bad decisions, deficient selection of personnel (e.g., Washington D.C.'s experience with convicted felon officers circa 1990, the Miami River cops, and Houston's cop-drug dealer competition), and pointless shrinking of the already limited personnel pool for higher ranks. Consider the typical field training program— we do not systematically assess its outcomes. Many agencies are unable to assign a Field Training Officer (FTO) who has received training in how to fulfill that role, and many agencies have not considered alternatives to FTO, such as the Police Training Officer program.²

Some agency cultures are so hard on their employees that they do not want to come to work, do not like the work they are assigned, do not take pride in what they do, and do not see a path forward other than counting the days until they are eligible for retirement. Many line officers and their leaders see the job as semi-skilled blue-collar labor with the focal task of taking out the garbage. Cynicism sometimes reigns. On occasions one hears police officers stating that instead of developing human capital, we tend to eat our young. Typically, policing does not see change as a friend. Change in response to external forces often happens with minimal resistance; change in response to internal forces, however, can be more problematic. Resistance to change is quite understandable, since change often means the potential for larger workloads, more

² <http://www.cops.usdoj.gov/default.asp?Item=461>

political vulnerability, and greater expense. Nonetheless, in the long run, failure to change will foredoom the policing enterprise and pointlessly endanger the fabric of society. These challenges and many more face us. However, history is not destiny. If we are to justify our role as responsible leaders, we cannot continue on the present path.

The Context of Policing – 2020

Part of where policing needs to go will depend on the tasks it will face and the contexts in which it will have to work. Fortunately, a recent review (see Jensen and Levin elsewhere in this volume) has addressed the social, demographic, and political trends for policing in this time frame. That review described among others, the following trends:

1. Internationalization of both the economy and crime.
2. Blurring of geopolitical, economic, legal, and social boundaries.
3. Decreasing effectiveness of [industrial-age] hierarchies.
4. Increasingly net-centric organizations, criminal and terroristic, competing with police.

The contextual forces that will impact policing – and, to some degree, already have done so — include but are by no means limited to: migrations; delayed marriage; aging cohorts; declining household size; shifts in values (marriage, homosexual parenting, abortion/birth control, etc.); single parent households; school as parent; conflicts between the haves and have-nots; nanotechnology, information management; virtual reality and ubiquitous computing; impact of fear/terror; changing perceptions of risk; and internationalization of governance. We live in a rapidly changing world. Policing will not be immune to those changes. We will choose to ignore those changes at our peril.

Many writers have considered additional forces that are likely to affect the human resources needs of organizations. For example, Rushwell Kidder (1995) pointed out the increasing prominence of ethical conflict. Truitt and Chamelin (1989) wrote on issues in personnel law. Sadly, their text might as well be written today – the same issues are still alive and well. Their view of organizations adapting to change is as current today as it was when they were writing, “the avenue to [overcoming resistance to change] may be very bumpy” (89).

As Drucker (1994) pointed out more than a decade ago, we have shifted from an industrial age to an information age. The information age requires attention to knowledge rather than more traditional capital and implies (according to Drucker) that “government cannot be looked to for solving social and economic problems” (1994, 53). If Drucker is right – and there is much evidence that he is – the implications for policing are significant. The role of police develops new segments: information collectors, processors, and distributors. Criminal (and counter-terrorism) intelligence is an obvious example, although by no means isolated. We are, like it or not, in the information business. That means we must change from our present industrial age practices.

Change is something we in law enforcement do not do well. Some trends, such as outsourcing, are blatant in the private sector (e.g., Associated Press 2005) even though they are not yet (but likely will become) normative in policing. Stephens (1995) was one of the early writers on cybercrime and its likely effects, discussing the need for cybercops, which most agencies do not employ even now, despite evidence of huge amounts of cyber-related crime. Policing agencies cannot be said to rush into things. Increasing emphases on various other technologies, including biometrics, nanotechnology, DNA testing, infrared systems, and augmented reality (Cowper and Buerger 2003) have inexorably raised the bar for fully functioning law enforcement officers. Sadly,

the bar proves too high for many in the field. Even more sadly, some leaders still are unable to efficiently apply e-mail to the tasks at hand – they employ others to print e-mails for them.

Leadership in policing is often discussed, but seldom focused usefully toward the future. For example, *Police Leadership In The 21st Century* (IACP 1999) limited itself to “nuts and bolts” (iii) rather than looking ahead. Frankly, similar advice was freely available two decades ago— and freely ignored. Some work on leadership, while not overtly focused on the future, has provided useful insights not usually seen. For example, Cowper (2000) points out that the adoption by police of the military model is commonly accepted and dead wrong – the “military model” adopted by policing has little in common with the military model. The law enforcement application of the military model has resulted in

...organizations that are centrally controlled and highly inflexible, characterized by top-down order transmission and bottom-up reporting; less creative and more intellectually rigid individual officers bound to tradition and regulations, unable to deal effectively with both the dynamics of modern policing theories and the communities they serve; and a more combat/enforcement-oriented force, with a resulting increase in isolation and hostility between police and citizens. It has been justly criticized and should be replaced, as it was by the military decades ago. (Cowper 2000, 237)

Cowper’s indictment of the policing version of the military model is, if anything, understated. However, while Cowper would correct the errors of the past and present, it is left for other publications to move leadership into the information age.

The military model is not the only facet of policing that is out of touch with

current, much less future, realities. Training in policing has been stuck in a time warp. Bradford and Pynes (1999) state that “police academy training has changed very little in the past 20 years” (283) and demonstrate that police training has, at least since the 1960’s, been well behind the practice of policing. Their results show that 97 percent of training is task-oriented, rather than cognitive. Considering that policing is operating in an information age, one wonders what thoughts for updating of training might be held by training directors and other leaders in policing. The prescription of Bradford and Pynes, though, is itself firmly rooted in the past and present with nary a glance to the future. They recommend that we train officers for community-oriented policing and problem-solving – which officers have been doing for quite a while, although perhaps not as well as they might.

Training in policing rarely has any component approximating effectiveness measures, such as institutional research and student educational outcomes assessment (SEOA). In other words, at present there is no effective means of moving training forward. In contrast, in higher education, both institutional research and SEOA are old hat. For example, SEOA has been required in Virginia postsecondary institutions since 1986 (Levin, Lazorack and Sears 1988) and also is required by the regional postsecondary accrediting agencies.³ Instead of being data-driven, law enforcement training models are too often driven by fear of liability and refractoriness to change. As with many dimensions of human resources within law enforcement, “consensus statements” and their ilk prevail.

³ “The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results” (Southern Association of Colleges and Schools 2001, 22).

Not only are educational (and other) outcomes rarely assessed in law enforcement; the assessment of job performance often leaves much to be desired. For example,

Most performance appraisal systems do not tie individual goals and performance to organizational goals and performance. Typically, the completed performance appraisal form and interview represent an isolated event focusing on the individual employee's performance, independent of the agency's strategy or direction. Compounding this "disconnect," most appraisals focus on the employee's past performance, independent of the agency's current and future direction. (Ursino 2001, 12)

We assume training, especially firearms training, is modern, well funded, and professional. Unfortunately, that is not always the case. Even today some agencies do not provide duty ammunition, firearms, or even vaguely realistic training – or any training at all. Similar circumstances exist in what passes for human capital development in the world of policing. All that said – and much left unsaid but of equally unprepossessing nature – it will be of more use to look forward than to catalog the endless failures, both past and current.

Workers in the near future will have to function effectively within increasingly virtual and fluid organizations. While technical and professional knowledge, skills, and abilities will continue to be important, even more important will be adaptive capacity. This is an important concept but not a new one. For example, "In many cases, the non-technical skills and ability to adapt to different working environments will be the deciding factors in selection and/or retention of personnel" (Carey 1997, 32). These trends, among others, will force policing to change if it is to remain relevant to its nominal goals – to protect and serve. Increasingly, those we serve are expecting police to

contribute to the improvement of the community's quality of life. We cannot become effective contributors toward that end if we remain on the present path.

The present chapter presents results from two primarily qualitative studies. One study was based on responses from a FBI National Academy⁴ (FBINA) class and the other was based on a survey of members of the Society of Police Futurists International⁵ (PFI) and the Futures Working Group⁶ (FWG). Each of these two studies addressed changes from current practices and changes likely to be experienced by 2020.

STUDY ONE

On 21 January 2005 I engaged in a group interview with a class of FBI National Academy students (N=26) about the future of human capital in law enforcement. National Academy students generally have 10-20 years of experience in law enforcement and are upwardly mobile mid-managers. I asked the participants, as a group, three questions:

1. Within the realm of personnel/human resources/human capital development, where do you spend your time and/or what do you perceive as important?
2. What knowledge, skills, and abilities (KSA's) do you perceive as necessary to do these activities well?
3. What changes in the above dimensions do you think are likely to occur over the next decade?

⁴ <http://www.fbi.gov/hq/td/academy/na/na.htm>.

⁵ <http://www.policefuturists.org>.

⁶ <http://www.fbi.gov/hq/td/fwg/workhome.htm>.

Results

The discussion, which lasted about an hour, was vigorous. Their responses, in the order in which they came up during discussion, are listed in Table 1. At the end of the discussion, the participants approved the three lists unanimously. We could debate endlessly the merits of each of the points listed in Table 1. However, it is likely that most law enforcement leaders would broadly approve most of the items in the table. Nearly anyone who has participated in managing workers, regardless of the field, would recognize most of the variables listed in Table 1 and empathize with those who must face these challenges on a routine basis. None of the items listed sticks out as deviant from routine experience. And there's the rub. The items in the table also could easily have been written a decade or more previously, thus supporting the argument made above that agencies resist change. This veneration of the past reflects the stable world-view among leaders in policing, despite the changing nature of the world in which we operate.

Most of the "changes" expected by these law enforcement leaders are in fact not changes; they represent trends long since present. Casual daily inspection of the front page and business section of almost any major newspaper can find evidence of their existence over the last decade or two. These rather bright and capable managers seem to perceive the future largely in terms of the present. The observed stability is not entirely without merit – the leaders in the National Academy class are facing political, organizational, demographic, and economic constraints within their agencies. Those constraints do not allow them unlimited range of motion. In addition, some of those constraints may be imposed by tradition and limited scope. For example, in this group interview there was little discussion of how external forces might change or of different ways of construing either threats or opportunities.

Table 1. Important Tasks, KSA's and Likely Changes.

Time/Important Tasks	KSA's Necessary Now	Changes Likely
<ul style="list-style-type: none"> a. Accreditation b. Hiring qualities c. Training, including high tech d. Consent decree/consent decree training e. Effective recruitment f. Retention g. Motivation h. Community expectations i. External stressors (outside work) j. Emotional survival k. Union contracts, especially the negotiation process l. Fighting protection of dysfunctionals 	<ul style="list-style-type: none"> a. Experience b. Integrity c. Moral courage d. Self-motivation e. Creativity f. Independence g. Knowledge of human resources h. Training i. Communication skills j. Leadership k. Analytic skills l. Open-mindedness m. Common sense l. Lots of OJT 	<ul style="list-style-type: none"> a. Well-rounded, educated on entry b. Legal skills c. Increased degree requirements d. Increased experience and training on entry e. Technological competence f. HR outsourced g. Older hires, more skills and maturity h. Specialist/generalist/cross-training issues i. Salary-based competition for candidates j. Law enforcement a less attractive career field k. Declining public trust l. Privatizing, use of non-sworn m. All things to all people vs. resource limitations n. Competition with the private sector for employees and service delivery o. Outsourcing in general p. Federal funding drying up q. Returning veterans as possible recruit pool r. Importance of non-salary rewards s. Cooperative recruiting w/non-competing agencies t. Residency requirements u. Fitness for duty/older cops/mandatory retirement receding v. Gender issues in management – glass ceiling, etc.

The present is always more concrete than alternative futures. These National Academy students, when working at their home agencies, may be under sufficient stress and workload that consideration of anything beyond the concrete brushfires immediately

present becomes a challenge beyond capacity. Thus, both they and their agencies may miss opportunities and may incur unnecessary risks. As a means of testing the generalizability of the views of human capital development in policing as expressed by the FBINA students, I surveyed PFI and FWG. This second study employed a somewhat different methodology and a very different sample.

STUDY TWO

Upon approval by the Federal Bureau of Investigation Institutional Review Board, approximately 90 individuals who had demonstrated a professional interest in the future of policing were solicited for participation. With two exceptions, all were members of the Society of Police Futurists International electronic mailing list or the Futures Working Group electronic mailing list, or both. The two exceptions were solicited by a member of the Futures Working Group at the request of the author. The core mission of the Society of Police Futurists International is “[t]o foster excellence in policing by promoting and applying the discipline of Futures Research.” The purpose of the Futures Working Group is, “to develop and encourage others to develop forecasts and strategies to ethically maximize the effectiveness of local, state, federal, and international law enforcement bodies as they strive to maintain peace and security in the 21st century.”⁷ Membership in either group was considered evidence of professional interest in the future of policing and thus eligibility for participation in this study.

Twenty-four of the individuals solicited returned questionnaires, for a response rate of approximately 27 percent. One participant was a citizen of the UK, one a citizen of Germany, and the remainder both U.S. citizens and residents. Twenty-two of the

⁷ Both statements are taken from the web sites of their respective groups.

respondents were members of either the Society of Police Futurists International or the Futures Working Group. The remaining two respondents were current command staff who had otherwise demonstrated a professional interest in the future of law enforcement. Solicitation, distribution, and return of the questionnaires (available from author) were by E-mail. There were five essay questions in addition to demographics. The responses to each of the five questions and the demographics information were grouped and analyzed so as to segregate responses from the identity and demographics of individual respondents. No one other than the author had access to the names of the respondents or to the unprocessed questionnaire responses they provided.

Results

Respondents were asked to provide information on their careers and status. Of the 24 respondents, 6 were agency heads, 7 were command staff, 9 were academics, 2 were sworn but neither agency heads nor command staff, 1 was nonsworn, and 4 were retired. Several had multiple roles. Experience in law enforcement agencies in sworn, non-sworn, contract, or other roles varied significantly. One reported no experience in any law enforcement agency while, at the other extreme, one reported 45 years of law enforcement experience. Median law enforcement experience was 30 years. The 15 respondents currently working in U.S. law enforcement agencies were asked to provide information about their agencies. Three of those 15 respondents reported association with a federal law enforcement agency, 2 reported association with a state law enforcement agency, and the remaining 10 reported an association with a local police department. The number of sworn full time positions in the agencies represented ranged from 12 to 30,000, with a median of 235. The median size of the local police departments

represented was 105, significantly larger than the range of 10-24 full time sworn officers which includes median size of all U.S. local police departments (see Hickman and Reaves 2003, Table 2).

Respondents also were asked, “Is your agency unionized”? While the intent was to limit the response only to those currently working in law enforcement, 17 responded. Ten reported that their agencies were unionized while six responded that they were not unionized and one indicated the question did not apply. This question is somewhat problematic in that in one federal agency the respondents did not agree regarding whether they were unionized or not (they have an “association” rather than a traditional union). The distribution of unionization is reasonably consistent with law enforcement in the U.S. For example, “Nationwide, 40% of all local police departments, employing 72% of all officers, authorized collective bargaining for sworn personnel (table 17)” (Hickman and Reaves 2003, 9).

The 24 respondents were generous with their verbiage – the average respondent wrote more than 500 words. The Futurists answered the questions, but were not entirely constrained by them. Responses were recorded as they were written; no corrections were made. The following attempts to integrate within topical areas the police Futurists’ essay responses to the questionnaire.

Recruitment and Selection

The futurist respondents expect significant changes in personnel recruitment and selection. As we face far more competition from the private sector, both for recruiting and service delivery, we will need to modernize our human resources processes. Increasingly, private sector recruiters are using technology to perform recruiting chores; the public sector must move in that direction. Few law enforcement agencies have a

comprehensive modern human resources function. Most are poorly funded and/or add-on functions rather than primary assignments. Defending staffing levels, both in human resources and in the agency as a whole, will continue to be difficult.

Because of the increasing cost of ineffective hiring, more emphasis will be placed on upgrading personnel selection methods, but that will be limited by budgetary inflexibilities and a continuing shortage of knowledgeable staff. The human resources function in policing is unlikely to get much more sophisticated. Personnel selection methodologies must evolve in order to select for the kinds of people we will need. Thus, we are heading for a train wreck. Law enforcement agencies and personnel, as well as those they serve, will pay a price. Finding qualified candidates will prove increasingly problematic. In most industrialized and information age nations, the native populations are aging rapidly, thus increasing pressure to hire non-citizens. Some agencies, including the Lakewood, Colorado Police Department, already have done so and more will likely follow suit. One respondent indicated that finding the “squeaky clean candidate” already has become impossible. By 2020, even more candidates will have to be hired despite their various background flaws.

Recruiting must concentrate more on the “eyebrows up” than on physical traits, since policing will become an information management profession. The KSA’s we hope to recruit for will be unrelated to physical fitness. Given a choice between the KSA’s and physical fitness, the latter will gradually be assigned lower priority in selection. Recruiting physically fit candidates will be difficult also because the fitness of the general population is declining significantly. The typical high school graduate will be increasingly unable to handle the implications of evolving social turmoil, globalization issues, technology, political polarization, economic change, policing versus intelligence,

homeland security versus constitutional liberty, and similar issues. Effective homeland security requires more sophisticated social and communications skills as well as broader understanding of the changing world in which we live. Departments will become more cognizant of the need for higher education and thus broader skills at the point of hiring. Selection at entry level will increasingly take language skills into account.

Agencies will need to be looking for recruits who are capable of developing strategic leadership, forward thinking, a bias toward change, and willingness to take calculated risks. The present focus on management and administration in steep hierarchies must yield to a focus on leadership in team environments. Recruits must have the capacity to become role models. They must be able to develop politically correct/sensitive leadership, cultural literacy, and be able to play well in team settings. They must be able to develop and welcome diversity in thought, not just diversity in demographic characteristics. Recruits must be flexible, life-long learners who are dynamic, energetic, and inclined to facilitate and motivate others within a flat organization. They must enter with or be able to quickly develop the ability to facilitate self-actualization and successfully manage the me-first attitudes of workers. Ethical, critically thinking, analytical problem solvers will be needed if agencies are to cope successfully with the challenges heading our way. A 4-year college degree will more broadly be seen as the minimum standard, even though many departments will not be able to afford them; graduate degrees will be preferred.

Recruiting will focus on the candidates with a broad general education; individuals who are well read, broad of scope, and with a system-oriented perspective. We will be looking for hires that are adaptable and mentally agile. Unfortunately, candidates with the above characteristics are decreasingly likely to tolerate the industrial age

hierarchy in the typical law enforcement agency. Thus yet one more reason to abandon hierarchy as our default form. On the positive side, our new recruiting pool will be more oriented toward evidence, e.g., outcomes assessment, rather than the traditional or “generally accepted” practices that pervade policing. They will want to know “why” instead of merely that “this is the way we do things.” Thus, they will bring us hope for the future. Recruits must have the capacity to become sophisticated communicators, both orally and in writing. The increased specialization in policing, especially in the technologies, will increase the potential for miscommunications both internally and with various publics, including the private sector which policing will increasingly depend on.

Because officers will be spending fewer years with the agency originally hiring them, there will be increased pressure on the recruiting function. Career fairs and other outreach models will be necessary if effective recruiting is to occur. Decreased yield of recruiting efforts suggests a trend toward development of regional approaches to hiring entry level employees so that each small and medium-sized agency can take advantage of economies of scale, reducing the heavy costs of recruiting and testing. This will require giving up some autonomy and will potentially conflict with the generalist approach of many local governing bodies, but it would save significant money and personnel hours. An alternative approach likely to be used more often is outsourcing of the hiring process to specialized niche consultants.

Employee selection and initial training consume the largest portion of human resources time. That will continue to be the case. New recruits must be taught that policing is a political enterprise and thus needs to attend to opinions of stakeholders. They must be taught a vision of service rather than of combat policing. Their early

training must provide them more sophisticated understanding of human resources law, including but by no means limited to risk management.

Assignment

Respondents also foresaw implications of change on personnel assignment practices. Electronics and information technology will pervade communications, crime scene investigations, intelligence, and most other facets of police work, from entry level on. Officers will develop expertise in the application of technology or they will fail. There will be increased recognition that time “on the bricks” is neither necessary nor sufficient for assuming a leadership role in policing. In medium-sized agencies, there will be increased interest in hiring the non-sworn as executive leadership.

The globalization of crime will increase the demand for more specialists in languages, international law, and international finance. Technology also will force specialization, especially in forensics, computer crime, biotech crime and terrorism. There will be increased tensions between specialists and “beat-pounders.” Staffing the specialty areas will become more of a problem. Since technology-oriented and other specialized positions in many agencies are seen as career development culs-de-sac, filling and repeatedly re-filling those positions will become most difficult, until and unless organizational culture changes. Therefore, civilianization, privatization, and outsourcing, especially in technical areas and languages, will become routine. Increased specialization at both the officer and agency (limited jurisdiction) level will make inter-agency communication more of a challenge. Specialization will also make team building more difficult yet more necessary as we increasingly will expect officers to work with peers in non-police agencies. A new problem will be perceived isolation of individuals within our increasingly isolated workforce because they have few or no law

enforcement peers in demographics or in technical skills and responsibilities. “Every marine a rifleman” will no longer apply in policing.

Professional Development and the Career Path

Because of the increased complexity of the job, career tracking must begin at point of hiring. As a result individual choice and organizational flexibility thereafter will be constrained. Possible tracks might include supervision, leadership, technical, and generalist. “Pounding a beat” will no longer be the default entry assignment. “Military model” police academies that stress the combat policing seen on television will prove increasingly dysfunctional in the information age. Our recruiting pool will find that model unfamiliar – most will have no prior military service – and they will also perceive it as archaic, pointless and unpleasant. Thus, for agencies using “military model” academies, both recruiting and retention of recruits will become more difficult.

Driven both by specialization and by fear of civil liability, there will be increased reliance on competency, certification, and mandatory “professional development” for a wide variety of functions. In part because of this, our present inadequate, primitive, and brief “in-service training” will have to give way to much more, and more sophisticated, professional education targeted toward the needs of the individual. Our current penchant for “one size fits all” training for the line officer will give way to highly individualized and customized training (see Schafer and Boyd elsewhere in this volume).

Significantly increased emphasis on in-service learning, including learning outcomes assessment, must be built in to every agency’s human capital development plan. Mandatory rotation of managers and supervisors will provide opportunity for the broadening of scope, without which failure will be inevitable.

Promotions

Increasingly the pay scales will limit the people we can hire and therefore if we continue to promote only internally, we will be hamstringing our agencies even more than at present. Most officers will lack the depth and capacity to excel, much less become organizational leaders. Promotions based on seniority must give way to promotions based on performance and potential. That will result in serious challenges for unionized agencies. Existing compensation plans often force officers to attempt promotion in order to gain significantly in salary. Thus, we gain as reluctant supervisors and managers many who would have preferred to develop into serious professional police officers. Salary increases at present tend to be unrelated to job performance, thus reinforcing mediocrity. If that does not change, both agencies and officers will find themselves unable to perform the increasingly complex functions required of them. At present, many of agencies make their promotional decisions based primarily on how the person did in the present position. Some agencies have promoted people in order to neutralize them. Many agencies promote people because a position is open rather than because the prospective need for the position has been demonstrated. These practices, already costly, will become even more costly in the future.

Careers will be shorter and more diverse. Early retirement plans of various sorts will proliferate. Lateral transfer between agencies is likely to become more common as agencies are unable to meet their increasing needs through internal professional development. Other mechanisms, too, will create much higher employee mobility to other employers. Shadowing and mentoring to foster leadership qualities will become more prevalent, but must take into account the need to encourage change and critical

thinking rather than merely mimicking what others do. Cross training will become even more necessary than at present.

Employees will be much less likely to remain within the agency to nominal retirement. More effective agencies will make sure they maintain connections with these ex-employees, since networking will become the bedrock of good police work. Agencies can use ex-employees as ambassadors rather than abandon them. There will be increased turnover not only at the line level, but also at supervisory and management levels. That will, in turn, reduce organizational consistency. Another force that reduces organizational consistency is knee-jerk reactions driven by media reports of the brushfire of the day. Increasing agency transparency, too, will feed this political rather than functional approach to policing.

It is not only the members in the lower ranks who will be more transient. Keeping chiefs very long will become far more difficult, due both to increasing pressures on them and early retirements. Chiefs will no longer be able to get by with criminal justice degrees – they will need to bring more knowledge, skills and abilities to the agency than the typical criminal justice degree provides. Retired military/intelligence personnel will become increasingly attractive as candidates for top law enforcement positions. Top law enforcement leadership positions will be civilianized, including the hiring of top leaders who are not career law enforcement.

Other “Challenges”

Officers will want to know what the organization can do for them; job satisfaction will become far more of an issue than at present. Officers will be more likely to demand 12-hour shifts in order to maximize uninterrupted time away from work. Overtime will be much less attractive to officers. The more ego-centric orientation of workers will

require more flexibility in officer assignment as well as management that is sensitive to the officer's preferences. In successful organizations, this sensitivity will be quite different from the harsh working environments found in some agencies at present. There will be increasing tension between integrity and the "what's in it for me" motivations of our employees. Thus, agency supervisors and managers will be tempted to spend even more time on disciplinary issues. Instead, they should spend their time leading their people to behave in a principled manner.

Upper management and human resources personnel will increasingly be pressed to allocate more time and attention to poor performers, despite the poor return on that effort. The tradition of holding on to poor performers, often due to union pressures, must give way to the greater public good. Many more agencies will offer early (10-15 years) partial retirements to facilitate the graceful exit of those who are no longer functional because they have been unable to keep up with the accelerating rate of change. Budgeting will become more difficult. Cost factors will eventually drive increased use of various regionally based and private policing models.

Some things will not change, even though we might wish they would. Policing will still aspire to become a profession. Although it will make progress in that direction it will remain primarily a blue-collar activity. The lack of a college degree for most line officers, the limitations on lateral movement to other law enforcement agencies, the focus on low-level training rather than continuing education, and many other factors will make movement toward a true profession improbable. There will be considerable pressure to reduce employee selection criteria in order to broaden the pool and to reduce salary demands. Related to both its intrinsically political nature and its retention of blue-collar status, policing will acquire even more civilian oversight. The oversight

models will vary greatly, from traditional civilian review boards and public safety committees to supervision by neighborhood policing groups (Levin and Myers 2005).

Changing Organizational Culture

Policing is still immersed in internal cultural conflict. “Get home at the end of your shift” conflicts with “we’re here to serve and preserve human life.” That conflict is not new, but it remains significant. A parallel to that conflict is the conflict between combat policing and community policing. Those conflicts will continue. Various stabilities will be achieved, but they will differ significantly from one community and one agency to the next. One respondent noted,

If we shift our selection criteria to find thinkers, people who fully value and understand the relationship between sustaining human dignity and policing, and who hold those ideals high above personal gain or the “brotherhood”, we may truly raise the bar of policing to a professional level. On the other hand, if local policing is relegated to only doing the “dirty work”, the lingering “warrior” image of the local cop may live on.

Based on extensive research, we know that a primary stressor on employees is forces within the police agency (e.g., Storch and Panzarella 1996), and particularly in large agencies (Brooks and Piquero 1998). As employees become more difficult to hire and retain, it is possible that law enforcement agencies will reform. Functional integration of the smallest agencies (less than 5 officers) with adjoining agencies must be achieved, perhaps analogous to the “levels of care” approach in modern medicine. In the “levels of care” model, specialized services are centralized while more generic services are distributed. The smaller the agency, the more services should be provided elsewhere.

For example, when intelligence sharing becomes normative, agency structure will eventually be affected. Smaller agencies will never be able to directly provide skilled

analysis, so they will need to develop alliances with other agencies and/or private sector actors in order to provide input and gain processed output.

The blurring of war, crime and terrorism as well as various other megatrends will affect policing. Eventually, law enforcement will change as a result. However, the changes are likely to be erratic rather than systematic and agency-specific rather than integrated. Recognition of policing as a human services function may create a death knell for the traditional hierarchical cop shop. Police agencies may increasingly become divisions of larger human service delivery agencies, similar to the role of university police departments of today. Hierarchy will become increasingly dysfunctional as “millennials” (those born between 1980 and 2000) are hired.⁸ Federal and state agencies will increasingly hold influence over localities, at the same time that state and federal centralized services to local agencies become overwhelmed. The era of unfunded mandates is only beginning.

As hierarchies become more dysfunctional, the chain of command will lose its grip on both the line and mid-managers. While this will result in functional flattening of dysfunctional hierarchies, it will be an ad hoc work-around rather than a redesign for the information age. Thus, an unfortunate consequence will be that executive management will, even more than at present, make decisions based on what they have heard from a very limited and biased sample of employees. Of course, agencies that redesign their internal communications for the information age will be less susceptible to what one of my former chiefs called “the latrine-o-gram.”

There will be increased organizational transparency and fewer secrets. More important, the power of position in the hierarchy will no longer depend on knowing what

⁸ See <http://www.generationsatwork.com/articles/millennials.htm>.

the line troops know. The line troops will know or can easily learn nearly everything the hierarchy knows, and much more. Power in the upper reaches of the hierarchy will depend more on how effectively it supports the line troops. This will result in widely distributed power, throughout the organization. Even in organizations that formally maintain their obsolete steep hierarchies, functionally the organizations will flatten. Transparency flattens. That is the way of the world.

At long last, we will move from a focus on apprehension to a focus on prevention, which is much more difficult. Our revised mission statements will address social problems rather than exclusively or even primarily in crime fighting. Policing will be, in part, seen as a social service. It already is seen as social service by much of the community; it is policing as an industry that has been slow to accept, train for, and reward social service. Evidence-based, data-driven policing will begin to be taken seriously. Large agencies will enhance their internal research functions, hiring Ph.D.s as their top researchers. Compstat is only a harbinger of forces pushing in that direction. We will see similar forces in intelligence, crime analysis, and organizational planning. In addition, measurement of public trust must become a routine human resources process. Few police officers of any rank at present possess Ph.D. levels of research sophistication. That will change.

All but one of the 24 respondents expects significant changes. While there were a variety of domains discussed, the conflict in expectations was minimal – there even was agreement on the dynamics as well as most of the changes themselves. The 24th respondent focused on the continuity driven by human nature, but also recognized that the forces of law and education, as well as homeland security concerns, will change officer and organizational behavior.

COMPARING THE STUDIES

Comparing study 1 and study 2, it was no surprise to find that the responses made by Futurists were in general more abstract and more likely to take into account over-arching social forces than were the responses by the National Academy students. While there were some overlaps, e.g., civilianization, outsourcing, and specialist/generalist issues, the Futurists tended to focus somewhat more on the global and the National Academy students somewhat more on the issues that directly affected them. My intent is not to denigrate the National Academy students. Indeed, they are our hope for the future of policing. Most had had no experience as agency heads and thus their responses tended to be focused on the world they knew. The backgrounds of the Futurists were very different and so were their responses. Whether the response differences have practical effects on police agencies is an empirical question.

DISCUSSION: WHERE WE NEED TO GO

This section addresses current practices and possible alternatives in human capital development. There are many dimensions on which policing needs to change if it is to remain relevant. While the purpose of the present document is to focus on the development of human capital, we should be aware that this dimension is one of many. Human capital development will be crucial – given the changes we will face, it is a do-or-die dimension. The mid-manager or chief of today will not be able to function adaptively ten years hence without some serious human capital development, both personally and among other agency staff.

Emphasis on Training and Education

We know a fair amount about the effects of training and education. In general, the better the training and the more education, the better the cop. Yes, we are fond of citing the counter-examples – the “overeducated newbie with no street sense” — but exceptions do not invalidate the general rule. In general, who among us would, other things being equal, prefer to hire someone with less education or promote someone with less training? If you want the officer applicants who have the least education and training, you are welcome to them, because they will not function well at my department or at most other agencies. Given the increasingly complex environment in which we operate, most of us need officers who are thinkers, problem-solvers, learners, and change agents. We do not want to fish at the shallow end of the pool because the fish we need are not found there. Because compensation is low, we often have to fish at the shallow end— and we pay a price for so doing. The costs of training failures, poor performers, and mis-, mal-, and non-feasance are non-trivial, although usually these costs are not reflected on budget spreadsheets.

In part because training within the policing enterprise is so execrable, the biggest opportunity for influencing the future of human capital development in policing in the U. S. is limited by the offerings of colleges, which in turn are in part constrained by the content of available textbooks. The typical undergraduate program in criminal justice offers at most a course or two entitled, approximately, “law enforcement organization and administration.” For many law enforcement managers, the textbook for that course is a primary guide to doing the job – few experience further higher education in the management and leadership of law enforcement agencies. Many chiefs and other leaders rely on their old – sometimes a decade or more out of date — organization and

administration textbook because it is the only textbook they have that is job-related for their current job. Thus, it is worthwhile to examine a sample of the current textbooks to see what they offer for the future leader interested in developing human capital.

The criteria for selection of the textbooks to be examined were: no older than 2002; at least 2nd edition; and available on my bookshelf. Six textbooks (Roberg, Kuykendall and Novak 2002; Gaines, Worrall, Southerland and Angell 2003; Cordner, Scarborough and Sheehan 2004; Swanson, Territo and Taylor 2005; Thibault, Lynch and McBride 2004; Whisenand and Ferguson 2005) met those criteria. Their median edition was 4th, thus these texts are mainstream. Unfortunately, they also are unprepossessing. None had more than a couple of pages that addressed the future of human capital development. Some did not address the topic at all. Some had references to the “future” that were hopelessly out of date or had no references at all.

How, then, can officers learn about the future and the development of human capital? By eschewing criminal justice curricula and instead taking their supervision and management and leadership courses in colleges of business or commerce or related disciplines. Typically, the material found there will be more current and better written. I suspect that is because business and commerce take those topics far more seriously than do we in the policing dodge. Further, the content of the vast majority of law enforcement-related college curricula resemble either a training academy curriculum or a concentration on theories that are of little utility. Instead, we should demand curricula that provide a broad general education regarding the world as it is but also as it is likely to become. Until and unless we demand curricular change in colleges, our future leaders likely will be limited in their scope and their abilities.

Selecting and Training For Resilience

Hardiness is a personality characteristic that predicts resilience in response to stress. Preferring officers who are hardy would seem to be a “gimme.” We talk a lot about the stresses of policing. Of course, we quietly ignore the data showing that much of the stress is due to the manner in which we administer our agencies. Be all that as it may, even if we refuse to modernize how we manage and lead, why not select and train our people so they are less likely to be injured by how we treat them? It’s not as if hardiness/resilience is mystery meat – we know a fair amount about it, including how it works in emergency services (e.g., Paton, Vilolanti & Smith, 2003). Why bother with hardiness/resilience? If we pay attention to that variable we may be able to reduce workers compensation costs, increase morale (because we can select out the “stress puppies”), and increase performance at the individual and the agency level. Hardiness/resilience is only one of myriad variables that have the potential to make our lives easier and our agencies more effective. An equally important factor is leadership development.

Leadership Development

At present, many departments, including my own, have a history of selecting as leaders those few who have not self-destructed. Instead, we should nurture and develop and teach and mentor so that we maximize the pool from which we may choose. How many of us reward supervisors for the professional development of their subordinates? How many of our departments employ career development plans as a means of reducing the likelihood that people will retire in place? How many of our agencies have carefully designed and implemented mentoring programs? Police

executives will have to be both visible and effective in the dynamics of their communities. They will need to be, as one respondent put it, “activists in community affairs, with a much broader understanding of politics, economic development, and demographic/cultural tectonics ... and they are going to have to be social players.” How many of us are now intentionally developing such people?

Personnel Evaluation

How many of us have personnel evaluation systems that actually help people get better? How often do we change how we operate based on what we find from the personnel evaluation process? How many of us have ever objectively validated the personnel evaluation system we use? Does it even measure what is important? Does it measure what is in our mission, values, or vision statements?

Training

In how many of our law enforcement agencies is training driven more by liability than by ability? How many law enforcement agencies do serious evaluations of training? How many of us have the KSA's to do serious evaluations of training? How many agencies know whether their training works, e.g., to prepare our officers for community policing and problem-oriented policing? For how many law enforcement agencies is high-tech training mostly reflected in our use of PowerPoint slides to help our students sleep? How many agencies still rely on a firing range protocol that focuses on puncturing immobile paper targets from fixed firing positions? How many agencies use obsolete training to prepare their people for future needs? How many agencies train their people on how to influence the external environments,

including the political, social, and economic?

Organizational Structure

How many agencies have moved to a team-oriented, line-empowered, continuous quality improvement model? How many agencies have a structure that looks almost the same as it looked a decade ago? Two decades ago? How many agencies intentionally transfer their upwardly mobile folks in order to broaden their range of experience? Consider the implications of all of these changes for special teams and functions. More important, our society has long since moved from the industrial age into the information age. Policing, in general, has not. Our stubborn reliance on hierarchy constrains our ability to respond in a flexible and timely manner to the demands of the information age. At the very least, we ought to be actively encouraging the internal and external networking by our staff, including civilian staff. Otherwise, we will be missing much in the way of information and other resources, without which our ability to function will be compromised. Optimally, we want to move toward a net-centric approach (see the chapters by both Cowper and Myers elsewhere in this volume).

Looking Ahead

If your law enforcement agency is like mine, it did not come off very well as you responded to the questions above. However, history is not destiny. We are on the tracks. We see the light at the end of the tunnel. We know it is an on-coming train. We can choose whether to stand there and await doom, to move to other tracks, or to flee in an undignified manner, among others alternatives. What other alternatives do we have? Cops and administrators can:

1. Change how they operate within the agency, even if they cannot change the agency itself.
2. Read how others have thought about the future of policing, e.g., the IACP's "Police Leadership in the 21st Century" (IACP 1999)
3. Join the Society of Police Futurists International (www.policefuturists.org) and actively involve themselves in futures research (e.g., Cornish 2004).
4. Set specific goals, both short- and long-term, with the agency's likely future in mind.
5. Take an evidence-based approach to leadership.
6. Focus on developing the people who work for them rather than focus on disciplining the problem-prone.
7. Build a team orientation.
8. Pay attention to people who are doing the right thing for the right reasons.
9. Solicit feedback from those who work for them and those who work with them, and then act on that feedback.
10. Build positive relationships with segments of the community before they need those relationships.
11. Encourage and support informal networking both within and external to the agency.
12. Encourage both line officers and administrators to look beyond today's brushfires, toward likely futures – and reward them when they do.

WEAKNESSES AND STRENGTHS OF THE PRESENT WORK

Each of the two cohort groups brought its own strengths and weaknesses. The first cohort was a convenience sample of command staff members who signed up for an applied criminology course as part of their FBI National Academy experience. Those attending the FBINA tend to be the most upwardly mobile

managers in their respective agencies. Based on the subjective judgment of their instructors, those who sign up for the applied criminology course tend to be toward the upper end of the FBINA distribution. Thus, the members of the first cohort are not representative of law enforcement managers in general. The second cohort consisted of those who voluntarily responded to a request, and thus may be somewhat unrepresentative of law enforcement Futurists. They also tend to be senior to the National Academy sample both in experience and in office.

The populations represented by both cohorts are not precisely known. The questions asked, the methodology, and the method of recording responses (consensus in the National Academy sample versus researcher summary in the futurist sample) each may have affected the data collected. The questionnaire responses are primarily qualitative, and thus subject to a variety of errors and misinterpretations. In addition, there is a plethora of uncontrolled and, to some extent, unknown variables that might confound responses.

The approach used in the current study does have some advantages over the existing literature. Insofar as the author is aware, there is no previous research on the future of human capital development in law enforcement. While the literature is replete with various speculations, there has been no previous systematic examination of the views of either current law enforcement practitioners or police Futurists, and thus there has also been no previous comparison between them. The sample size in each group is sufficiently large to allow some confidence that the outcomes are broadly, although imprecisely, representative of the views of both upwardly mobile managers and law enforcement Futurists in general.

DIRECTIONS FOR FUTURE RESEARCH

As is often the case in exploratory research such as this, more questions are generated than are answered. At present, there is not a broadly accepted operational definition for the distinction between traditional and futures oriented individuals. At present, the distinction between traditional and futures oriented is like the definition of pornography – as Justice Potter Stewart commented, “But I know it when I see it ...” (Jacobellis v. Ohio, 378 U.S. 184 (1964)). We know how to encourage Futurists but we do not know how to grow Futurists. To what extent is a futures perspective dependent on character and/or early experience? How can we affect the likelihood that a futures orientation will be manifest in actual work delivered? Ultimately, we have no information in the world of policing that would allow us to decide whether job – or agency – performance is better when Futurists are involved. There is much work yet to be done.

A FINAL QUESTION

The future of policing will happen. The capacity of the policing enterprise to influence and to respond to that future will be constrained by the choices we make regarding human capital development. Given the decades it takes to create top leadership in policing, our choices today will affect the behavior of the policing enterprise well into the future. An incidental finding of the present research is that futures-oriented leaders view the future in ways very different from the view of traditional leaders. Which sort of leaders – traditional or futurist – will we choose?

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Chapter Fourteen

THIRD-PARTY POLICING: FUTURES AND EVOLUTIONS

Michael Buerger

EXECUTIVE SUMMARY

This chapter uses history as a springboard toward the future. The historical development of Anglo-American policing is examined in light of the third-party concept first articulated by Buerger and Mazerolle (1998). The development of an autonomous “professional” police occupation focused almost solely upon crime suppression is a relatively late development, with well-documented limits. During the most recent wave of problem- and community-oriented reform movements, those limits have led to a return to the older model of policing through “third parties”: citizens who are not authorized law enforcement officers, but whose role or status in the community gives them control over some aspect of potential criminals’ lives. By enlisting third parties into the law enforcement effort, police blur and blend criminal and civil enforcement powers. Policing through third parties inevitably requires policing of third parties, with pressure or coercion brought to bear on non-offending members of the community.

The second half of the chapter explores the possibilities and limitations of this approach in an era of rapidly developing technologies and radical changes in traditional economies, political relationships, and understandings of sovereignty. An analysis of the changes needed for an effective response to cybercrimes serves as a template for externally driven change. The strengths and weaknesses of three possible adaptive models are discussed: shedding responsibility in favor of privatized entities; developing an internal

capacity not currently present; and creating an enhanced third-party policing model across jurisdictional boundaries.

INTRODUCTION: LOCAL CONTEXTS

Third-party policing was originally identified by Buerger and Mazerolle (1998) as an emerging tactic of police problem-solving that applied civil law regulations and penalties to the crime-suppressing mission of the police. Largely focused upon place-specific initiatives¹, with roles for place managers (Eck and Wartel 1998; Felson 1995) and situational crime prevention activities (Clarke 1992), third-party policing represented a “next step” hybrid of enforcement and prevention. It was applied to situations in which the offender targets were resistant to police enforcement actions, or presented too great a problem for existing police resources.

Some problems, such as drug-dealing and shoplifting, are of a magnitude and continuity that exceeds existing police capacity. As the police themselves note, they can arrest drug dealers all day long, and for every dealer the police remove from the streets, three more step in to take their place. Arresting drug dealers who work out of a multi-family residential complex is an ineffective response; what is needed is a steady presence that exerts control over the space and keeps the drug traffic from establishing itself. A more effective police response is policing through third parties, specifically the residential complex’s management team. Arresting rowdy drunks on the way home from

¹ The two authors’ observations were drawn from complementary field experiences with the Minneapolis Police RECAP Team (Buerger) and the Oakland SMART Team project (Mazerolle). Minneapolis RECAP represented a small, detached, developmental unit working on a diverse set of “problems” derived from a computer analysis of addresses with high levels of calls for police service. Oakland’s SMART initiative was a well-organized, integrated, citywide project that brought multiple enforcement actions against entrenched drug-dealing locations.

a dive bar is similarly ineffective: greater assurances of public peace are to be gained by changing the practices of the bar's guardians and having them exercise more control over the patrons' behaviors. The same is true for other unpredictably sporadic and diffused behaviors (domestic violence, disorderly conduct, and the like): police call-driven responses are often too little, too late. To supplement standard enforcement practices, the police need the assistance of third parties with more consistent control over the offending population's environment.

Typically, third parties are non-offending citizens with some managerial control over a specific place: a tavern, an apartment complex, a retail establishment, or a recreational property. Occasionally, the third parties are members of other governmental or social service agency with a direct or indirect influence over the offender-targets, or over the milieu in which the criminal activity occurs. Regardless of their individual situation, place-guardians or service providers possess the ability to take measures that will be felt immediately by the target population of actual and potential offenders.

Third-party policing almost always begins as a cooperative venture, with officers asking for assistance based on police analysis of the problem and of the relevant role of the third party. In almost every instance the police will request the third party take some action that is outside or beyond their standard, everyday "business" practice. The action can be as simple as a one-time construction of a symbolic barrier, improving the area's lighting, or installing an access control system, all of which are standard crime prevention practices. It may be more complex: adopting tenant screening practices or mandating (and enforcing) rules of conduct for patrons of a bar. These steps often are more difficult, involving interpersonal communications and requiring constant attention. In each case,

the results of the requested actions are promoted as having a generally positive effect on the future conduct of the problematic populations served by the establishment.

The rationale for policing through third parties is that the penalties place managers can impose based on civil law are immediate, whereas the criminal justice process is drawn out and often eviscerated by plea-bargaining or outright dismissal of charges. Informal penalties that can be imposed by place managers include denial of access to a bar or recreational outlet, which means denial of fellowship and easy access to substance-of-choice, among other losses. Eviction, in cases involving disruptive behavior in residential settings, imposes at least some dislocation of routine activities in the hassle of moving. The informal penalties are thought to be more meaningful in the offenders' lives than the attenuated, "sometime-in-the-distant-future-maybe" penalties of the criminal sanction.²

What distinguishes these developments is the potentially coercive nature of third-party policing when cooperative overtures are rebuffed. Buerger and Mazerolle (1998) identify the third parties as "proximate targets" of police enforcement actions (to distinguish them from the "ultimate targets," the criminally-offending population), because noncompliance can result in civil regulatory actions being brought to bear on the third parties. While spoken of and nominally regarded as "partners," landlords or bar owners who resist taking the requested actions may find themselves the subject of an unscheduled health or building code inspection, or other regulatory action. Where inspectorial interventions are unavailable or unavailing, the continued presence of the

² Over time, the accumulated hassle presumably will have an educational effect, leading to a change in the individuals' behavior, but that outcome is hopefully hypothesized more than it has been substantiated.

police asking for assistance constitutes a nuisance factor that is a subtle, if low-grade, coercive action.

In many venues, such inspections are routinized, an annual event which begins with advance notice of the date and time of the inspection. Shortly before the scheduled arrival of the regulatory agency's inspectors, the owner or manager will take the necessary actions to bring the establishment into compliance: cleaning, cosmetic repairs, whatever past practice tells them will be the likely focus of the inspection. Once the inspection is over and the establishment certified for another year, the management is free to resume the sloppy or nonexistent managerial practices that make the place attractive to the criminal cohort. An impromptu inspection changes the equation dramatically. While only rarely will an establishment be shut down, the number of violations found is usually considerably beyond those of the routine annual inspection. Correcting them requires substantial commitment of money and time for the owners and place managers.

Unscheduled inspections do not obviate the annual inspection; indeed, a follow-up inspection to assure compliance is rare in the routinized activities, but almost assured in a targeted enforcement action.

Inspections and other regulatory pressures may be conducted at police behest, but the police typically have no official powers over the relevant civil codes. Third-party policing depends upon partnerships and coalitions by and among agencies that are also beyond each one's normal work routine. Effective third-party policing occasionally requires applying coercion against nominal allies, usually in the form of political influence, in order to provide an incentive to take extraordinary actions or assume unfamiliar duties.

SECOND LEVEL: PART OF A LARGER TREND

Mazerolle and Ransley (forthcoming) subsequently locate third-party policing within a larger set of social and governmental developments. Following Braithwaite (2000), they note the trend “away from state sovereignty and control to networks of power” based upon minimization of risk. Considered within the perspective of actuarial justice articulated by Feeley and Simon (1994),

[t]he impact of these trends on crime control and policing has been to change the focus from state responsibility for preventing and correcting criminal behavior to a system where crime control and prevention networks are responsible for identifying and managing risks. Public police form one node of these networks, with private police, insurance companies, regulatory agencies, communities, schools, and parents as other nodes...[existing] within legislated frameworks, but...often episodic and ad hoc... The new technologies involve systematic identification of target groups or places ... and then new forms of surveillance, preventive detention, and incapacitation via longer or mandatory sentences.

Within this expanded view,

[t]he new regulators differ from the old, state-centered models. They rely on techniques ranging from voluntary and enforced self-regulation... to selective use of the old command and control techniques and sanctions. They work with industry bodies, and increasingly as part of globalized regulatory networks.

Mazerolle and Ransley identify these trends as a legacy of the Reagan-Thatcher revolution in government, with its emphasis on private action rather than public regulation as the effective mechanism of social development.

RETROSPECTIVE: PROFESSIONAL POLICING AS AN ABERRATION

Anglo-American policing developed in fits and starts that mirror major periods of social dislocation. For most of history, “policing” itself was a third-party obligation, imposed or offered to citizens. The modern professional police force is a late development, an artifact of the urbanization that accompanied the Industrial Revolution. Indeed, it is possible to view the entire arc of development of Anglo-American policing as a long experiment - one that demonstrated the limited effectiveness of specialized policing. Third-party policing may represent a new model in which the professional police do as much coordination of other forms of social control as they do imposing criminal law enforcement.

In important ways, the modern trends constitute an extension of the trend earlier observed by Bittner (1970:18-21), in which government control changed from the coercive and immediate presence of agents of the Crown to voluntary compliance by the citizenry. Direct intervention by state agents was reserved for the most recalcitrant cases, and those beyond the capacity of the regulatory devices of the day. Looking across English history, most policing is third-party policing in one form or another, with relatively loose guidance from state agents (whose own developments parallel the development of the now-waning nation-state). The social conditions of the Industrial Age abetted the development of the modern police force; the social conditions of the emerging Information Age seem to be demanding a new round of changes to respond to global demands beyond the capacity of local jurisdictions.

Invasion: 1066 and Beyond

When William the Conqueror triumphed over the native government of the Britons at the Battle of Hasting, native rule was replaced by a centralized, alien hierarchy. The new rulers' most immediate objective was pacification and the legitimization of their rule. In that context, modern policing begins with William's tithing-men system (Klockars 1985). Transforming the office of Sheriff into an extension of the central authority of the Crown was not sufficient to replace an occupying army. By selectively applying the threat of force (the Sheriff's men) against non-offending subjects, to coerce their active search and capture of offending members of their tithing, the Norman kings created a "force multiplier" using third-party policing. Turning a friend or relative over to agents of the new king was an action well outside the normal inclinations of the British countrymen. Having to leave their fields or shops to pursue them also meant loss of income, among additional hazards, and thus was well beyond the everyday routine.

Crusades

Unlike the Norman invasion, the Crusades stretched out over an era, with eight major campaigns to liberate the Holy Land marshaled over a span of almost 200 years. At various times, large numbers of men left the country under arms; fewer returned, some with diminished physical capacities (loss of limbs and other injuries), others bearing diseases. Reintegrating demobilized armed forces back into a stabilized community is a challenge under the best of circumstances. In 1285, the Statute of Winchester created another variation of third-party policing, making the citizenry

responsible to serve both in the watch and as “the constable” (the latter in year-long, unpaid turns). Both offices were imposed duties, placed upon respectable non-policing persons, often at considerable cost to them.³ Fire and disease were far greater threats to the isolated towns than the occasional criminal, but the weakness of central authority made it necessary to push the obligations of crime control (hue and cry, maintenance of weapons, assisting in the punishment of offenders) (Klockars 1985).⁴

Revolt, Regicide, and Restoration

The English Civil War (1642-1651) and the execution of King Charles I in 1649 changed the government of England completely, though temporarily, as Roundheads (the forces of Puritan-dominated Parliament) strove with the Cavaliers (supporters of the royal house of Stuart). Unlike the Crusades, which took place on foreign lands, the English Civil War left victor and vanquished on the same soil. With the triumph of Parliament, supporters of the Crown lost their lands and positions, and in many cases

³ Klockars’s label of Obligatory Avocational Policing remains valid, a parallel description of the same phenomenon. He looked at the subjects’ (citizens’) role as a form of self-policing, where this chapter regards it as an imposed duty. I believe the two perspectives can coexist without contradiction or corruption. Where the duties legitimately serve the interests of the community, self-policing occurs; then the action serves the interest of the Crown more than the community, it could properly be called third-party policing.

⁴ The Justices of the Peace Act of 1361 is traditionally considered an element of police history, as it addressed the burgeoning issues of oversight of a dismal constable and watch system. The Justice of the Peace was originally a member of the local elite, bearing moral and secular authority within the parish and the county, who was given responsibility for supervising the Constables and the Watch. To the Crown, the central authority, the logic of appointment also made the Justices extensions of central authority. As Klockars (1985, 27) notes, direction from central authority ran contrary to the accustomed exercise of local prerogatives:

...as conflicts arose between these county and municipal justices and the central government, the central government began to find it politically convenient to appoint as justices men who were less independent, less troublesome, and more sympathetic to central government ambitions. Often this meant denying appointment to wealthy gentlemen and local lords and nobles, who had an interest in preserving local autonomy, and appointing in their place less distinguished local men, many of whom could not afford to serve as justices for free.

Lack of financial autonomy led to fees for the justices’ services and subsequent corruption led to the disgrace of the office over time (Klockars 1985). Though structurally it was an attempt at strengthening central control, its importance to third-party policing lies in its role as a locally based control over centrally imposed duties of citizens.

their livelihoods. During the period of the Protectorate, when Oliver Cromwell served as the Parliament's chief executive, England faced political and social inequities comparable to the Reconstruction era, when the American South was under federal occupation. Unlike the American Civil War, however, no Mason-Dixon line marked an occupied South from a victorious North: the losing side lived in close proximity to their conquerors, and without stable livings, many turned to crime. The rise of the highwaymen — freebooters who lived off the land, waylaying travelers along the public roads — was one result of that civil dispossession.

When Parliament restored the monarchy by calling William of Orange to be King, and his wife Mary to be Queen, the prerogatives of the Crown were severely limited. Central power was relatively weak, with many other affairs of state to concern it. Another form of avocational policing, “entrepreneurial” in Klockars’s (1985) terms, was established by The Highwayman Act. It took the form of a bounty paid for bringing a highwayman to justice. The provisions of the Highwayman Act of 1692 represent an opportunity for private citizens to assume police duties, not an obligation to do so; lacking any coercive elements, the Highway Act was only marginally “third-party” policing. The Act had far more potential to destroy robber gangs from inside with its provision of freedom for any felon turning in two other felons, but the inherent flaw of the Act (its vulnerability to false testimony) eviscerated its effectiveness.

Industrialization and Urbanization

By the time the monarchy was restored, however, England was on the cusp of a major social revolution that would render obsolete the existing forms of policing an agrarian

society. Throughout the 1700s, agricultural efficiencies, coupled with developments in mining and steel production, made other industrial growth possible. The economic center of gravity shifted from agriculture to industry. With fewer hands needed to tend sheep than to grow and harvest crops, large numbers of persons were uprooted and migrated to the cities to seek employment in the new factories, which could not accommodate all who sought work. The cities were overcrowded, poor, unsanitary, unhealthy, and unsafe, as “the dangerous classes” coalesced from the chronically unemployed and disenfranchised. Crime rates surged, and riots were a constant threat.

The offices of Sheriff and Constable, while appropriate to the occasional crime that took place in an agrarian country, were inadequate to the new realities of an urbanized nation. Some early prototypes of the modern specialized police developed, such as Henry Fielding’s Bow Street Runners. Many companies hired private police to guard private roads and bridges, and docks and warehouses, from robbers, thieves and looters (Reynolds 1998). Realizing the ineffectiveness of the obligatory watch, London’s wealthier parishes began to pay night watchmen and to demand better performance, creating a crazy-quilt patchwork of relatively well-defended neighborhoods. This shift from voluntary or imposed duties to paid work reached fruition in 1829 with the creation of the Metropolitan London Police.

Fledgling Professionalism: Crime Suppression Specialists

In America as in Great Britain, the paid police initially defended upper-class interests against the lower classes. In the American South, the slave patrols overly defended “property” interests from democratic tendencies, as did the Jim Crow laws and segregation through the first half of the 20th century. The use of the police against

the labor movement in America parallels the earlier English concern over controlling the “dangerous classes.” The rough-and-tumble urban politics of America’s political patronage era were slightly more egalitarian than England’s more rigid class system, but nevertheless, the police were originally the instrument of those in power against those who were demanding power. The early police in America performed more service-oriented functions at first, and then moved into a more formal role of enforcement in response to the development of the American labor movement. The pursuit of criminals was left to the initiative of the victimized citizen in colonial and mid-19th-century America, much as it had been in 18th-century England, becoming a police mission only as an adaptive response to change. Between those two eras, of course, the nation saw the rise of private investigation companies like the Pinkertons, who pursued investigations of crime for a fee.

Police professionalism — the development of the police as an institution — follows the arc of the Industrial Age. The police force as we know it emerged in England as an organized response to the social dislocation of labor. As social inequities moderated over time, the police mission shifted from riot- and labor-action control to one of service. In the United States, police were created with the form of the English model, but not its central control: local forces served the whim of the dominant local politicians. Social forces in America demanded the reform of patronage-based government, and the police changed as well. As numerous authors have chronicled, the selection of crime control as the defining police mission emerged from the vacuum of direction left by the death of the spoils system. That development was uneven, but the *idea* of police professionalism mirrored the demands of good government and efficient bureaucracy: technical competence

in crime detection and suppression, individual and organizational discipline through a chain of command; promotions based (at least nominally) upon competence; and an internal code of ethics and service.

While August Vollmer's ideal of a police profession may have eluded all but a handful of departments, there emerged a general understanding that the developing police professionalism manifested itself in three primary activities. Preventive patrol would deter potential lawbreakers and set a tone of public assurance. Rapid response to incidents of crime and disorder would set in motion the awesome majesty of the legal process, providing further deterrence to those who failed to get the message otherwise. Vigorous investigation of crimes would lead to apprehension and prosecution, proving anew that "crime does not pay." In return, the police were to be respected and left free from any external interference: only a cop could judge another cop. The police staked out a domain based upon technical competence in crime control; the role of citizens and government was to support police efforts.

The turmoil of the 1960s burst the bubble of traditional police professionalism, and led to a second wave of efforts to establish a viable professional footing. A number of social transformations came to fruition in that decade:

- Major changes in the cities by migration to the suburbs and the displacements of urban renewal;
- The loosening of social mores (from the Free Speech movement to the Summer of Love);
- The culmination of the long strains of refinement of criminal procedure that is now known as the Due Process Revolution;
- The Civil Rights Movement and culmination of a century-long struggle

- to establish full citizenship rights to African-Americans, and
- Resistance to American military involvement in Vietnam.

Police conduct in these latter two arenas — opposing the Civil Rights Movement, suppressing the urban riots and the antiwar protests — brought about a crisis of confidence in the professional police that was exacerbated by a rising crime rate.⁵ The results were twofold: a massive influx of resources to improve the police under the aegis of the 1968 Omnibus Crime Control and Safe Streets Act, and an investment in scientific inquiry into the effectiveness of the police.

The research of the 1970s produced findings that were a death knell to the traditional understandings of professionalism. The Kansas City Preventive Patrol Experiment revealed that police patrol as practiced had little discernible impact on crime or community awareness (Kelling, Pate, Dieckman, and Brown 1974).⁶ Rapid police response to reports of crime were effective only in a narrow range of “in progress” calls, as most reports were delayed by citizen indecision or foot dragging (Kansas City Police Department 1978; Spelman and Brown 1981). Criminal investigation by detectives resulted in relatively low apprehension rates; most detective work was paperwork preparation and acting upon information provided by responding patrol officers (Greenwood, Petersilia, and Chaiken 1977).

⁵ Other less visible social forces also influenced the police establishment. The courts established the right of the police to unionize and militant police unions arose overnight, partly interested in improving the conditions of employment, partly dedicated to defending existing police practices and attitudes against the encroachment of liberal sensibilities. Training standards were established to raise the level of police technical competence. Perhaps more importantly, women and minorities began to change an occupation long dominated by white males.

⁶ More recent research by Sherman and Weisburd (1995) has demonstrated a pronounced deterrent impact if police patrol is targeted on high-crime locations. While police do undertake selective or targeted enforcement actions in response to spikes in crime, the general structure and practice of police deployment has not yet shifted from “routine” patrol to hot-spots oriented patrol.

Community Policing: The New Professionalism

The decade of the 1980s was marked by a sea change in the direction of police professionalism. On the heels of Herman Goldstein's articulation of "problem-oriented policing" (Goldstein 1979, 1990) and the results of the Neighborhood Foot Patrol Experiment in Flint, Michigan (Trojanowicz 1982), the complementary concepts of Community Policing and Problem-Oriented Policing became the new standard of professionalism. Unlike the earlier notion of police as experts, Community Policing embraced the participation of the citizenry as "co-producers" of crime control.

Community policing began as a palliative to strained police-community relations, stressing consultation and incorporation of community concerns into police prioritizing and decision-making. Almost immediately, community policing advocates noticed that the community's concerns rarely coincided with the crime priorities of the police. While there were shared concerns over drugs and wayward youth, and crime generally, neighborhoods residents were more concerned with what has become known as "quality of life issues": untended parks, vacant lots that had become dumping grounds, erratic trash pickup, derelict buildings, abandoned cars littering the streets, and the like. None of these had been police priorities unless they were somehow ancillary to crime, and almost none fell within the traditional purview of the police role in urban cities.

Nevertheless, it became clear that the best way to ensure community buy-in and participation in anticrime campaigns was for the police to deal with those situations that the community identified as important. Instead of handling incidents, the police became increasingly involved in mitigating unsavory conditions. Community police officers took on a new role as informal service brokers, advocating for their particular

neighborhoods with other government and private agencies. These efforts were intended to be short-term confidence-builders that would help build community self-efficacy, but they also laid the groundwork for the emergence of third-party policing. Though still maintaining their enforcement orientation, the police became managers and promoters of citizen-centered activities under the community policing banner.

As articulated by Goldstein (1979), “problem-oriented” policing took a broad view of problems and necessarily incorporated the perspectives and resources of a wide range of persons, agencies, and institutions. As practiced by the police themselves, problem-oriented policing became a more abbreviated exercise of problem-solving (Eck and Spelman 1987).⁷ One of the criticisms of police-directed problem-solving was the tendency to narrow the range of identified problems to those that could be solved by traditional police practices — i.e., by arresting someone — without any resort to non-police partners. Though the critique had validity, it was also true that many problem-solving efforts expanded beyond the police response, usually of necessity. The role of place managers in abetting criminal activity (actively or passively) was quickly evident in many instances and police moved into a *de facto* third-party policing mode almost instinctively.

At the same time, however, broad currents began to develop outside the public police institutions. As the Industrial Age fades into the Information Age (at least in the western world), the limits of the public police have caused frustration and led to adaptive

⁷ Goldstein himself envisioned and promoted problem-solving on a small-scale basis, and there is no inherent antagonism between his problem-oriented vision and the more focused applications under the SARA model of problem-solving (Eck and Spelman 1987).

measures in society. The emergence of the gated community, with its privately paid watch system (both human and electronic), is reminiscent of the 18th century English system of well-defended rich parishes scattered throughout the city of London (Reynolds 1998). The current problem of identity theft appears to have many parallels with the colonial era (when individuals were responsible for pursuing criminal offenders, or for paying others to do so). The rise of private policing echoes the history of the Pinkertons and railroad agents. Corporate security needs now extend beyond physical security to the protection of both intellectual property and electronics-based assets. Not only is private security expanding at a much faster rate than the public police, corporations are participating less and less in public prosecution of offenders, preferring one or another variant of a restorative model that does not expose their vulnerabilities to public view.

TOWARD THE FUTURE

Eras are more readily distinguishable in retrospect and it is not always possible to discern the turning points in real time. Major trends are often visible, however, and at this point in time, several present themselves with clear implications for the policing establishment. Most immediate is the blurring of the traditional lines of distinction between law enforcement and the intelligence function, in the wake of the September 11, 2001, attacks and subsequent bombings in Madrid and London. The decision of the FBI to train all new agents in intelligence work is a clear indication of the change in direction. So too is the push to develop an intelligence capacity within the numerous local forces of the nation.

At the same time, a number of parallel developments are radically altering the traditional understanding of sovereignty and of citizenship. The newly minted concept of “illegal combatant” is an end-run around the Geneva Convention, but it is a practical response to the difference between soldiers under the command of a sovereign state (“rogue” or otherwise) and belligerents acting semiautonomously outside governmental control, in an ideologically driven network of jihadists. At the same time, the United States pursues bilateral treaties with sovereign nations to exempt American soldiers from the reach of foreign courts and the World Court’s actions against war criminals. Regional associations such as the Association of Southeast Asian Nations, the Organization of American States, and the European Union bend sovereignty to regional interest and economic power.

Regional trade agreements like NAFTA and CAFTA seek to enhance economic power while preserving traditional sovereignty, but recognize the power of the global marketplace over localized economies. Both offshore incorporation and multinational corporate organization constitute serious departures from time-honored understandings of industry and finance. Whether in the private or public sector, the ability to operate transnationally requires accommodation to multiple (and sometimes conflicting) layers of laws and treaties.

Criminal justice is similarly affected by globalizing trends. Both France and the United States have prosecuted citizens for offenses illegal in the home country, but committed on foreign soil where the law is more lax (targeting the so-called “sex tourism” of pedophiles (see *U.S. v. Clark* [2005]). The Supreme Court dismissed the 2005 case of *Medillin v. Dretke* (a Texas death penalty case involving a Mexican

national) in which multiple issues of international law and treaties intersected with American jurisprudence, but the publicity surrounding the case clearly established that American criminal law was not an island, entire unto itself and disconnected from the main. Even more cogent on this point is the arch dialogue among the justices in the *Roper v. Simmons* decision, which barred the death penalty for offenders under the age of 18, based in part upon — or at least with reference to — the laws and court decisions of foreign nations.

Technological advances also present new challenges. The global communications of cyberspace have altered the nature of both theft and industrial espionage, in addition to creating an electronic safe harbor for pedophiles, hate groups, and terrorists. A police community grounded in local jurisdiction is increasingly strained to deal with electronic offenses originating in other parts of the country, much less of the world. Overlapping jurisdictions and competing legal systems further restrict the expected responses of prosecution and restitution, which lie outside police control.

A problematic aspect of these developments is the lamentable state of the public sector's electronic infrastructure. The traditional 10- and 20-year bond cycles through which state and local governments have financed capital improvements are woefully inadequate to the generational leaps and bounds of computer technology. Training and education in the even more rapidly evolving field of computing is all but nonexistent. Most law enforcement agencies are capable of on-line investigations at the user level (posing as 14-year-old girls to identify the sex predators who troll internet chat rooms, for instance), but only a few can conduct computer forensics that identify hacking, espionage, and electronic theft.

Beyond the internet looms the burgeoning shadow of nanotechnology, still in its infancy but endowed with phenomenal promise. The creation and deployment of devices smaller than the eye can see has enormous potential for good in medicine, manufacturing, and science generally. Each new development is a double-edged sword; devices that can heal organs and blood vessels from within can also be turned to destructive purposes (assassination, revenge). Personal assemblers may create a relative level of economic independence by allowing home manufacture of small items, but they have similar potential to empower drug addiction, the manufacture of poisons, and nefarious devices not yet imagined.

Advances in technology present considerable challenges for the police especially expansive, overlapping jurisdictions, but also represent new concepts in the regulatory environment. There are three basic directions for the police to take in response to the new developments. The first is to cede the new territory to Pinkerton-like private entities with the requisite expertise. The second is to adapt the police establishment to enable them to investigate new-generation crimes as they have traditional street crime. The third is to extend the concept of third-party policing to coordinate partnerships among expertise entities and consortia.

Ceding the Territory

The first option is a strong possibility: the public police will overtly or tacitly declare most internet and scientific crime to be beyond its capacity declining all requests on the basis of lack of jurisdiction. Instead, private entities akin to the Pinkertons would provide the investigative and recovery mechanisms for cybercrime. This would represent an extension of the current *de facto* situation, save that there is as yet no well-developed

industry available to non-corporate interests for private pursuit of cyberspace-based crimes like identity theft and fraud.

While our imagination is drawn to the high-end cases such as the pursuit of Kevin Mitnick, these cases are comparable to the Holmes-Moriarty duels of fiction, and the fascination with serial killers: they are a small blip at the far end of the tail of the population curve for such offenses. The more garden-variety thefts to hackers involve far less skill, capitalizing instead on embarrassingly inadequate security. Phishing is but an electronic version of the confidence game, depending upon the gullibility and naïveté of their marks. The phishers and identity thieves flourish because their crime is relatively easy and because there is no effective capacity to respond within most of today's police agencies.

As with drug offenses and other forms of enterprise crime, the agencies with formal mandates to respond to cybercrime (federal, and some of the largest municipal departments) have the resources to take on the most serious cases. The far greater number of cyber-theft and cyber-fraud cases, for which losses are below those agencies' eligibility threshold, will fall between the cracks. That creates a market for the development of a Pinkerton-like private industry to take up the fight for those who can pay for it, in much the same way that the present private security industry serves individuals and segmented portions of the general population.

The problem of jurisdiction hangs over any cyber-Pinkerton concept, as it does over the public police. Whether an industry can arise, much less sustain, depends in large part upon the development of international conventions developed by public sector governments and entities. Those conventions will probably be devised for the benefit of

existing law enforcement functions, but the matter of scale still threatens to dwarf both federal agencies and multi-jurisdictional task forces. The ability of private investigators to operate outside nation-state sovereignty is not yet certain. Though it is conceivable that some form of non-governmental organization (NGO) could develop, most current NGOs operating in the international sphere are nonprofits, and it is not clear that a similar model could sustain profit-based cyberspace investigations. An analog to Doctors Without Borders might arise to deal with future medical situations created by nanoterror, but such a scenario is still well in the future and contingent upon the maturing of the still-nascent technologies.

Developing Police Capacity

For the police establishment to fill the current void by staking a claim to the control of cybercrime would require a substantial alteration of the police structure. One model would recruit all new officers with appropriate skills and scientific background to deal with the new technological issues. Two generations hence, the knowledge gap may be less pronounced, but the need for the skills is immediate. Within this generation, such an approach may be problematic, as such skills are not widely distributed.

Employment opportunities abound outside policing for those with the requisite skills and education.

Even if the police were able to attract competent individuals, the single-point-of-hire practices, under which all sworn personnel begin their career as patrol officers, will squander the qualities the individuals are hired for. While many of the qualities of experience gained on the street do contribute to the making of a better investigator, delays may also cause the individuals to lose their technological edge unless they take individual pains to

keep up with advances. The other alternative would be to create a special investigative branch that deals only with technological crime. While the approach is certainly possible, it raises issues of equity of pay, as market forces may well enable technology experts to command greater salaries than those established for generalist officers. Salary differentials will create internal frictions and union grievances, and will require considerable justification to both the larger political structures and the agency's own branches. In certain jurisdictions, the political situation may require legislative action.

Similarly, there will be issues of supervision and coordination. Experienced fraud investigators should be able to adapt their skills to the new needs, but may encounter a steep learning curve on the technological issues. Tech-savvy rookies will need guidance and training in legal issues and the associated investigative techniques, and not everyone hired for technological or scientific skills will necessarily be able to adapt or take on the attributes of a successful investigator. More than technological or scientific knowledge will be needed; skills needed for successful courtroom testimony, writing reports that are accessible to a non-technological audience, protocols for coordination with multi-jurisdictional and multi-national task force endeavors, and a host of smaller problems will need to be resolved. It is not absolutely necessary that either be able to fully assimilate the skills of the other, but whether disparate skills are able to be combined into an effective investigative unit will be a large personnel management concern.

Beyond the immediate effectiveness of a new unit will be issues of career paths and opportunities for advancement, or risk of losing talented employees to the private sector. The police establishment has so far had difficulty devising suitable career options

for single-function auxiliary positions (such as emergency communications, evidence technicians, and records management) beyond the ability to advance to first-line supervisor of the particular unit. Technology positions have greater alternatives outside the agency and police managers must anticipate that there may be subcultural differences like the classic jeans versus suits that will require the agency to deal with some short-term conflicts between veterans and “the new breed.”

There is an intermediate possibility, that of hiring or deputizing skilled civilian personnel for task-specific duties on short-term or renewable contracts. Whether the scale and scope of investigations effectively turn these individuals into full-time employees (if the contractors wish) is not yet certain, but given the current volume of identity theft and cyberfraud problems, there should be real concerns over whether “temporary” measures merely prolong the inevitable. It also creates the possibility that agencies will be left in the lurch if the contractors choose to pursue more lucrative private-sector opportunities. Transition costs can be as great as startup costs, and additional costs for courtroom testimony (grand jury or trial) after a contract has ended would be a large contingency factor with the potential to undermine years of investigative effort. Contractors probably pose no greater risk of being corrupted by their targets than full-time personnel would, but the same training costs — preparing them for warrant application testimony, depositions, and courtroom work — would be the same as for full-time employees, with the very real prospect of lesser return. Though an outside-contract model might serve as a bridging mechanism from the current state to a full-time sworn division model, it is unlikely to have long-term efficacy throughout the police profession.

Third-Party-Plus Policing

The third main adaptive model is an extension of the third-party policing trend, wherein the police forge partnerships with outside entities that have either the requisite skills or the technological capabilities to assist the police. Under the “cede the territory” option, the average citizen would have little recourse to organizations serving primarily the wealthy and corporate entities, and there would be no public police mission for cyber- or nano-crime investigation. Under Third-Party-Plus, the public police would still have limited investigative capacity, but would continue to accept a moderated responsibility for cybercrime by working in a brokering role.

At the opening steps, the main police thrust will most likely be in the field of prevention, encouraging and pushing for better oversight of networks and transaction nodes. The current police experience with internet service providers, for instance, is limited to the time-honored practice of obtaining a warrant or subpoena for records of a person whose cyberspace transactions are under investigation. These are individual case investigations and the two-partner dance of police and provider is fairly well defined at this point. Broader prophylactic measures will require a different focus, and different means of persuasion, especially where police may seek to identify particularly vulnerable targets groups (receivers rather than senders) or access that impinges on proprietary secrets.

A prototype third-party initiative already exists at the federal level in the laws penalizing corporations for knowingly employing illegal/undocumented aliens. The ultimate goal is maintaining the integrity of the country’s immigration laws and the ultimate targets of action are the immigrants themselves. However, the sheer

numbers — of would-be immigrants, of unguarded and unsecured miles of physical borders, and of smuggling schemes and opportunities — put that goal far beyond the everyday capacities of the agencies charged with its enforcement. To reduce demand, which is hypothesized to be employment not available in their native lands,⁸ federal officials seek to close off employment opportunities. The proximate targets — employers on U.S. soil, with static employment facilities and corporate resources — present a more finite population than the highly mobile and transient illegal immigrants (conserving federal resources) and have a more immediate and constant impact on the lives of the would-be employees. Enforcement has already been established by Congress, however, and is a formal process with criminal penalties rather than the informal melding of civil and criminal law codes that marks third-party policing at the local level. It is by no means certain that agents working at the federal level, under considerably different scrutiny than local officers, could forge a comparable practice at their level.

The main problem with cybercrime is that of multiple jurisdictions. With it come difficulties in establishing ownership and legal jurisdiction over criminal enterprises that span hundreds of jurisdictions, including international boundaries. While service providers are generally cooperative with subpoenas that yield information about users, governments are not as forthcoming with assistance, particularly across international lines. There will be a need for legislation that allows the aggregation of low-level “under-the-radar” offenses in multiple jurisdictions into a single, more serious cyber-felony. There will be turf battles over who controls the investigation and prosecution, probably less like the contemporary question of who gets the lion’s share of drug seizure money, and more like who has the

⁸ That assumption has been called into question recently (see Bernstein 2005; Kochhar 2005).

short straw and has to manage the case.

At present, the law places responsibility for trans-jurisdictional crimes in the hands of the federal government and federal enforcement agencies. Those agencies have numerous other mandates, however, and possessing jurisdiction is essentially meaningless without a capacity to ensure it is upheld. Federal entities are simply overwhelmed by volume (as are local agencies in some areas) and workload management demands the setting of eligibility thresholds. Those thresholds have the effect of orphaning most local-level cases, putting the victims into limbo. One analysis of the situation would note that the emergence of cyberspace has altered the traditional understanding of “space” and demands a new definition of “legal jurisdiction” that is not simply place-based. That alone will not be sufficient; the 19th century organizational model must evolve, joining with other organizational nodes into an enforcement network. Properly connected, authorized, and empowered by up-to-date training and equipment, a national network of cybercrime enforcers can take up much of the slack now created by federal eligibility thresholds. Such a network could potentially serve as an important element in the emerging intelligence functions and the war on terror, since there is mounting evidence that cybercrime is connected in various ways and to varying degrees with other transnational criminal enterprises. Ideally, the initiative and leadership for creating such a network would come from within the police establishment.

Shutting down certain types of cybercrime operations also will entail new enabling legislation. Some individual phishing cases involve a large amount of money in a single jurisdiction, and will meet the threshold for investigation by the federal agencies. Many other cybercrimes (among them, work-at-home schemes) are spread out

across multiple jurisdictions, with each incident involving relatively small amounts of money, well beneath the federal acceptance threshold. As long as the police are limited to the “one act, one victim, one jurisdiction” premise of physical crime, they have almost no chance of an effective law enforcement response. If the emphasis shifts from the individual act and the individual victim, and focuses instead upon the serial actions of the offender — sending out mass solicitations all across cyberspace, snaring a victim here, another there, across the entire geography of the nation — the total amount of loss is considerably greater. What is needed is a means of aggregating the offenses, which is difficult if not impossible under the current structure of the laws.

One of the first steps of third-party policing will be for the police to marshal a network of advocates (at both the state and federal level) who will lobby for the enabling legislation. Merchants defrauded by internet schemes, including such things as the re-mailing variant of the work-at-home schemes, are the most obvious potential partner. Merchants are ultimately the ones who suffer the loss (insulated somewhat by the tax write-offs) and they — rather than the duped victims who are the intermediaries of such schemes — have political clout with legislative bodies. Internet service providers are another partner, although their monetary loss does not compare to that of online merchants. Nevertheless, they are necessary to the successful prosecution because their records contain the evidence needed to link offender to the swath of small individual crimes.

There have been limits to the cooperation of private enterprise with public criminal prosecution. The perspective that corporate entities have on crime is framed in far different from that of the criminal law. The language of “acceptable losses” within

a framework of the costs of business carries with it none of the moral imperatives of the language of criminal law. When law enforcement agencies make frequent requests for assistance in dealing with broad-scale crimes, service providers' agreements cannot be taken for granted. Third-party policing may fail, or require extensive modification, when lifted from the purely local level. National and multi-national entities certainly have the capacity to incorporate police suggestions into their regular business practice, but they are also bound by alternative codes that are in conflict with the needs of enforcement and prevention: privacy is chief among them, and on a multinational scale, privacy rules differ from America to the European Union (where much more stringent assumptions about control of individual data hold sway).

At the local level, third-party policing depends upon the ability of the police to enlist the aid of confederates in regulatory agencies who work with essentially the same clients. It depends on the ability of those partners to bring coercive measures to bear on resistant guardians and those elements are not in place at the multi-jurisdictional level. Even the need for such tools and empowerment are essentially unknown at this time, and if envisioned, it is unlikely that they will be enacted with the needs of criminal enforcement agencies in mind.

Cyberspace has been sufficiently well-developed, well-publicized, and dabbled in by the general public to have dimensions that are understandable in layman's terms. The same is not yet true for the emerging sciences, although nanotechnology is now replacing artificial intelligence (AI) in the headlines as The Next Serious Thing that will affect the lives of the public. The sciences working at the molecular and atomic levels are not yet sufficiently defined to be grist for the development of regulations,

but the more developed field of the human genome and stem cell research may provide a glimpse into some of the problems and dilemmas. Science fiction is a compelling driver for the public's understanding of the issues, as it reifies the technological and social possibilities in human terms well before the technology is fully developed. Unfortunately, this may mean that the early public debate will center on disaster scenarios, and ethical issues — real and imaginary, tangible and inflated — will follow.

To some extent, the “grey goo” disaster scenario for nanotechnology has already crept into the public discussion, threatening to drown out more rational depictions of the strengths and liabilities of molecular-level manipulations. Outside the doomsday scenario, however, the medical field is depicted as a major immediate beneficiary of nanotechnology, able to deliver strong medicines directly to the needed sites (eliminating or minimizing side-effects resulting from a more general introduction to the body). The same technology, of course, can deliver poison, or even the strong medicine to another site where its introduction would be toxic. While such a possibility will create new scientific demands in homicide investigation, the greater control over the potential lethality of the technology will lie in the regulatory sphere.

Regulation already exists to some degree in the realms of explosives, precursor chemicals for drugs, and toxic substances. Nevertheless, the more developed and accessible a technology is, the more it spreads beyond the capacity of the nominal regulators and comes into the purview of the police. Nanotechnology may have a powerful metaphor in the methamphetamine trade; once the realm of special clandestine labs and a criminal distribution network, the production of crystal meth passed rapidly

into a do-it-yourself phase. The resulting proliferation of toxic sites for the making of the drug amplifies the dangers posed by its use and exposes non-users to considerable hazard. A similar metaphor lies in the hacking realm; the finely-honed, intuitive skills of the *über*-hackers has produced a generation of “script-kiddies” who imitate (and spread) the masters’ designs, in some cases to the point of posting worm- and virus-code to the Web to encourage freelance development and mutation of the malware. Unless nanotechnology arrives and remains under strict controls — and given its potential for widespread commercial uses, that seems unlikely — it will at some point become commonly accessible, a new tool for the ingenious and a new weapon for the maliciously ingenious. At the point that the latter develops, the police will have to respond in some fashion.

What distinguishes the new regulatory profile from traditional criminal justice, and most likely will continue to do so, is the distinction between the regulation of corporate entities and nominal elites (business groups), and the regulation of individual conduct. That difference is magnified in the global sphere, where a common definition of “public good” has not yet been forged and a host of other political considerations take precedence over the relatively minor needs of the police. To be able to extend third-party policing into this sphere — which is necessary to be effective in enforcing crimes across borders — the police establishment must evolve. It is unlikely they will be able to take on sufficient attributes and resources to remain a stand alone “professional” enforcement force for all the new technologies and emerging social accommodations. Their best chance for success may lie in a new third-party mode, in which they are simultaneously recruiters and educators, advocates and enforcers, able to define specific needs of the community and marshal the

necessary technical and social resources to meet them.

CONCLUSION

Third-party policing may represent a more natural form of policing than the professional model, being more versatile and long-lasting than enforcement alone. Its historical roots are in periods of social duress, with a weak central government organizing and directing citizens in their own defense. During these times, formal authority was less concerned with criminal law enforcement than with what we today call civil matters (taxes, public health issues, and eclectic public order concerns). Today, with a far more robust and extensive complex of civil regulation, primary reliance upon criminal law enforcement seems almost quaint.

In the circus that is modern life, the role of the Lion Tamer still has cachet for its emphasis on bravery and the imagined terror of the beasts. In the larger scheme, though, the role of the Ringmaster is more important, ordering, directing, and explaining the action to the masses. The ever-expanding complexities of life blur the boundaries of civil and criminal law; a solitary reliance in law enforcement bodes ill for the police. It is not a realistic description of what they actually do and it disproportionately diverts resources away from the training and mindset necessitated by the new demands. Third-party policing has and should continue to place the police in the center of a web of overlapping control sanctions that curtail the opportunities for crime and disorder—from mobilizing and directing citizens in crime prevention activities, to enlisting and coordinating the special capacities and resources of public and private entities.

Policing is most effective as the locus of that coordination of multiple levels—
policing through third parties as a first resort and through law enforcement only
as a final, necessary option.

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Chapter Fifteen

FROM PYRAMIDS TO NETWORK: POLICE STRUCTURE AND LEADERSHIP IN 2020

Richard W. Myers¹

EXECUTIVE SUMMARY

This chapter explores current trends in organizational leadership and structure, and forecasts potential models for policing in 2020. Within the historical context of traditional structures of power and authority in police organizations, the chapter considers the evolutions of policing philosophies including Community Oriented/Problem Solving Policing, Intelligence Led Policing, Neighborhood Driven Policing, and accountability processes such as COMPSTAT. The analysis then focuses on the past and current ineffectiveness of pyramidal hierarchies in leading policing and offers the alternative of “net-centric” policing. Networks are examined for their structural properties, communication characteristics, and fault tolerance. When possible, implications for policing will be highlighted; however, net-centric policing is a concept in its infancy, making it a challenge to correlate with the conventional thinking about police command and control. Examples translating network structure into policing organizations offers an opportunity to explore potential future implementation of net-centric policing. Distributed and matrixed leadership, even as it begins to appear in the business world, is an abstract and complex world untraveled in contemporary policing. As foreign as these concepts may seem, the pyramidal hierarchy that forms the basis for almost every current police organization is increasingly demonstrating its vulnerabilities and

¹ Thanks to the following members of FWG for their helpful contributions to the development of this chapter: Chief Philip Broadfoot of the Danville (VA) Police Department (historical evolution of power in policing); Dr. Andreas “Ollie” Olligschlaeger (business shift from centralized to distributed structure); and, Thomas Cowper (net-centric policing).

ineffectiveness in the Information Age. While net-centric policing may not prove to be the dominant model in 2020, the lack of alternatives necessitates its consideration. The chapter ends by identifying additional questions and areas for further research and development on the potential of network structure for police leadership in the future.

HISTORIC CENTERS OF INFORMATION AND POWER IN POLICING

The structure of police organizations, including the centers of power and decision making, has evolved significantly but is likely to evolve further heading into 2020. Most police departments entering the 21st century retained vestiges of a structure modeled after the historic traditions of the military, including corresponding ranks and insignia. Like most bureaucratic, pyramidal hierarchies positional power equated to the power of making ultimate decisions affecting the rank and file, distribution of physical and fiscal assets, and dissemination of information. Policing has always been an information management business. Over the history of American policing, paper copies and hand filing systems may have been replaced with computerized systems and optical imaging, but the input of information and the need to retrieve it has only changed in its volume.

In the Industrial Age, information was originally managed without the assistance of carbon paper or copying machines and only the custodian of the original reports had the knowledge to make decisions. Late Industrial Age technologies such as carbonless paper and ubiquitous copying machines facilitated the more widespread distribution of information. While strong police leaders may have lived with the illusion that the tip of the pyramid controlled all aspects of organizational life, informal methods quickly developed that distributed information in ways that helped the rank and file to get the job done. Using information as both a tactical tool and for strategic purposes is as

important to police officers as the availability of basic communication hardware and protective equipment and weapons; officers have often sought end-around ways to get what they need. While the hierarchy of a small handful of department administrators holding all the power was accurate in the formal sense of information sharing and power, there have long been informal mechanisms that police officers have used. Levin and Jensen have used the metaphor of the donut shop to describe the historic process of peer-to-peer information sharing. While informal, inconsistent, and perhaps lacking in resources and scope, donut shop information exchanges filled a critical niche in street officers learning from each other about critical concerns that helped them achieve better results and increase officer safety (Levin and Jensen 2005, 14-15).

The advent of the computer in the 1980's in law enforcement agencies was truly revolutionary. Officers could collect more information, instantly create documents, correct mistakes, and retrieve and share their work product. The power inherent in information became distributed throughout the organization. Concurrent to the evolution of more widespread information sharing and decentralization of the power that accompanies information, a new model of policing emerged. From the late 1970's through the 1980's, the philosophic model referred to as Community Oriented Policing (COP) leveraged the shift of power that accompanied distributed information. COP described a more decentralized decision making process that required empowerment of line-level officers and required an increased partnership between the police and the citizenry. A parallel style of policing identified by Professor Herman Goldstein, Problem Solving or Oriented Policing (POP), highlighted the improved outcomes of focusing police resources on specific problems rather than random, unfocused patrol strategies. When combined, COP/POP draws on empowered police officers using a wide array of data to identify

problems in an analytical manner, engaging the community in problem solving, and developing long-term solutions that the community will ensure are sustained. Both the paradigm shifts described so far, redistribution of power through information sharing and COP/POP vs. traditional policing, require significant changes of the leadership and hierarchical structure of police organizations

HIERARCHICAL EVOLUTION

The traditional police structure, hierarchical and resembling the bureaucratic pyramid, has been slow to change. Police leadership drew from both the military and the business world in developing its hierarchy. Business systems from the 20th century relied on the strong, centralized CEO from whom power and information flowed outward into the organization. Responsibility decreased as one traveled outward in the organizational structure, with information more difficult to manage and rigidity stifling adaptability (Barabasi 2002, 201).

A review of the literature shows widespread agreement that one of the organizational transformation elements within COP/POP is flattening of the hierarchical pyramid (Cordner 2005; Olson 1997; Ramsey 1997). Conventional wisdom may hold that critical incident response warrants a continued “chain of command” structure that can control scenarios with military precision, while typical daily problem-solving policing will likely demand more flexible, adaptive structures (Birzer 1996). With contemporary information management systems, hierarchical structures hold less relevance in transferring critical information. It is commonplace in the 2000’s for police departments to have local area networks, mobile data systems, wireless communication devices, and other means to exchange information. E-mail is instant and can provide

attached documents and photographs needed to improve police effectiveness and efficiency. Remote access to department records, as well as statewide and national databases, is routine for police officers. Contemporary policing, with its increasing emphasis on technology and information management, is likely to see significant changes in the overall structure and leadership models in the next decade.

POLICING SMARTER

The trend of deploying more sophisticated technologies for police officers is explored in greater detail in other sections of this publication. It is useful, however, to point out that using such technologies as biometrics in the field to verify identities and equipping officers with augmented reality is likely to result not only in a faster police response to crime, but a smarter one as well. Our consideration here is not on emerging technologies, but on the ways these technologies can (or should) necessitate alternative visions of policing structures and leadership.

In the early 2000s the catch phrase of Intelligence Led Policing joined the lexicon of the evolving philosophy of COP/POP. Problem solving is a key foundational element of COP (Cordner 2005; COPS Office n.d.), generating an inherent need for information to conduct problem analysis and develop strategic solutions. Police departments in the United Kingdom and the United States have touted various descriptors of what Intelligence Led Policing might look like. The Home Office in the United Kingdom has promulgated what it calls the National Intelligence Model, to be used by all British police forces (Home Office n.d.). In the post-September 11th era, police at all levels throughout the US recognize the need for both an increase in the quantity and the quality of intelligence. The authors' experiences are that local police executives have gone from

a dearth of intelligence shared by state and national sources to abundance. The problem in the mid 2000's seems to be vetting the relevance and value of intelligence, thus increasing its usefulness.

Police officers are often among the first to encounter signs of impending criminality, whether it is in the form of terrorism or simply opportunistic offenders. Street-level officers are also positioned to encounter the immediate aftermath of criminality, even when they initially recognize that fact. The arrest of Timothy McVeigh by a traffic enforcement officer was by chance and good luck. Providing street officers timely, relevant, and usable information could turn such serendipity into purposeful policing led by intelligence and information.

TRADITIONAL HIERARCHIES ARE FAILING US

Historically, the military and intelligence communities have relied on simply analyzing the past to predict the future. The congressional committees that call hearings on their perceived failures engage in finger-pointing questions about who is to blame, rather than studying the complexity of a scenario and trying to understand its context and how and why information was missed (Sanders 2002). The nonlinear, interconnected world of today “is in direct contrast to the defense and intelligence-gathering organizations in the United States, which are still large and centralized bureaucratic operations, characterized by hierarchical command-and-control structures” (Sanders 2002, B2).

Pundits and analysts who critiqued the inability of the U.S. intelligence community to identify and stop the threat of the September 11th terrorists used the term “connecting the dots” to describe the process of collecting seemingly disparate information and

identifying useful patterns. The many layers of policing are no longer viewed or function as a system that builds upon itself, but one where overlap and provincialism hinders information exchange. When viewing the relationships among policing agencies, the traditional organizational hierarchy is symbolically applied as well. Federal agencies sit atop the information food chain, albeit with hierarchical and turf battles persisting today. State agencies with comparable roles as their big brothers at the federal level fall next on the pyramid, followed by varying levels of local agencies. Again, the traditional hierarchy within the policing community is as questionable a model as the hierarchy within individual police organizations that seek to progressively share information and power in the pursuit of rapid adaptability and quality policing. In traditional pyramidal hierarchies, the independent thinkers who are willing to act with autonomy often don't fit in well and are viewed as constant irritants.

As this chapter is being drafted, the authors are closely studying the unfolding process of responding to the threat and results of Hurricane Katrina. Over time, perhaps years, finger pointing will yield to legitimate "after action reports" on what went well and what did not. To most uninvolved observers, it appeared that the federal-state-local hierarchy of government and the pre-existing emergency management plans were not prepared for this worst-case scenario. Most dramatically, the Command and Control function (C&C) seemed to collapse early in the disaster. None of the pre-existing plans anticipated widespread lawlessness and even hostility toward first responders. Pre-plans usually rely on utilizing radio communication systems, but with Katrina the infrastructure within the crisis zone was destroyed. Relying on a traditional C&C process, once communication was cut off with the first responders in the field there

was no coordination for the mission. Police officers were overcome with grief at the profound loss of their community and the feeling of complete helplessness that comes from being completely disassociated from a unified command that was expected to direct their efforts. This event was a real-life manifestation of what many had predicted with Y2K planning, but the contingencies for loss of communication infrastructure were seemingly swept away with the levees. C&C within a hierarchy fail when the foundation they are built on collapses.

NETWORKS VERSUS PYRAMIDS

A stark contrast exists between the hierarchical structure of American policing, if not the entire American form of governance, and the decentralized and almost disassociated nature of terrorist cells. The cellular nature of these organizations is not simply for terrorists, however. A technology example can be helpful to illustrate how distributed networks can move information more effectively and faster than traditional systems.

Cellular wireless communication systems operate on a premise that sharing limited spectrum and taking advantage of communication frequencies that are not in constant use can expand both the number of users and the coordination of information. While cellular phone systems are one-to-one communications and trunked public safety radio broadcasts can be one-to-many, they both leverage technology to open pathways of radio communication. The Internet is a more vivid example of a networked method of exchanging information. Literally thousands of computers and servers are interconnected and exchange information transparently, rarely using the same pathways for similar transactions. If one segment goes off-line, others are able to

pick up its share. Energy grids that transmit electricity similarly provide multiple paths to deliver the product. In short, in these venues hierarchy has been replaced with networking.

In his book *Linked*, Albert- László Barabasi provided several key qualities of networks that explain both their resistance to attack and communication efficiencies. Most networks of any significance are scale-free; that is, they are not random but rather, are often dominated by a small number of huge nodes (hubs) that sustain most of the links, followed by a few more slightly smaller hubs, and on until the overwhelming majority of nodes have only a few links (a Power Law distribution) (Barabasi 2002, 63). This is similar to the way airports are distributed in the United States with a few large hubs serving many smaller airports that have only a few connections. In policing terms, each node might represent an individual police officer; the officer's work unit might represent a cluster and a number of clustered units may all link to a significant hub, such as a geographical command entity. Hubs "determine the structural stability, dynamic behavior, robustness, and error and attack tolerance of real networks" (72).

If a network averages at least one link per node, there will be widespread communication. When all nodes have at least one link in the network, isolation within small clusters gives way to the network being a large cluster where almost everything is connected. In policing terms, the smaller clusters might represent task forces or specialized units, but as long as they remained linked to the larger network, communication is facilitated rather than isolated. In hierarchical networks, failure of any single node, such as a centralized C&C in Katrina, "can easily break a network into isolated, noncommunicating fragments" (Barabasi 2002, 112). But, in most

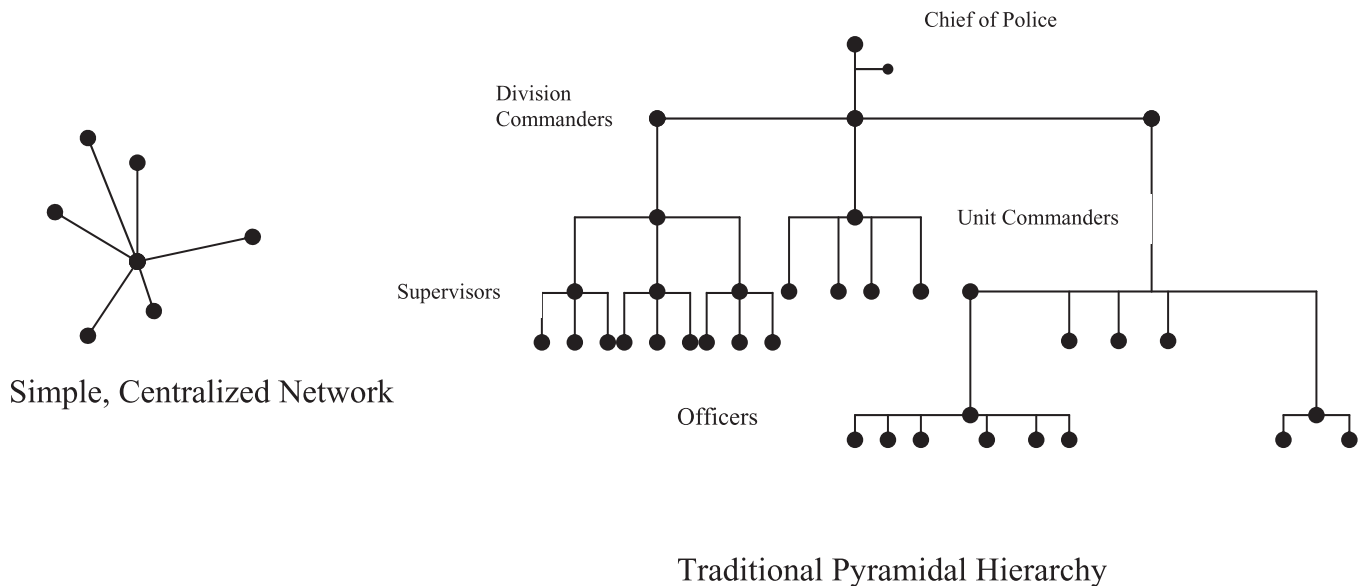
networks, a fair number of nodes are not working at any given time and a significant number of nodes can be removed and the network still functions due to the presence of larger hubs. Even if a major hub is dismantled, the remaining large hubs will maintain the network's integrity. The strength, then, is in the unevenness of distribution of links. In a policing example, obviously every node (officer) is not "on duty" all the time, but if the nodes all interconnect to multiple hubs which coordinate and distribute crucial information, the absence of any number of officers will not preclude effective operations or information sharing.

Paradoxically, the thing that makes networks most tolerant of failures, interconnectivity, is also what exposes a network's vulnerability to attacks. A viral attack, for example, spreads quickly by leveraging the multitude of interconnections within the body under attack. However, most systems that prove highly fault-tolerant continue to function due to the complexity of their interconnectiveness and it would require attacks on many major hubs to cause a cascading failure to take down the network (Barabasi 2002, 119-120). This principle of network resistance to failure would manifest in a police environment by ensuring that simply because someone "takes out" the central police station, sufficient alternate coordination and command hubs would be present to keep information flowing. While a cascading failure along the network would likely occur in a public safety radio network with only one key hub, redundant and alternate hubs could mitigate the widespread failures despite attack.

Barabasi cited the landmark work of Paul Baran (1964), who developed the vision of distributed communications that was to become the concept of the Internet. Baran's three theories of network construction included:

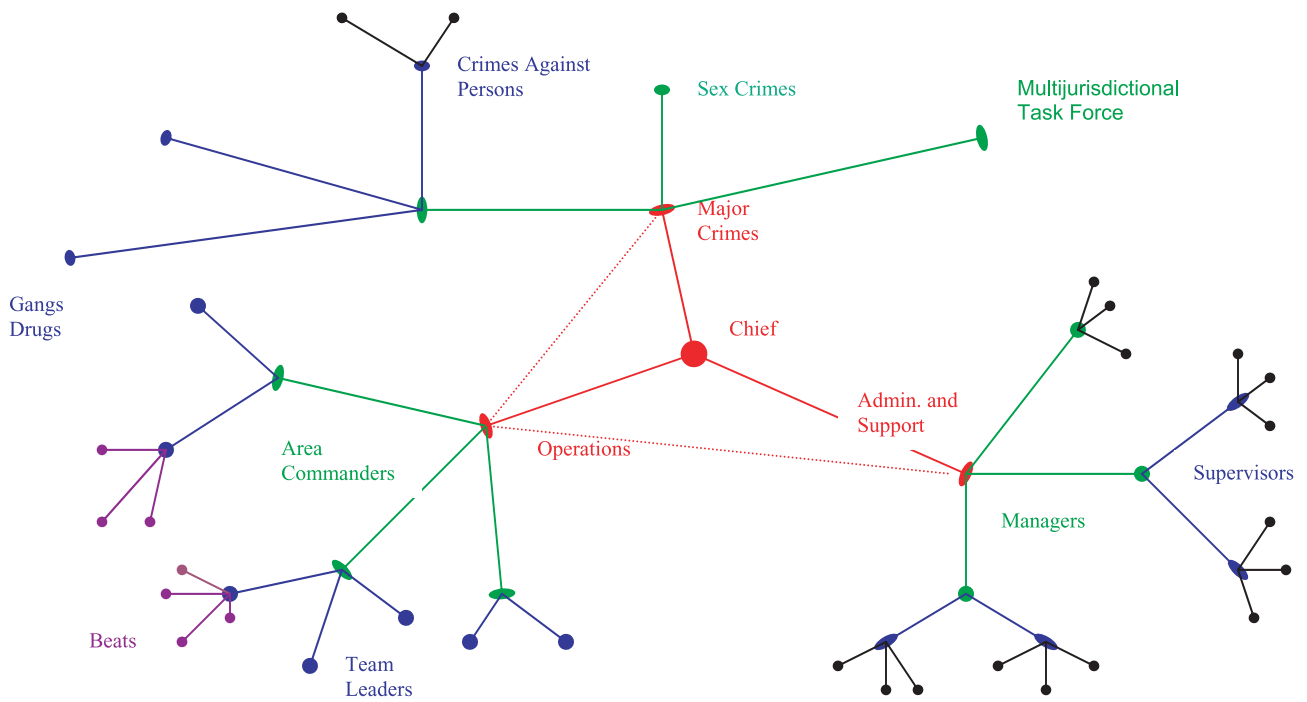
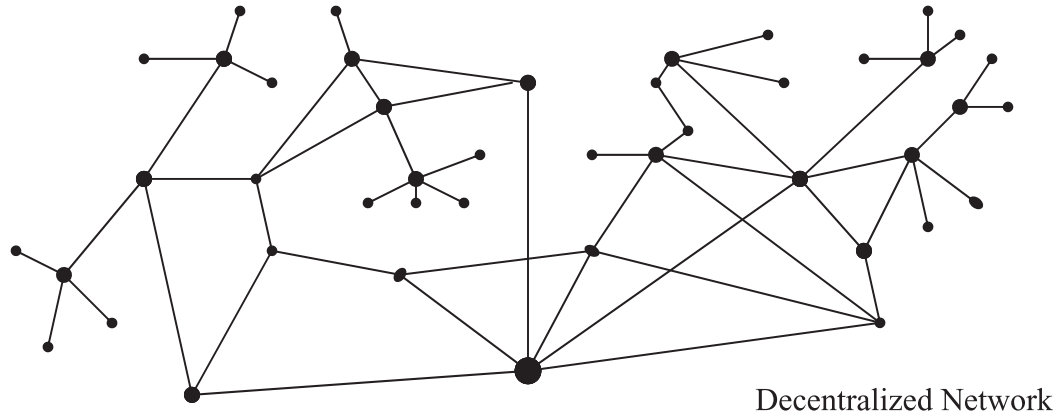
- Centralized—a single, central node from which all links emanate [see Figure 1]
- De-centralized—several hubs (centralized nodes) connected to each other, or a series of centralized networks [see Figure 2]
- Distributed—a mesh-like system where each node is connected to several of its neighbors that would continue even if other nearby nodes were dismantled [see Figure 3]

**Figure 1.
Centralized Network Topography**



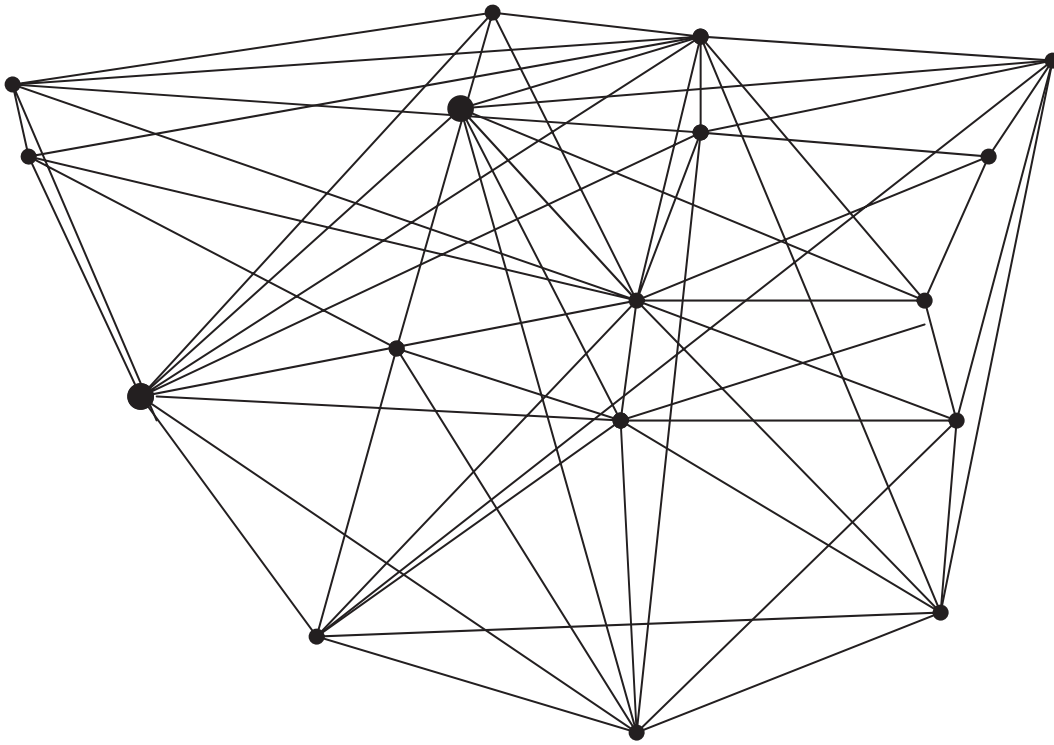
The diagram on the left represents the simplest form of a centralized network. All nodes are connected to the centralized hub. The diagram on the right represents the common, pyramidal hierarchy of traditional police leadership structures. Communication passes through the organization top-down from the centralized authority.

Figure 2.
Decentralized Network Topography



Typical decentralized structure under the COP/POP
philosophy of policing

Figure 3.
Distributed or Mesh-like Network Topography



In distributed network topography, there is a high degree of interconnectiveness. Links between specific nodes can go “down” but communication throughout the network will continue.

Baran highlights the vulnerability to attack of centralized and de-centralized systems, and the likelihood of distributed systems continuing communication even after an attack. In his landmark first in the series of eleven memorandums on distributed networks, Baran says such a network “...rapidly responds to changes in the network status. Recent history of measured network traffic is used to modify path selection. Simulation results are shown to indicate that highly efficient routing can be performed by local control without the necessity for any central-and therefore vulnerable-control point.” (Baran 1964, v) Police examples of the “central-and therefore vulnerable-control point” could range from an Emergency Operating Center to a single, master radio control

hub to police headquarters. Conversely, state and national police data base networks that have evolved from dedicated infrastructure to using secure Internet links have provided increased fault tolerance that comes with distributed communications.

Barabasi cites the example of Al Qaeda as a network that grew one node at a time, totally distributed without a central dominant hub. Even dismantling a major hub like Osama bin Laden is unlikely to eradicate the network (Barabasi 2002, 222-223). Terrorist organizations may contain differing types of cells that have little knowledge of their counterparts. The clusters that do enjoy high relationships are linked to the rest of the network by weaker ties that foster anonymity but ensure ongoing communication. Leadership may be represented in one cluster or cell, operations in another, intelligence in yet another, and so on. Members within each cell are well trained and disciplined within their areas of expertise. The strength of the organization does not lie in any single node (person) or even clusters. Adaptability is the ultimate key to success. Terrorist organizations are so difficult to take on due to their flexibility, tolerance of internal failure, and distributed structure (223). Conversely, the Post-Katrina collapse of C&C proved that under traditional police hierarchies, cutting off the head indeed kills or seriously wounds the beast.

Traditionally structured and administered police organizations have not proven to be highly adaptable. It has taken 30 years to see the limited acceptance of the fundamentals of COP that began to emerge during the 1970's. Adapting to change is often resisted within police departments. Paradoxically, police officers that work in a dynamic environment on the street prefer the stability of *status quo* within their organizations. *Status quo* provides the grounding needed to cope with the stress of a dynamic external environment.

One structural change that has been evident in the transformation that must accompany COP is decentralization and geographic emphasis on command and operations. Local commands direct their human resources to focus on local problems. While many police departments have decentralized the deployment of patrol officers, far fewer have included investigators and other specialized assets in the geographic designation (Fridell 2004). Typically, even with the decentralized format, each precinct or district is led under the traditional hierarchy of command, who still report to the final authority of the chief of police. Applying Baran's described theories of network design, traditional policing would best fall under the description of centralized [see Figure 1], and the contemporary COP/POP looks much like de-centralized network topography [see Figure 2]. Neither represents the distributed network topography.

CONTRASTS IN OUTCOME ACCOUNTABILITY AND REWARDS

One of the most heralded techniques in improving police productivity in contemporary times is the application of accountability systems within a traditional hierarchy. New York City Police Department's development of the COMPSTAT accountability for area commanders reflects the increased focus that police executives and community leaders are placing on outcome accountability. At its core, COMPSTAT seeks to hold police leaders who own responsibility for a specific area of their city accountable for the performance of their troops in addressing crime problems. The focus is not always on the traditional measures such as arrests, but on the outcomes. If a pattern of violent crimes does not reverse, that outcome is viewed as an unacceptable performance by the responsible unit of the department. This accountability system draws on the power held by the top command staff and their ability to levy sanctions

on commanders who do not deliver the desired outcomes. If the ultimate intent of such systems is successful crime reduction as the outcome, the potential is high for unintended consequences in how the systems manifest under a hierarchical system. The rewards or sanctions flow from a competitive environment where results are rewarded and *status quo* or worse is sanctioned. Looking only at the outcomes without a more analytical view of causes and geographic overlaps or displacement potentially punishes area commanders for conditions outside of their ability to change. Under a top-down system, the ranking leaders who reward progress and ridicule lack of progress may effectively identify performance problems in middle management but may also breed unintended consequences. The pressure to fudge numbers may manifest in ethical lapses.

A networked style of COMPSTAT might yield entirely different results reflecting the connectiveness of the network instead of the competitive nature of the hierarchy. If, for example, an affluent district was experiencing significant burglaries that are mostly being committed by drug addicts from an economically depressed area in another district, under the hierarchical COMPSTAT model, the affluent area commander may urge his/her officers to do what it takes to displace the criminal activity. To that commander, as long as the statistics in their district decline, they get the rewards. In a networked COMPSTAT model, analysis may identify the link between the source of the crime (desperate drug addicts) and the target of their activity. Networking would facilitate information sharing and network hubs in the form of each individual district commander exist to support each other and the overall objective of crime reduction, not simply to focus within their own cluster. Resources such as information and even human assets shift and flow within a network, and the rewards are intrinsic in achieving the mission, not in avoidance of the sanction from on high.

NETWORKS AND DECISION MAKING

In a networked environment, independent thinkers who are willing to act with autonomy are embraced. Leadership is likely shared among key leaders scattered among several clusters or hubs. The distributed leadership may rely on communication for coordination, but decision-making is not centralized. In the current, COP/POP era of decentralized policing, the level of empowerment for geographic unit commanders is varied, but some levels of decision-making require the full involvement of the police chief. Networked policing would require a much higher level of distributed decision-making.

Decision making, of course, relies on sufficient information, knowledge, and experience. The future decision making process in policing is likely to have to change, given the speed at which knowledge is increasing, and the overwhelming quantity of information flowing to decision makers. Levin and Jensen (2005) credit Dr. Evan T. Robinson for noting “that by 2010, the body of known information will double every 75 days” (14). It is possible that in 2020, no police chief will have the ability to understand the technical elements of key information needed for decisions, to sift through the quantity of information needed for decisions, or to make all of the decisions required of the executive level. Policing may undergo the evolution of system design and leadership that will lead to a networked approach, with an entirely different vision of what a police chief and other key leaders do.

HIGH TECH...HIGH TOUCH

As society becomes more technologically sophisticated, there is danger of the decrease in basic interpersonal skills and qualities. The parental woe of teenage children

who dominated the single phone line into American homes in the mid- to later years of the 20th century has evolved into the elusive sounds of keyboard clickings, as multiple Instant Messaging conversations abound within the secretive confines of a child's room. Emails known as "flamers" represent the consequences of ill-mannered communication, absent the feedback mechanism that distinguishes dialogue from one-dimensional messages. A common interpersonal challenge in the contemporary workplace is the increasing conflict that comes from the use of email where conversation once reigned. The often slang language within an email provides none of the non-verbal context that makes face-to-face conversation effective. All of the emoticons in the world cannot replace a smile, a raise of the eyebrows, or a pursing of the lips. The need to balance advanced technology with sustained human nurturing was well described with the expression "high-tech, high touch".

Skilled police investigators are masters at reading body language, interpreting the stated and the unstated, and applying their interpersonal skills to assess truthfulness. Interpersonal sensitivity is inherent in a skilled police officer's ability to extract critical information from traumatized crime victims. The business of policing has been, is, and will evermore be a people business. Leading an organization that excels in interpersonal communication and relationships will continue to be a high priority for chiefs of police. Within the context that interpersonal communication skills may be shrinking in the age of electronic communication, the supervision and leadership of police officers will necessarily focus largely on officers' people skills.

A LEADERSHIP MATRIX

There are, therefore, two somewhat divergent pathways upon which police

leadership could travel. In the first, leadership that focuses on decision making through intelligence and information management might place technology and analytical skills as the highest order. In the second, leadership that focuses on the interpersonal element of policing might place people skills as the highest order. These divergent paths may or may not be mutually exclusive, but may also argue for a shift from hierarchy to networked structures for police organizations.

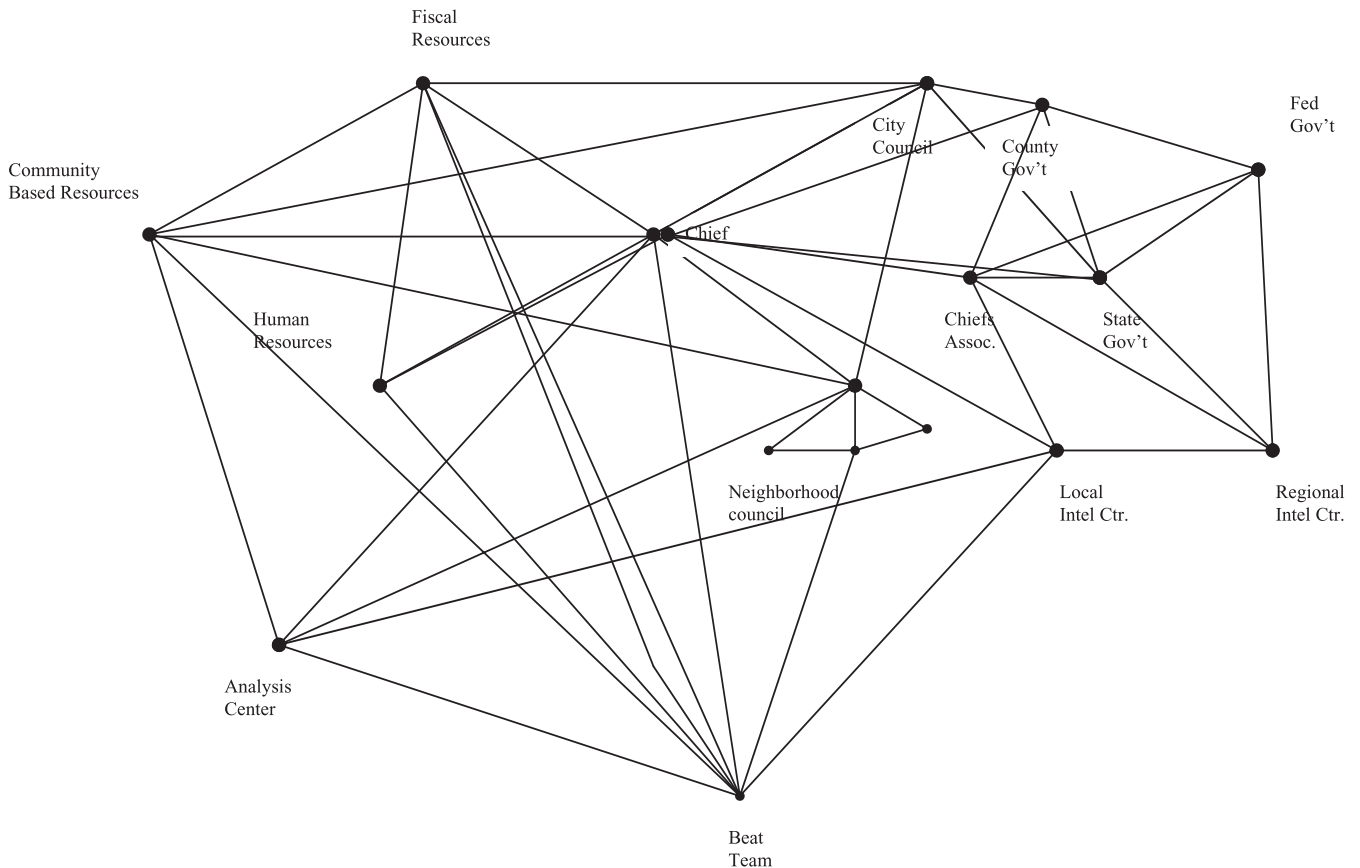
Another way to describe networked organizational structures is to view them as a matrix type of relationship. “Matrix organizations have dual reporting relationships (i.e., two bosses); an employee may have to answer to a quality manager and a financial manager” (Chappell and Lanza-Kaduce, n.d.). Chappell and Lanza-Kaduce further describe matrix organizations as being more behaviorally defined than simply structural. The adaptive, responsive flexibility of matrixed organizations could make their structure more effective for policing a dynamic environment where change is the only constant.

In a networked structure, individual police agencies may continue to be led by a local police chief. The police chief is likely to continue a direct relationship with resource development and allocation, and political liaison with local and state and federal elected officials [see Figure 4]. The local chief will likely continue to be the outside face of the agency engaging in public relations at the macro level. But, the chief may be linked through networking with other chiefs at their local levels, who take on similar duties in geographic localities. All of the local chiefs and their departments may be linked to regional intelligence and information analysis centers that assume much of the power and direction for localized problem solving. In this model, centers of analysis review vast volumes of information, conduct link analysis, identify relevancy of information to localized problems, and develop models of problem solving for referral to local agencies. Technology is rapidly developing

that will be able to capture vast amounts of data and connect similar information within a context that would otherwise not appear related at all.

Figure 4.
Distributed Network-Matrixed Leadership Topography

Community Resources, including educational institutions, the business community, etc.
 Citizen based resources, such as neighborhood advisory councils, advocacy groups, etc.
 Policing based relationships, such as intelligence centers, analytical centers, the chief, beat teams, etc.
 Governmental relationships, such as city councils, county, regional, state and federal units of government, regional chiefs of police councils, etc.



Neighborhood beat officers receive the “big picture” (mission and values) from the Chief. They receive fiscal and human resource direction and support from local governmental resources. They identify priorities through the direction provided by their Neighborhood Advisory Council. Intelligence is received from local intelligence centers, and the beat teams consult the analysis centers to identify strategies in problem solving. Problem identification is developed with input from intelligence, neighborhood citizens, beat officers, and the chief and local elected officials. Expert and specialized input comes from community-based resources such as universities and business leaders.

In this distributed topography, any one link or combination can fail, but communication can remain robust across the network, making it more fault resistant.

In a networked model, problem-solving decision-making will be made within local agencies by line level officers, with mentoring from their immediate supervisors, all driven by information and strategies provided by cells completely outside of their traditional organization. The local chief may have little role in the analysis and problem solving process on the technology side. However, the role of the chief in managing the human element of policing may increase. Monitoring the ethical implications of strategies, the human interactions involved in the strategies, and leading the interpersonal relationships needed to solve the problems might fill the internal time demands on a local chief.

Stated another way, a local police officer may receive their technical guidance and direction from a center of analysis, while receiving their moral and philosophical direction and guidance from their center of leadership. Within the network, the distribution of power would not resemble the current hierarchical structure. There is no ready answer to the traditional question “who’s in charge?” With shared power, knowledge, and information, there is shared accountability. The duality of this model fits within the matrix description of serving two bosses (Chappell and Lanza-Kaduce n.d.). One boss, the local police chief, will oversee the community partnerships, collaborations, and organizational transformation elements of community policing. Another boss may oversee the analytical and intelligence component that feeds into the problem solving process. As with most organizational change, the impact on the first level leaders will be significant; their function may evolve to be links within local agency clusters, connected to the many other clusters and hubs comprising the network. Using terms of Barabasi (2002), chiefs with an inordinately high number of links may serve as the connectors between the local agency clusters and other clusters and hubs

that represent both localized policing and the sources of intelligence and analysis.

Daniel H. Pink has proposed that the Information Age as an economic driver is yielding to a new Conceptual Age. He proposes that the path of agrarian workers to factory workers to knowledge workers is now shifting to “a society of creators and empathizers, pattern recognizers, and meaning makers” (Pink 2005). Without throwing out the contemporary success driven by left-brain logic, linear and analytical thinking, Pink suggests that future organizational success will come from both left-brain technological thinking and right-brain conceptual and high-touch thinking. Applying this image, the above described matrix model could see leadership for right-brain thinking coming from leadership nodes within a network, e.g. the chief, and left-brain thinking leadership coming from the analytical/intelligence nodes. A Washington Post article published several months after September 11th suggested that the military was recognizing that relying strictly on linear thinking was not likely to analyze and forecast future events by complex and adaptive organizations. Author T. Irene Sanders also stressed how chaos theory and the science of complexity suggest a “move from an emphasis on simple cause-and-effect relationships to a focus on more intuitive, associative forms of pattern recognition.” (Sanders 2002)

One potential unintended consequence of a networked model could be the loss of local identity and sense of control over local police. Countless police agencies spent the final decade of the 20th century looking for ways to decentralize and provide personalized service directly into neighborhoods. The decentralized style of COP/POP is often touted as a contributor to lower crime rates around the turn of the century. The transformation to a networked concept could still place a high priority on sustaining the decentralized delivery of services that fosters local ownership and community

partnerships, even as it exploits the value of increased information exchange through networks.

EXPANDING THE NETWORK

Further networking is possible within the policing infrastructure. The series of regional information analysis hubs could well be networked within a global system of information that would address the global neighborhood of contemporary times. Regional information/analysis centers, then, would link over to similarly networked hubs of policing that deliver actual service to communities. The bridging of policing delivery clusters with information and analysis clusters could well overcome the geopolitical boundaries that presently stifle inter-agency cooperation and make investigation and prosecution of computer based crimes almost impractical. The present concept of jurisdiction would give way to shared ownership and network operations.

Running this model out to a further extreme, police agencies may one day be disassociated with current geopolitical boundaries, and the entire concept of a local chief will have adapted yet further. One future model of delivery of police services, Neighborhood Driven Policing (Levin and Myers 2005) has local police taking their cue from neighborhood based advisory councils that establish the priorities of the officers and help to direct resources towards the priorities. A networked system of policing under this model might find teams of police officers, under the coordination of a neighborhood-police team leader, who is linked to the matrix with the three dimensions of professional leadership (the chief), neighborhood direction (the neighborhood advisory council), and information (the information/analysis center) [see Figure 4]. The team leaders would assist the officers in meeting the expectations of the neighborhood

and within the guidelines provided by the leadership centers that feed into the team. The officers would access the analytical data and use suggested strategies that feed from the information centers. Under this network model, the police chief is not the centralized figure under which all direction is given. Rather, the network of nodes and hubs provides a constant stream of information and direction for the officers to act with flexibility as they adapt to emerging community challenges.

NET-CENTRIC POLICING

Under a model he calls network centric (or net-centric) policing (NCP), Thomas Cowper refers to operations where “highly networked personnel draw on information from the widest variety of sources...in real-time, and maximize the sharing of the accumulated information throughout the entire network continuously” (Cowper 2005, 24). Cowper’s NCP model has both internal and external networking. Agency personnel and citizens alike would be linked electronically to a diverse set of information sources, including not only databases but also live sources of information such as in-the-field observation devices. The network would not only compile but also analyze data to distribute to all who need it and in a format that would best meet their needs. Cowper further describes two primary purposes of the network, that being to provide everyone comprehensive information relative to:

- “The organization, its mission, goals, current priorities, ongoing activities, unit deployments, organizational intent, and
- His or her immediate and local context” (Cowper 2005, 25).

Cowper's NCP model suggests that as the diverse network exchanges abundant information continually, self-synchronization throughout the network would result from the creation of mutual mental models (MMMs). These MMMs would lead the highly informed human network to organize and deliver their "collective yet distributed activities from the bottom up, without centralized command or control but operating within a framework of organizational intent" (Cowper 2005, 25). Further, he states "with the right information, provided at the right time, within a commonly understood context, in a way that is useful and appropriate to every individual, there is no need for orders to be passed up and down...no need for detailed and specific managerial directions...Every member understands what he/she needs to accomplish, why he/she needs to accomplish it, the current parameters of organizational ...intent, and the information to do so quickly and effectively" (25).

Progressive organizations still using the pyramidal hierarchy have introduced traditional guides such as mission, vision, and values to help drive employee behaviors and decision-making. MMMs might represent the constant feedback stream of real-life manifestations of the mission, vision, and values. Every corner of the network would learn through the collective actions that represent the highest ideals, and employees would assimilate the successful outcomes within the organizational intent rather than be directed by a centralized control.

While net-centric operations might be new in policing, they are most certainly not new in other areas. Many examples of decentralized, symbiotic, and net-centric models of organization can be found in the military, economics, and even in nature. Indeed, it could be argued that traditional hierarchical forms of organization are counterproductive because they impose an unnatural order on an organism. If the organism was structured

into independent but complementary and mutually supportive units (a network), it would likely be more efficient and its individual components better able to survive catastrophic events. This would then significantly increase the chances of survival of the organism as a whole.

A good example of how large organizations have adopted decentralized and even distributed structures is manufacturing. The information age, a global economy and improved technology have had a profound effect on how modern corporations conduct business. No longer are all operations centralized in one geographic location, and gone are the days of giant factories such as Ford's River Rouge plant where everything from processing raw materials to manufacturing and research takes place. Instead, distributed manufacturing, just-in-time inventory models, rapid retooling capabilities, competing research facilities, and redundant supply chains all ensure that the organization as a whole can survive even if one or more units of the system fail.

One factor crucial to the success of modern manufacturing is the flow of information and constant feedback with respect to how each unit is functioning within the system as a whole. Each individual unit must know at any given point in time what the other units are doing and, just as importantly, what other units are not doing. In the case of the failure of a manufacturing unit, all others must be prepared to take on a portion of the responsibility of the failed unit in order for the manufacturing process to take place uninterrupted. Some companies that attempted the shift to distributed manufacturing without abandoning their hierarchical business model failed to recognize that subtle changes in part of the network can largely affect other portions, resulting in huge fiscal losses (Barabasi 2002, 212-213). Clearly, the manufacturing process has become far more complex than it was even a few decades ago. Yet at the same time it has become

more robust, better able to weather even relatively major problems, and delivers cheaper, more durable as well as more reliable goods to the consumer. Twenty-first century business is shifting to the web-like, flatter structures that rely more on cross-organizational information exchange, thus increasing their flexibility and speed to adaptation. The CEO in such organizations serves as the high-level connection to the business world, where business-to-business collaboration reflects even further networking (Barabasi 2002).

Returning to the vivid images of the chaos that immediately followed Hurricane Katrina and the loss of C&C within a traditional hierarchy (in fact, there were several competing hierarchies), which led to prolonged delays in rescue and evacuation efforts, we might hypothesize how the situation would have been different had a network centric structure been in place. Multiple rapid response clusters comprised of personnel from local, state, and federal agencies, each with their own specialized sub-units, could have immediately deployed to the affected areas, setting up communications and providing instant situational analysis and information flow to all other clusters. Computerized disaster scenario models, derived from previous real world disasters as well as virtual reality war-games conducted by emergency management authorities, would help guide individual clusters' responses. Personnel from local agencies would provide area-specific expertise to state and federal personnel within their cluster, eliminating the need for redundant efforts. Modern algorithms, such as dynamic programming, could then immediately begin allocating resources to clusters or even individual nodes based on local needs, the needs of other clusters, as well as overall inventory. In the case of a major communications failure or other breakdown within a cluster or hub, the entire system would still continue to work. And, because the entire system is dynamic, situational changes in various locations would lead to instant adjustments within the

entire system, thus preserving maximum operational efficiency.

For those nodes or clusters that experience communications failures or are physically cut off from the rest of the network, Neighborhood-Driven Policing principles could be applied by using local police officers (nodes) with well established community relationships (links) to provide leadership in the absence of outside help. These officers, supported by both the community and other state and federal officers within their cluster, could continue to support the mission and purpose of the effort and collaborate with local residents to survive until contact with the rest of the network is re-established.

Clearly, emergency planning would be radically different if it were to take place within a network centric paradigm where the objective is for individual nodes to work in collaboration with, and in support of, other nodes and clusters within the network, while at the same time ensuring their own survival.

FORMAL AND INFORMAL NETWORKS

Levin and Jensen (2005) describe external information sources for police employees that may fall outside their organizational network. They refer to the rapidly expanding uses of the Internet and electronic mail lists for seemingly disparate elements to join together and exchange relevant information. They suggest that rather than simply relying on the formal, often bureaucratic, and slow sources of intelligence, or even the futuristic centers of intelligence previously described, police personnel can swap information with their counterparts around the world with the use of everyday tools such as the Internet and electronic lists. This style of information exchange is what they refer to as the “electronic donut shop” with its similarities to the informal peer-to-peer information exchange of old (Levin and Jensen 2005). This model seems best compared with

Baran's (1964) distributed or mesh type of network.

From Cowper's model of net-centric policing emerges a highly probably role of the future police executive: providing the organizational intent context. No matter what structure, i.e. hierarchical, neighborhood-driven councils, or a widely distributed network, the primary mission and organizational intent will need to be presented with clarity and conviction. The duality of technology and high interpersonal skills described earlier illustrates the need for strong leadership, both right and left brained, in developing each individual's sense of humanity, purpose, and role within the larger context, no matter where in the network they may reside. While the source and application of power in the networked environment may not resemble traditional police hierarchy, accountability is pivotal for success. Whether it is holding an individual node in the network accountable, or every individual within a cluster, or the overall network's outcomes, the leadership must provide the benchmark and a means to support excellence and success.

Other higher-level concerns will likely remain the domain of a chief executive. With explosive rapid access to information arise the parallel concerns of privacy and information abuse (Levin and Jensen 2005). The executive of the future will be the fulcrum of the balance between widely sharing information on one hand with privacy concerns and individual liberties on the other. A traditional police approach to public challenges, defensiveness first then fact-finding, will not survive within the networked environment. Police leadership is likely to provide guidance and direction on most of the humanistic elements of police decision making at all levels, providing what Cowper (2005) referred to as the organizational context. As the ultimate mentoring role model, the chief's direction will in turn distribute through the network and be translated by

individuals throughout as the “how we do things around here” vision for incoming and experienced employees alike. With the openness of the networks to include external participants, this context and vision will be highly visible and a defining element of police organizations.

FURTHER QUESTIONS FOR THE FUTURE

While these extreme models may be useful to describe futurist organizational structures, they leave unanswered fundamental needs that have traditionally been addressed by the vestiges of pyramidal hierarchy. What are the paths of accountability under such a network of cells? Even with the potential growth of a myriad of less-lethal force options, police officers in 2020 will still be using force to gain compliance and mitigate risk, and will still be taking away the liberty of freedom that is surrendered upon arrest. If there is no network chief, can the cluster-based team supervisors successfully take the broadest view in ensuring fairness, consistency, and the highest standards of conduct for their teams? Barabasi suggests that all nodes within a network must be aware of “how the actions of one node affect other nodes” (2002, 212). Perhaps the accountability answers lie within the need for managers to understand the consequences of interconnectiveness. There remains the nagging philosophical question, however, of “who is in charge?” Even if everyone working in this enlightened, modern networked environment understands the disbursed leadership concept and acts in a highly self-directed manner, external customers oriented toward the hierarchical paradigm are likely to demand answers from “the boss.”

Figure 4, with all of its perplexing links and interconnectiveness, does little to

describe the direction and flow of information and decision making. How will key nodes as the police chief, the beat teams, analysis centers, and neighborhood councils relate with one another? Are some links, such as the varying level of governmental and professional associations, going to be more informational in nature, representing outside resources? Are other links going to be more directive and interactive, as the relationship between beat teams and their chief? Will the analysis centers providing strategic direction demand that their preferred strategies be applied, or will this relationship be simply advisory in nature? It is far easier to create a paper exercise showing how matrixed leadership may look than it is to factor in the human interactivity, with all of its ego and vestiges of power and authority symbols.

Police chiefs face a political reality that often serves as a constraint for implementing innovation or collaboration. Provincialism has survived the tough fiscal times in the post 9-11 era and individual units of government still cling to their own unique and hierarchical police departments. Even though a variety of “task forces” and multi-agency endeavors illustrate the force multiplication of teamwork, they still remain constrained by overall hierarchy. Overcoming the resistance of local geopolitical entities to provide for complete networking within policing could well extend beyond 2020.

Forecasting possible future police structures and leadership models is an exercise at best. It is likely that police leadership must develop means to adapt, and loosen the bureaucratic ropes that bind police agencies under traditional hierarchies. What is left for research is how to implement such networked, flexible organizations without abandoning the key principles of effective policing and losing the ability to hold the police accountable for outcomes and conduct.

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