



STRATEGIC INFORMATION SYSTEMS FOR POLICING

CRAIG FRASER
POLICE EXECUTIVE
RESEARCH FORUM



OBJECTIVES

- ⑥ TO EVALUATE YOUR CURRENT INFORMATION SYSTEM
- ⑥ TO DESIGN A NEW INFORMATION SYSTEM
- ⑥ THE BEST INFORMATION SYSTEMS RESULT FROM CAREFUL, IN-DEPTH DISCUSSION OF WHAT INFORMATION IS NEEDED BY WHOM TO MAKE WHAT DECISIONS WHEN.



FEW ASK

- Ⓢ WHAT INFORMATION DO I NEED TO DO MY JOB?

- Ⓢ WHEN DO I NEED IT?

- Ⓢ IN WHAT FORM?

- Ⓢ AND FROM WHOM SHOULD I BE GETTING IT?

- PETER DRUCKER



FEWER ASK

- Ⓢ WHAT NEW TASKS CAN I TACKLE NOW THAT I GET ALL THESE DATA?
 - Ⓢ WHICH OLD TASKS SHOULD I ABANDON?
 - Ⓢ WHICH TASKS SHOULD I DO DIFFERENTLY?
- PETER DRUCKER



PRACTICALLY NO ONE ASKS

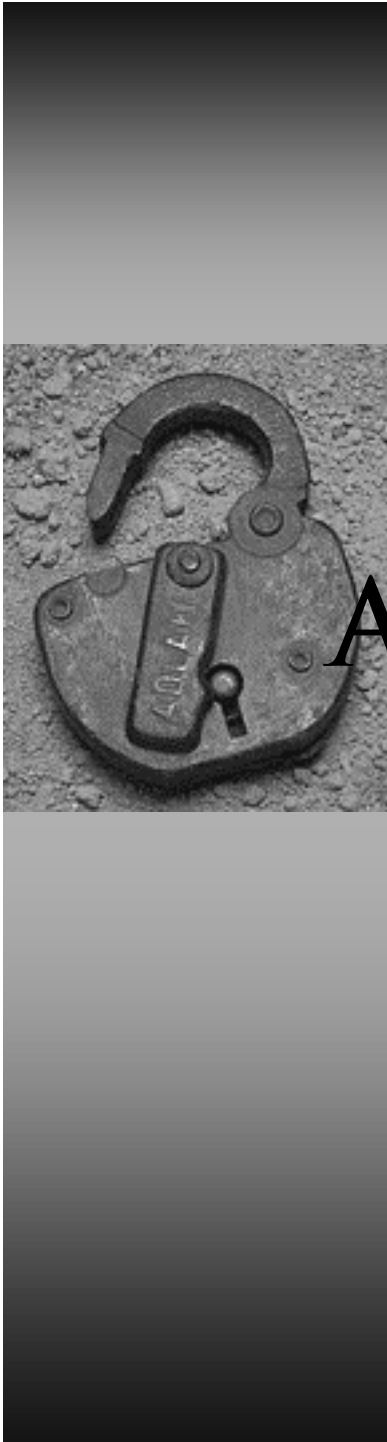
Ⓢ WHAT INFORMATION DO I OWE?

Ⓢ TO WHOM?

Ⓢ WHEN?

Ⓢ IN WHAT FORM?

– PETER DRUCKER



**POLICE AGENCIES
EXIST TO PREVENT
AND CONTROL CRIME,
VIOLENCE, AND
DISORDER**



POLICE ARE KNOWLEDGE WORKERS

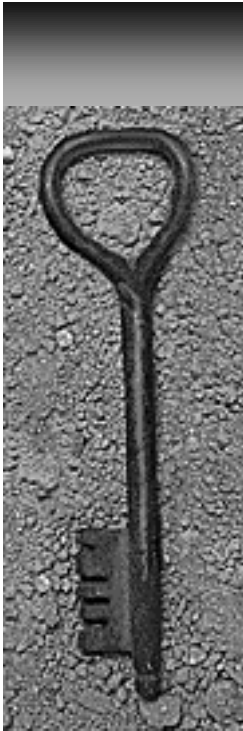
TWO BASIC RAW
MATERIALS –
INFORMATION AND
DEALING WITH PEOPLE



FOUR CORE POLICING PROCESSES

- Ⓡ PREVENT CRIME
- Ⓡ SOLVE CRIMES
- Ⓡ RESPOND TO VARIED SERVICE REQUESTS BY CITIZENS
- Ⓡ SOLVE CRIME, VIOLENCE, AND DISORDER PROBLEMS THROUGH COMMUNITY PARTNERSHIPS THUS IMPROVING THE QUALITY OF LIFE

TWO KINDS OF POLICE INFORMATION



OPERATIONAL
INFORMATION

ADMINISTRATIVE
INFORMATION



TWO KINDS OF POLICE INFORMATION

Ⓢ OPERATIONAL USES INCLUDE:

- PREVENTING, CONTROLLING, REDUCING CRIME, VIOLENCE, AND DISORDER
- IMPLEMENTING COMMUNITY POLICING AND PROBLEM SOLVING

Ⓢ ADMINISTRATIVE USES INCLUDE:

- ACHIEVING EFFICIENT AND EFFECTIVE OPERATIONS
- FLEET MANAGEMENT, CAD TRANSACTION PROCESSING, PRISONER TRACKING, CASE MANAGEMENT



VERY EXPENSIVE ELECTRONIC FILE CABINETS

THE GAP BETWEEN WHAT COMPANIES ARE SPENDING AND WHAT THEY'RE GETTING STEMS FROM THE COMBINATION OF NOT UNDERSTANDING WHAT IS POSSIBLE AND NOT SEEING THE POTENTIAL WHEN YOU USE TECHNOLOGY TO MOVE THE RIGHT INFORMATION QUICKLY TO EVERYONE IN THE COMPANY. – BILL GATES



WHAT WE NEED IS DATA LITERACY RATHER THAN COMPUTER LITERACY

Ⓢ OPERATIONAL QUESTIONS MIGHT
INCLUDE:

- WHAT ACTION MIGHT THE PUBLIC TAKE IF THEY HAVE MORE INFORMATION?
- HOW CAN OPERATIONS BE IMPROVED IF WE KNOW MORE ABOUT VICTIMS?
- OF THREE COMPETING PROJECTS, WHICH IS LIKELY TO HAVE THE HIGHEST PAYOFF?
- WHERE SHOULD 10 NEW OFFICERS BE PUT TO HAVE THE MAXIMUM EFFECT?



DATA LITERACY – OPERATIONAL QUESTIONS

- Ⓢ WHAT TACTICS WILL BE SUCCESSFUL IN REDUCING CRIME AND DISORDER IN OUR WORST HOT SPOTS?
- Ⓢ HOW CAN WE REDUCE DOMESTIC VIOLENCE?
- Ⓢ HOW CAN WE CATCH CONVENIENCE STORE ROBBERS?



DATA LITERACY – ADMINISTRATIVE QUESTIONS

- Ⓡ WHICH CARS SHOULD BE REPLACED?
- Ⓡ DO PATTERNS OF LEAVE TIME USAGE INDICATE A SHIFT SCHEDULE/DAYS OFF CYCLE PROBLEM?
- Ⓡ ARE THERE TRENDS IN CITIZEN COMPLAINTS? IN INTERNAL DISCIPLINE?
- Ⓡ WHO ARE OUR MOST PRODUCTIVE EMPLOYEES?



A DATABASE IS NOT INFORMATION

INFORMATION IS

- Ⓢ ORGANIZED FOR A TASK
- Ⓢ DIRECTED TOWARD SPECIFIC PERFORMANCE
- Ⓢ APPLIED TO A DECISION

--IT'S EASY TO CONFUSE DATA
WITH KNOWLEDGE,
INFORMATION TECHNOLOGY
WITH INFORMATION



WHAT INFORMATION DO WE NEED?

- Ⓔ THE ORGANIZATION SHOULD DEFINE EACH JOB, IDENTIFY THE INFORMATION NEEDED TO PERFORM THE TASKS/FUNCTIONS, AND SPECIFY THE HUMAN RELATIONSHIPS NEEDED TO GET THE JOB DONE.



WHAT INFORMATION DO WE NEED?

- Ⓡ OPERATIONAL, SUBSTANTIVE
INFORMATION
- Ⓡ ADMINISTRATIVE, PROCESS
INFORMATION
- Ⓡ CONSIDER YOUR OWN
CONTEXT
- Ⓡ ONE SIZE DOES NOT FIT ALL,
FLEXIBILITY IS CRUCIAL



WHEN DO YOU NEED INFORMATION?

- Ⓜ WHAT DO YOU NEED INSTANTLY, IN “REAL TIME”?
- Ⓜ WHAT TACTICAL INFORMATION DO YOU NEED?
- Ⓜ WHAT STRATEGIC INFORMATION DO YOU NEED?



DECISIONS SHOULD BE MADE ABOUT:

WHAT INFORMATION TO USE

WHAT TO USE IT FOR

HOW TO USE IT



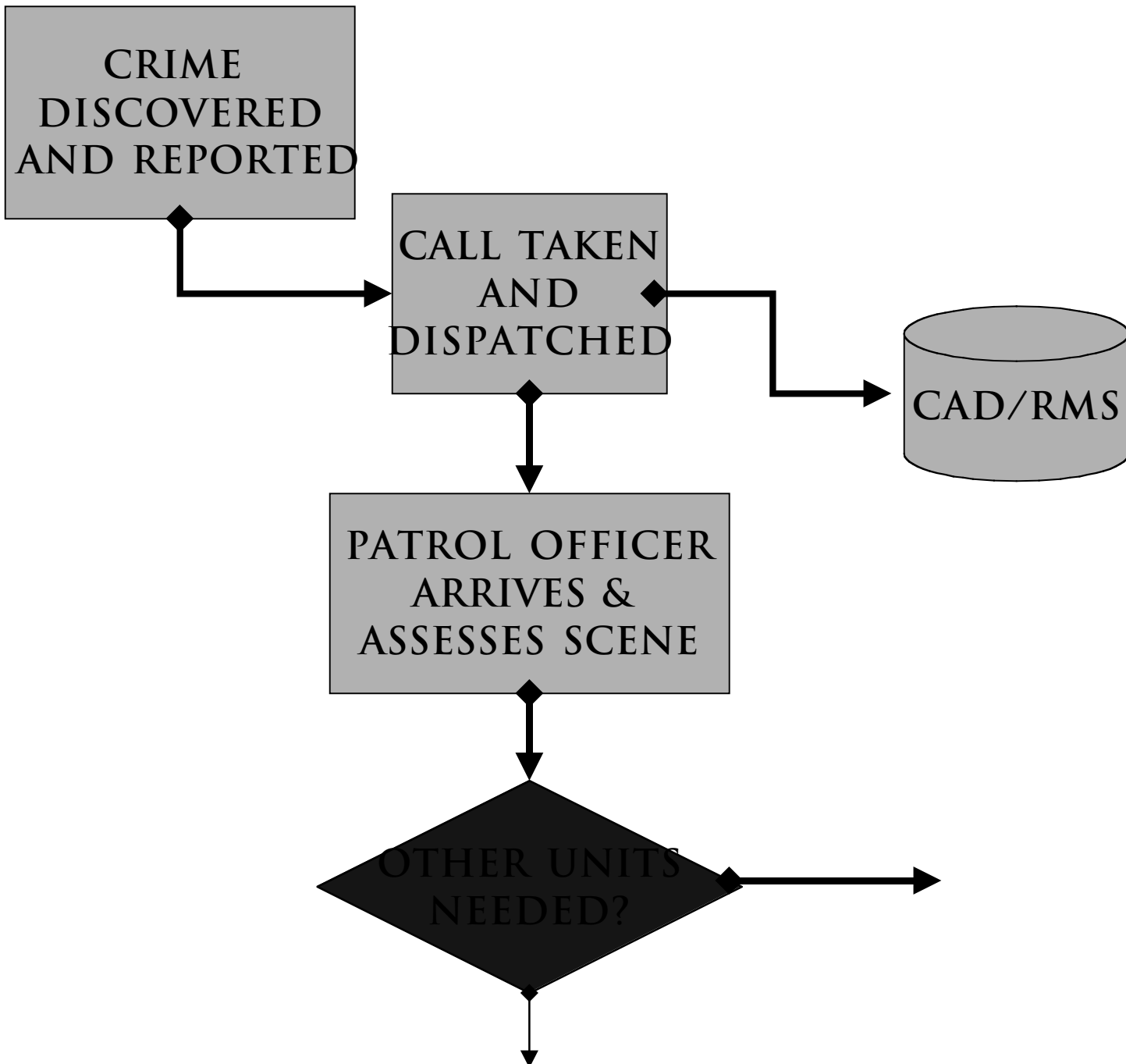
WHAT INFORMATION DO WE NEED?

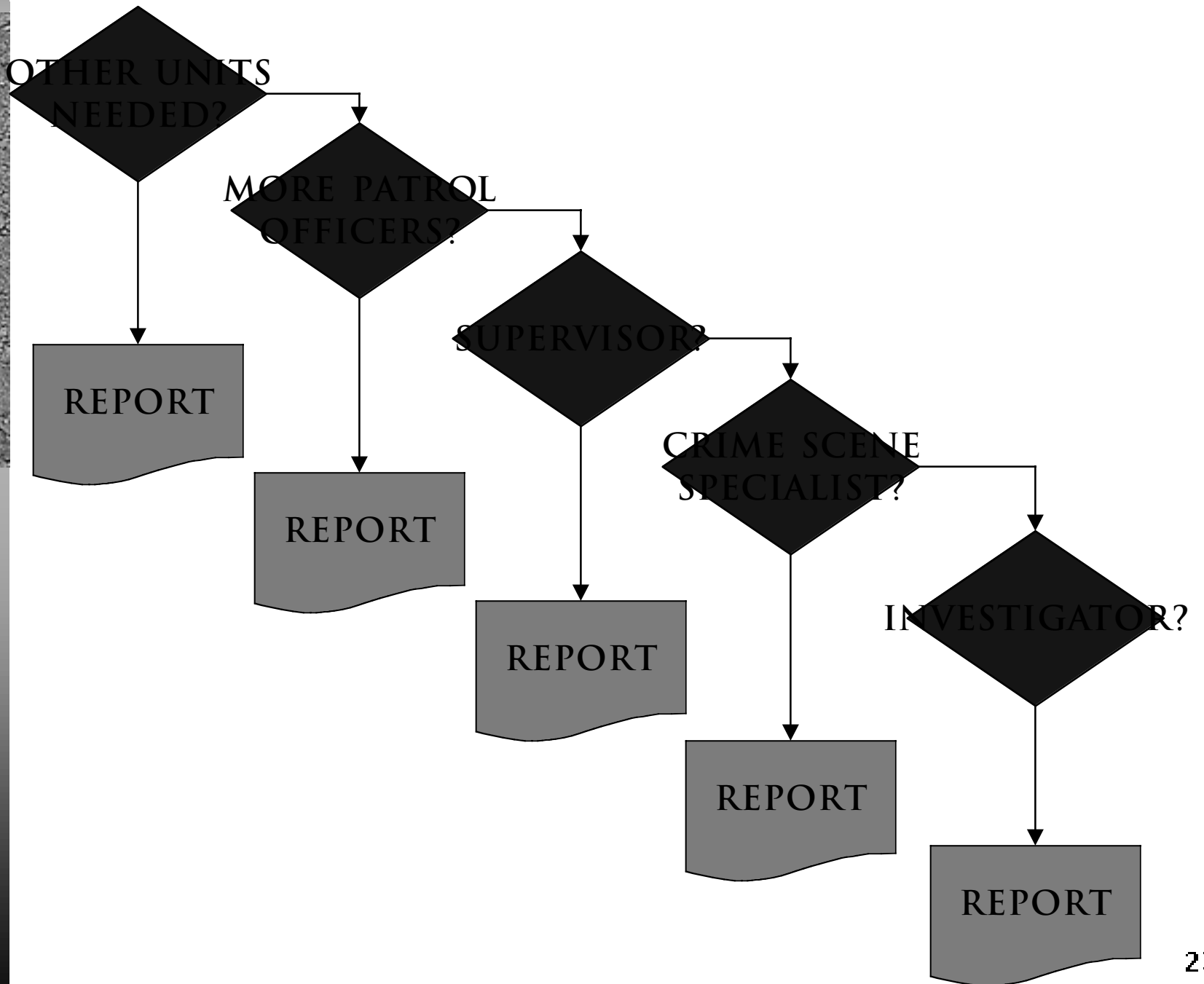
MAKE A LIST OF THE CRIME,
VIOLENCE AND DISORDER
PROBLEMS THAT MOST
CONCERN YOUR AGENCY.
WHAT INFORMATION DO YOU
NEED TO SUCCESSFULLY
“SOLVE” THESE PROBLEMS?

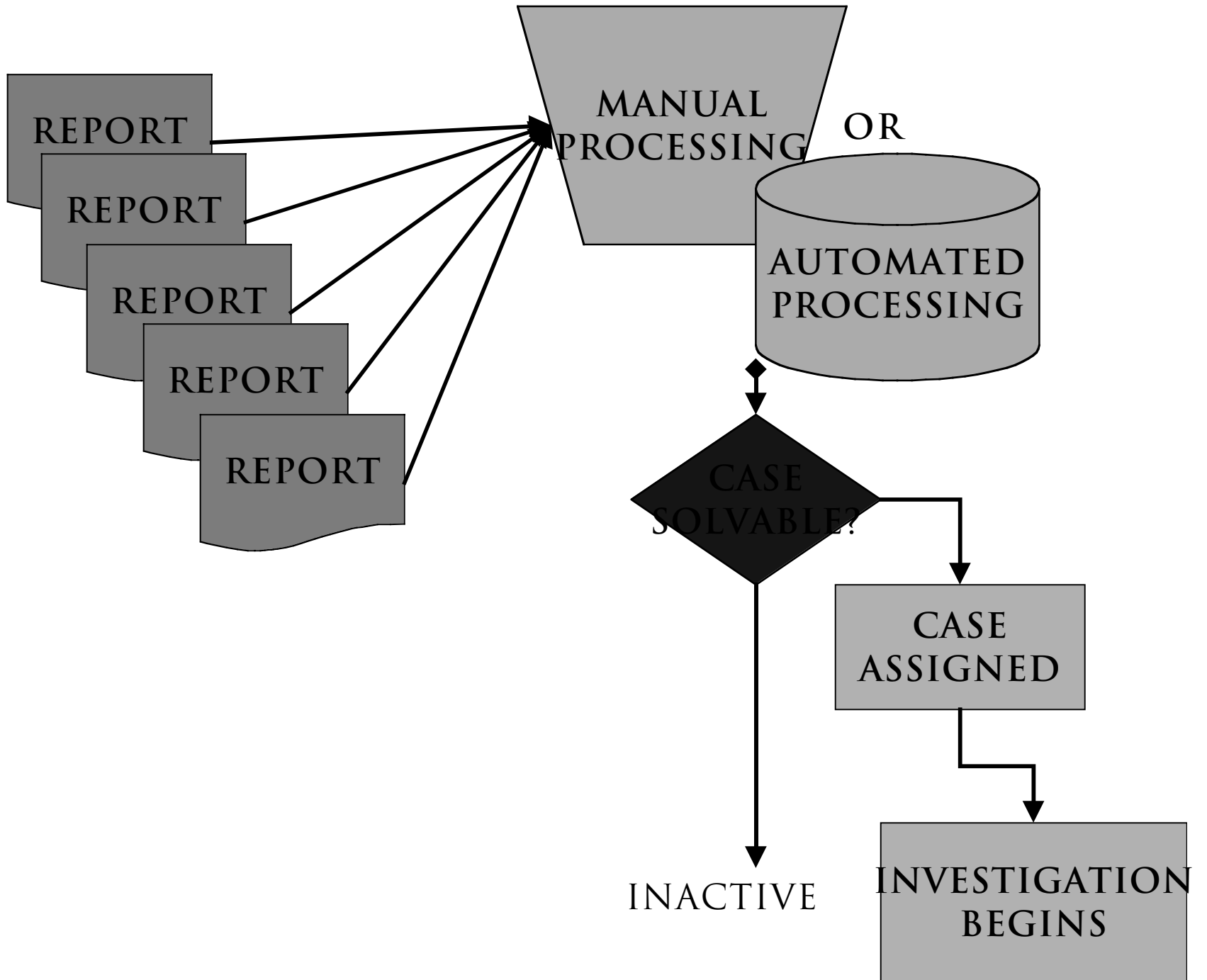


PROCESS MAPPING

- Ⓢ CRIME SOLUTION
- Ⓢ EACH TASK SHOULD ADD VALUE TO THE PROCESS
- Ⓢ EACH TASK NEEDS TO IMPROVE THE VALUE OF INFORMATION THAT
 - DOCUMENTS THE ELEMENTS OF THE OFFENSE
 - IDENTIFIES SUSPECTS (WITNESSES, INFORMANTS, PROPERTY, M.O., FINGERPRINTS, DNA, PHYSICAL EVIDENCE – FOOTPRINTS, TOOL MARKS
 - CASE PRESENTED TO THE PROSECUTOR









INFORMATION USED IN INVESTIGATIONS

INCLUDES:

- Ⓢ INCIDENT REPORTS
- Ⓢ CRIME SCENE INVESTIGATOR REPORTS
- Ⓢ WITNESS STATEMENTS
- Ⓢ SUSPECT STATEMENTS
- Ⓢ TIP LINES
- Ⓢ CRIME SCENE PHOTOGRAPHS & DRAWINGS
- Ⓢ FINGERPRINTS
- Ⓢ DNA
- Ⓢ PHYSICAL EVIDENCE
 - BALLISTICS, TOOL MARKS, BLOOD SPATTERS
- Ⓢ INFORMANTS
- Ⓢ PROPERTY TRACKING
- Ⓢ M.O.'S
- Ⓢ KNOWN ASSOCIATES



DIGITAL NERVOUS SYSTEMS

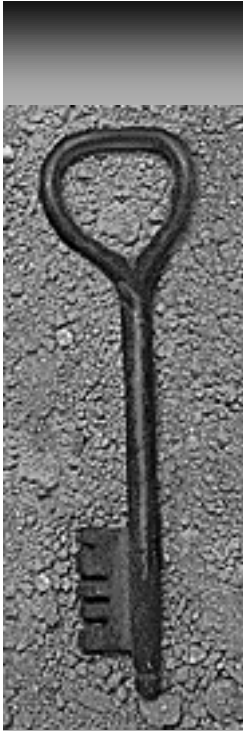
- Ⓢ EXTEND AN INDIVIDUAL'S ANALYTICAL ABILITIES THE WAY MACHINES EXTEND PHYSICAL CAPABILITIES
- Ⓢ COMBINE THE ABILITIES OF INDIVIDUALS TO CREATE AN INSTITUTIONAL INTELLIGENCE AND A UNIFIED ABILITY TO ACT

– BILL GATES



ASSESSING YOUR DEPARTMENT'S INFORMATION I.Q.

-DAVID FRIEDMAN



DOES YOUR DEPARTMENT'S MANAGEMENT GET IT?

® PUTTING A RICH STORE OF KNOWLEDGE AT EVERYONE'S FINGERTIPS IS OF LITTLE VALUE IF NO ONE IS MOTIVATED TO ACCESS IT. CONVERSELY, INSTILLING AN APPRECIATION OF THE VALUE OF KNOWLEDGE AND LEARNING IS OF LITTLE USE IF THE KNOWLEDGE OR OPPORTUNITY FOR LEARNING IS DIFFICULT TO ACCESS.

- SUSAN JACKSON AND RANDALL SCHULER, "TURNING KNOWLEDGE INTO BUSINESS," IN MASTERING MANAGEMENT, P.13, FINANCIAL TIMES: JANUARY 15, 2001



DOES YOUR DEPARTMENT'S MANAGEMENT GET IT?

® MANAGERS NEED TO BE ABLE TO DO INFORMATION ARBITRAGE, CONSTANTLY SYNTHESIZING SIX DIFFERENT DIMENSIONS AT ONCE. IF YOU CAN'T SEE YOUR WORLD, AND YOU CAN'T SEE THE INTERACTIONS THAT ARE SHAPING YOUR WORLD, YOU SURELY CANNOT STRATEGIZE ABOUT YOUR WORLD.

® - DAVID FRIEDMAN



DOES YOUR DEPARTMENT'S MANAGEMENT GET IT?

- Ⓜ TOO MANY SENIOR MANAGERS SEEM TO TAKE THE ABSENCE OF TIMELY INFORMATION AS A GIVEN.

- Ⓜ THEY SHOULD DEMAND A FLOW OF INFORMATION THAT GIVES THEM QUICK, TANGIBLE KNOWLEDGE ABOUT WHAT WAS REALLY HAPPENING WITH THEIR CUSTOMERS.
 - BILL GATES



DOES YOUR DEPARTMENT'S MANAGEMENT GET IT?

- Ⓢ WHAT IS THE MID-MANAGER'S JOB?
 - THEY ARE THE PEOPLE WHO NEED PRECISE, ACTIONABLE DATA BECAUSE THEY'RE THE ONES WHO NEED TO ACT.

 - THEY NEED AN IMMEDIATE, CONSTANT FLOW AND RICH VIEWS OF THE RIGHT INFORMATION.

 - BILL GATES



POLICE MID-MANAGERS NEED:

- Ⓢ ACCESS TO ALL INFORMATION ABOUT THEIR GEOGRAPHIC AREA THAT ANY ONE HAS.
- Ⓢ COMMAND OF ALL TOOLS TO DEAL WITH THE PROBLEMS.
- Ⓢ KNOWLEDGE OF BOUNDARY EVENTS—OTHER NEARBY TRENDS, DISPLACEMENTS.
- Ⓢ INFORMATION SUPPORT FOR THEIR “CROSS TIME” TEAMS.
- Ⓢ ASSESSMENTS OF PROBLEM SOLVING AND TACTICAL OPERATIONS EFFECTIVENESS.



DOES YOUR DEPARTMENT'S MANAGEMENT GET IT?

- Ⓜ HOW MUCH AND WHAT INFORMATION SHOULD BE AVAILABLE IN THE PATROL CAR?
- Ⓜ WHAT DO WE WANT PATROL OFFICERS TO DO? ANSWER CFS, BUT WHAT OTHER HIGH PAYOFF ACTIVITIES?
- Ⓜ NEIGHBORHOOD CRIME EXPERTS (COLLABORATIVE WORK WITH DETECTIVES)
- Ⓜ INFORMATION ON CRIME, VIOLENCE AND DISORDER



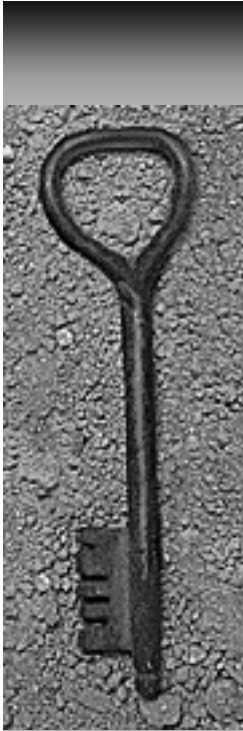
**CAN YOU CHANGE
MANAGEMENT IF
THEY DON'T GET IT?**



IS YOUR DEPARTMENT A SHAPER OR ADAPTER?

NYPD SOUGHT TO REDUCE CRIME BY 25% THROUGH:

- Ⓢ ACCURATE, TIMELY INTELLIGENCE
- Ⓢ RAPID DEPLOYMENT
- Ⓢ EFFECTIVE TACTICS
- Ⓢ RELENTLESS FOLLOW-UP AND ASSESSMENT



HOW WIRED IS YOUR DEPARTMENT?

- Ⓢ PC'S PER EMPLOYEE
- Ⓢ "DEGREE OF CONNECTIVITY"
- Ⓢ BANDWIDTH
- Ⓢ MOBILE
 - CAR
 - HANDHELD

ACCESS SHOULD BE
UBIQUITOUS



HOW FAST IS YOUR DEPARTMENT?

- Ⓢ HOW QUICKLY ARE DECISIONS MADE?
- Ⓢ HOW QUICKLY DOES YOUR DEPARTMENT LEARN TO USE NEW TECHNOLOGIES?
- Ⓢ HOW QUICKLY DOES YOUR DEPARTMENT ADAPT TO OTHERS USING NEW TECHNOLOGIES?



HOW FAST IS YOUR DEPARTMENT?

- Ⓢ INFORMATION TIME FRAMES VARY
 - OFFICERS NEED DAILY AND WEEKLY INFORMATION
 - SERGEANTS NEED WEEKLY AND MONTHLY INFORMATION
 - MID-MANAGERS NEED MONTHLY, 6 MONTH, AND YEARLY INFORMATION
 - SENIOR MANAGERS NEED IT ALL PLUS MULTIYEAR INFORMATION



IS YOUR DEPARTMENT FAST ENOUGH TO COPE WITH A DIGITAL FUTURE?

- Ⓢ ACQUISITIVE CRIME
- Ⓢ CASH, ELECTRONICS, BANK CARDS, CAMERAS WILL ONLY WORK WITH LEGITIMATE USER
- Ⓢ GOODS TAGGED; FENCING HARDER
- Ⓢ NEW TARGETS: COMPONENTS—CHIPS, SMART CARDS, PRECURSOR CHEMICALS
- Ⓢ “CRAVED” CONCEALABLE, REMOVABLE, AVAILABLE, VALUABLE, ENJOYABLE, DISPOSABLE
- Ⓢ ELECTRONIC SERVICES THEFT
- Ⓢ KNOWLEDGE AND INFORMATION THEFT
- Ⓢ IDENTITY THEFT



IS YOUR DEPARTMENT FAST ENOUGH TO COPE WITH A DIGITAL FUTURE?

⊗ EXPRESSIVE CRIME

- ADDICTION AND MICRO-CHEMICAL SYNTHESIS
- DIGITAL STIMULATION/ELECTRONIC IMAGES/INTERACTIONS
- ALIENATION OF SKILLED ELDERS
- DISPOSSESSED
- FORESIGHT



IS YOUR DEPARTMENT HARVESTING ITS KNOWLEDGE?

- Ⓢ ORGANIZING KNOWLEDGE FROM DEBRIEFING OF SENIOR DETECTIVES AND OTHER RETIREES
- Ⓢ USING SARA ASSESSMENTS TO BUILD KNOWLEDGE ABOUT WHAT WORKS AND WHAT DOESN'T
- Ⓢ “AMASS KNOWLEDGE EFFECTIVELY AND DEPLOY IT EFFECTIVELY”



IS YOUR DEPARTMENT HARVESTING ITS KNOWLEDGE?

- Ⓢ UNREPORTED CRIME,
VICTIMIZATION SURVEYS
- Ⓢ CALLS FOR SERVICE
- Ⓢ SELF INITIATED ACTIVITY
- Ⓢ TIP LINES



IS YOUR DEPARTMENT HARVESTING ITS KNOWLEDGE?

- Ⓢ DOES YOUR SYSTEM MAKE IT EASY TO TRANSFER KNOWLEDGE ACROSS THE ORGANIZATION?

- Ⓢ WHO ARE THE MOST SUCCESSFUL DETECTIVES?
 - HOW DO THEY DO IT?

- Ⓢ WHO WRITES THE BEST REPORTS?
 - WHAT ARE THEIR CHARACTERISTICS?



IS YOUR DEPARTMENT HARVESTING ITS KNOWLEDGE?

- Ⓢ WE NEED TO KNOW WHAT WORKS AND WHAT DOESN'T

- Ⓢ THINK ABOUT MEASURES OF SUCCESS FOR OPERATIONS
 - BOTH INTERNAL MEASURES AND COMMUNITY MEASURES



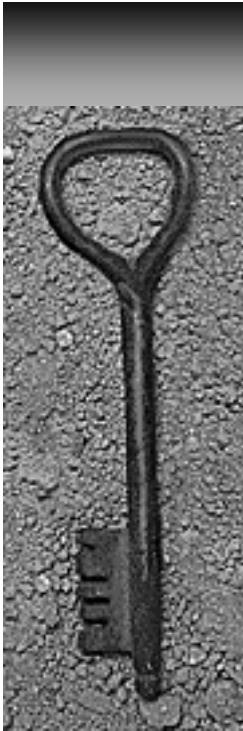
IS YOUR DEPARTMENT HARVESTING ITS KNOWLEDGE?

Ⓢ BACKTRACK SUCCESSFUL CASES

Ⓢ WHAT RESULTED IN SUCCESSFUL
CASE SOLUTION? THAMES VALLEY
SOCO'S

Ⓢ WHAT DO CERTAIN OFFENDER
GROUPS STEAL IN BURGLARIES?

DOES SUSPECT DESCRIPTION VARY BY VICTIM CHARACTERISTICS?





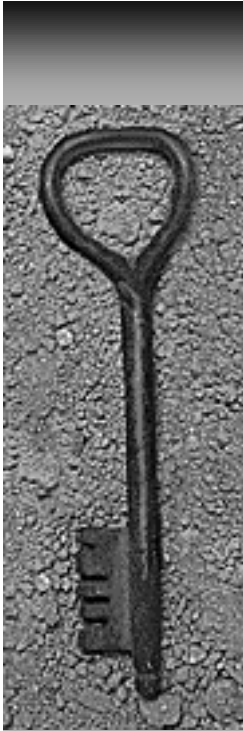
IS YOUR DEPARTMENT OPEN TO THE OUTSIDE?

- Ⓢ FOR STRATEGIC DECISIONS, NEED DATA ABOUT WHAT GOES ON OUTSIDE OF THE ORGANIZATION
- Ⓢ ANALYSIS IS FREQUENTLY BASED ON KNOWLEDGE FROM OUTSIDE
- Ⓢ WHAT DATA SHOULD GO OUTSIDE THE AGENCY?
 - › ROUTINE BULLETINS TO SURROUNDING AGENCIES?
 - › TO CJ AGENCIES? PROSECUTOR ACCESS?
 - › TO OTHER CITY/COUNTY/STATE AGENCIES?
 - › TO THE PUBLIC?



IS YOUR DEPARTMENT OPEN TO THE OUTSIDE?

- Ⓜ EXTERNAL CONNECTIONS
- Ⓜ DATA BASES FROM OTHER
CITY/COUNTY/STATE SOURCES
- Ⓜ DIRECT REPORT ENTRY BY CITIZENS?
E-GOV?
 - CONSEQUENCES FOR VALUE
ADDED, QUALITY, ACCURACY
WHEN “CUSTOMER” ENTERS THE
INFORMATION HIS/HERSELF



IS YOUR DEPARTMENT OPEN TO THE INSIDE?

- Ⓜ PROVIDE DIGITAL TOOLS TO
CREATE CROSS DEPARTMENTAL
VIRTUAL TEAMS THAT CAN SHARE
KNOWLEDGE AND BUILD ON EACH
OTHERS IDEAS IN REAL TIME.
- Ⓜ SEARCHES BY PATROL OFFICERS
VIDEO BACK TO HQ WITH
SPECIALISTS DIRECTING.
- Ⓜ INSTANT FINGERPRINT/DNA
FEEDBACK TO CRIME SCENE



IS YOUR DEPARTMENT OPEN TO THE INSIDE?

- Ⓡ DOES EVERYONE HAVE AN E-MAIL ACCOUNT AND ACCESS?
- Ⓡ ISSUE EVERYONE PDAS,
DOWNLOAD AT SHIFT START
OR WIRELESS DOWNLOAD
- Ⓡ WHAT REALLY CANNOT BE
SHARED?



HOW MUCH DOES YOUR DEPARTMENT WEIGH?

- Ⓢ IDEAS, KNOWLEDGE, AND INFORMATION TECHNOLOGIES ARE INCREASINGLY SUBSTITUTED FOR BULK WEIGHT IN THE CREATION OF ECONOMIC VALUE.

- Ⓢ WEIGHT OF YOUR RECORDS, HOW MUCH PAPER?

- Ⓢ TALLY ALL YOUR PAPER FORMS, DIGITIZE, NEGOTIATE WITH OTHER USERS.



THINKING ABOUT CRIME ANALYSIS



CRIME ANALYSIS

- Ⓢ PATTERNS AND PREDICTIONS
 - INTERRUPT THE PATTERN AFTER 3 OR 4 CRIMES, NOT 20 OR 30

- Ⓢ THREE APPROACHES TO CRIME ANALYSIS
 - PLACE
 - REPEATED METHOD OF OPERATION – M.O.
 - SINGLE CASE

- Ⓢ EACH REQUIRES A DIFFERENT FLOW OF INFORMATION



CRIME AND GEOGRAPHY

- Ⓢ CRIMINOGENIC LOCATIONS
- Ⓢ LOCATIONS MUST HAVE REPEATING CRIME PATTERNS/PROBLEMS
- Ⓢ CHANGE THE CHARACTERISTICS OF A PLACE TO DISCOURAGE OFFENDING/DISORDER (DISPLACE?)



THE CRIME MAPPING EVOLUTION

Ⓢ PIN MAPS

Ⓢ DIGITAL MAPS

Ⓢ ADDING LAYERS OF
KNOWLEDGE

– BUILDING FOOTPRINTS

– AERIAL MAPS

– GPS

Ⓢ ONE CLICK MAPPING



SYSTEMS NEED TO HELP
CAPTURE
INSTITUTIONAL/PERSON
AL KNOWLEDGE THAT
DOES NOT APPEAR IN
DATABASES OR ON MAPS.



TEN THINGS YOUR SYSTEM SHOULD INCLUDE

- Ⓢ NO REDUNDANT DATA ENTRY MEANS YOU HAVE THOUGHT ABOUT LINKS BETWEEN RECORDS

- Ⓢ ARREST/BOOKING BEGINS IN THE FIELD

- Ⓢ DATA ENTRY INTELLIGENCE, I.E., COLORS
 - (RED, BURGUNDY, MAROON, PLUM)
 - (TAUPE, CHAMPAGNE)



TEN THINGS YOUR SYSTEM SHOULD INCLUDE

- ⑥ MASTER NAME, VEHICLE, PLACE, PROPERTY
– MATCHING ROUTINES
- ⑥ CAN MOVE ANYTHING ANYWHERE
- ⑥ POINT OF TRANSACTION ENTRY – USERS
CHOICE
- ⑥ TOOLS THAT EASILY COMBINE AND
RECOMBINE DATA FROM MANY SOURCES



TEN THINGS YOUR SYSTEM SHOULD INCLUDE

- ⑥ AUTOMATED SCANNING FOR PROBLEMS
 - HOT SPOTS, THRESHOLDS
- ⑥ WEB PAGE CONNECTIVITY
- ⑥ AUTOMATIC NOTIFICATION



ACKNOWLEDGEMENTS

- Ⓒ THIS PRESENTATION IS THE PRODUCT OF IDEAS FROM MANY SOURCES. SEVERAL KEY WORKS INCLUDE:
- Ⓒ MANAGING IN A TIME OF GREAT CHANGE BY PETER F. DRUCKER, TRUMAN TALLEY BOOKS/PLUME, NEW YORK, NY 1995, ESPECIALLY SLIDES 3, 4, 5, 12, 15.
- Ⓒ BUSINESS THE SPEED OF THOUGHT: USING A DIGITAL NERVOUS SYSTEM, BILL GATES WITH COLLINS HEMINGWAY, WARNER BOOKS, NEW YORK, NY 1999 ESPECIALLY SLIDES 11, 16, 26, 30, 31.
- Ⓒ THE LEXUS AND THE OLIVE TREE: UNDERSTANDING GLOBALIZATION, THOMAS L. FRIEDMAN, ANCHOR BOOKS, NEW YORK, NY, 2000 ESPECIALLY SLIDES 27, 29, 34, 35, 36, 37, 41, 47, 49, 51.
- Ⓒ TURNAROUND: HOW AMERICA'S TOP COP REVERSED THE CRIME EPIDEMIC, WILLIAM BRATTON AND PETER KNOBLER, RANDOM HOUSE, NEW YORK, NY 1988 ESPECIALLY SLIDE 35.
- Ⓒ JUST AROUND THE CORNER: A CONSULTATION DOCUMENT, FORESIGHT, CRIME PREVENTION PANEL, UK, 2000 ESPECIALLY SLIDES 39, 40.