

The Region's Agenda

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Y2K & THE TRI-STATE REGION A SUMMARY OF REPORTS ON PREPARATIONS IN HEALTH CARE, TRANSPORTATION AND ENVIRONMENTAL INFRASTRUCTURE SYSTEMS

In June 1998, Regional Plan Association launched its Regional Y2K Initiative, a process of communication and analysis to help the tristate metropolitan region understand and mitigate problems associated with the potential failure of some computers and embedded chips to recognize the transition in dates from December 31, 1999 to January 1, 2000. Early in the process, RPA concluded that the major corporations doing business in the region were investing heavily in solutions to the Y2K problem. These corporations were not only preparing their own enterprises. They were also developing a thorough understanding of all the external systems with which they interact and the degree to which Y2K posed a risk to the reliability of those systems. RPA found these organizations willing to share their findings and eager for a forum to explore the status of major public and private infrastructure systems in the region more fully. Since then, RPA has held a series of workshops and strategy meetings, including an all-day "Infrastructure Forum" in February 1999.

Given the lingering concerns about the readiness of key infrastructure systems in the region and in the absence of concrete information about the state of their contingency planning, RPA formed the Regional Y2K Task Force in March 1999. The Task Force, which found that information on the Y2K-status of trans-

portation, health care and water, and wastewater and solid waste systems was less available than information on other major systems, such as electricity and telecommunications, requested that RPA commission papers examining each of those areas. Health care was of particular concern because a February 1999 U.S. Senate report suggested that this area lagged the rest of the economy in preparedness for Y2K in the nation as a whole. The Task Force, which includes representatives from the health sector, determined that it would be very valuable to ascertain whether this region was typical of the rest of the nation in this critical area.

Since the Regional Y2K Initiative began, there have been a number of encouraging developments, not least of which being the formation of a regional contingency planning network which includes representatives from New York City, the states of New York, New Jersey and Connecticut and the counties surrounding New York City. The region's four major power companies (Con Edison, KeySpan, Northeast Utilities and PSE&G) have all been cooperative with RPA's effort, and have reported highly organized, advanced efforts to be prepared for Y2K. All of these companies have announced goals of completing their Y2K readiness and testing programs by June 30, 1999. Similarly, positive information was provided to RPA by the Metropolitan Transportation Authority, the New York City Department of Environmental Protection, AT&T, the New York Clearing House Association, and an array of other major firms and government agencies.

At the same time, a consistent theme of all the information we have received has been that the complex interaction of our major systems poses an unquantifiable risk. RPA has also heard that the high level of preparedness visible in larger organizations is not mirrored in the small and medium enterprise (SME) sector, or among smaller non-profits. This is of particular concern since the SME sector includes many businesses providing essential services (e.g., doctors' offices), and because our society's most vulnerable communities depend on non-profits for an array of vital services. RPA has also found that the level of public understanding of the Y2K problem has not been high. This is due in part to spotty media coverage and the early reluctance on the part of municipalities and others to disclose information on their risk-assessment and contingency planning activities.

GENERAL CONCLUSIONS

Health care, transportation and environmental systems are three distinct sectors of the Tri-State Region's economic and social infrastructure. Each has a different set of services, institutional structures, technology needs and organizational cultures. Clearly the Y2K concerns and contingency plans of a hospital administrator are not those of a transit system operator or a wastewater plant manager. However, these sectors also share attributes that provide them with a similar context for issues of Y2K preparedness. Most obviously, they share a major responsibility for business and social interaction, for public health and for general well-being. This responsibility has contributed to a heightened con-

cern over their ability to deliver uninterrupted essential services on January 1, 2000, and beyond.

Since the consequences of failure would be serious, these systems also share two important features that help to minimize the chances of widespread disruptions. Indeed, these features are a direct result of their importance to the general welfare. First, *all of these sectors are regulated to protect the public's interest*. To varying degrees, each is regulated by Federal, state and municipal statutes and monitored by oversight agencies. Second, *contingency planning and emergency response have always been intrinsic to the management of these systems*. Planning for the inevitable failure of equipment and protocols are key components in the training of health care professionals, transportation managers and environmental system engineers.

This being said, the unique challenges of the Y2K problem require special consideration. In large measure, the Task Force-commissioned evaluations of these sectors found that all three have made Y2K preparedness a priority and continue to devote considerable resources to the problem. The level of effort has not been uniform, however, and it is possible that many organizations will not be ready by year's end. This assessment is also constrained by the same uncertainties that plague any analysis of Y2K readiness. Some organizations may be exaggerating

their preparedness or withholding information for fear of litigation, and there is always the possibility that even the most thorough preparations will be inadequate. Even with these caveats, the threat of widespread disruptions appears less likely than the prospect of sporadic and intermittent problems.

In addition to the findings for the individual systems, there are a few cross-cutting observations that should be noted:

- **In all three sectors, most large organizations have implemented extensive hardware and software remediation, testing and contingency planning efforts.** In general, it appears likely that large hospitals, HMOs, transportation authorities and large water and wastewater systems will have completed remediation and testing on critical systems and have contingency plans in place well before the end of the year.
- **Many small organizations—doctor's offices, community health centers, small private bus operators, small municipal water, wastewater and solid waste agencies—may not be adequately prepared without much more intensive efforts.** While many small and mid-sized organizations are in relatively good shape, many others were late in starting or do not have the resources or inclination to complete remediation and planning.

- **The extent of contingency preparations for external dependencies varies considerably among different organizations.** Organizations are generally more concerned about disruptions to power, communications, transportation and interfaces with other organizations than they are with the functioning of internal operations. While some organizations have taken an aggressive approach to prepare for an extended period of disruption, others have more limited contingency plans that assume at most short-term interruptions of critical systems.
- **The lack of consensus surrounding the likely impact of embedded chip failures is leading to a wide range of strategies.** Firmware microprocessors, often called embedded chips, are proving to be more technically difficult to remediate than hardware and software. Although these chips are ubiquitous in motor vehicles, medical equipment and other apparatus, the extent of Y2K problems associated with them is not clear. It may be impossible for many organizations to test for Y2K problems in the embedded chips in all of their equipment. In many cases, manufacturer certifications of compliance are not available and testing is fraught with technical difficulties. While some organizations are testing as much as possible, others are relying mainly on manufacturer certifications and on contingency plans for sporadic equipment failure.
- **Targeted education efforts, both within these sectors and with the public at large, are critical to addressing the remaining issues.** Several potential problems—incomplete contingency plans, supply shortages resulting from overly aggressive stockpiling, overreaction by the public to short-term service interruptions—can be ameliorated or avoided with more intensive education efforts. While industry organizations and public agencies have generally done a good job in reaching their members and client organizations, a good deal more could be done to reach beyond these constituencies. The public has not been educated sufficiently as to the risks posed by Y2K or remediation/planning efforts undertaken.

In addition to these similarities, some differences among the sectors should also



A discussion on Y2K and the regional picture at the 1999 Regional Assembly. Seated are (l-r) Moderator Charles Halpern, President of the Nathan Cummings Foundation; Charles B. Conn, Director of Technology and Planning, Information Services, Metropolitan Transportation Authority; Robert Green, Manager, Project 2000, Public Service Electric & Gas; and Michael Donnelly, Year 2000 Program Customer Liaison, AT&T

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be noted. Of the three, environmental infrastructure appears the least vulnerable, in part because it is the least reliant on computerized operations. Transportation may be the most interdependent sector with disruptions in one mode likely to ripple through the system. In the health sector, a high degree of industry fragmentation and a wide range of specialized equipment make it the most difficult sector to characterize with broad generalizations.

PREPARATIONS IN THE HEALTH CARE SECTOR

From the White House to private consultants, outside observers have been concerned that the health sector is lagging other parts of the economy in its Y2K preparations. Health experts suggest a number of reasons why this, indeed, might be the case. With thousands of physicians, hospitals, nursing homes, equipment manufacturers and others, the industry is highly fragmented. Mergers, consolidations and the expansion of managed care have increased instability in the sector and probably slowed Y2K planning. Cost controls and cutbacks in reimbursement rates may have limited the resources available for remediation, testing and contingency planning. Health officials and medical associations have often been more preoccupied with reimbursement formulas, pending legislation and other issues than with Y2K preparations.

If, indeed, these and other factors kept the health industry nationally from moving ahead, they do not appear to have prevented large portions of the New York area health industry from making progress. From interviews with more than 150 people dealing with health issues in the tristate area, the remaining problems appear more circumscribed and manageable than one might expect. The major findings of the health sector report include the following:

- *Local industry groups and medical schools have taken an active role in focusing attention on Y2K issues and in providing education services and technical assistance.*
- *Larger organizations tend to be farther along in their Y2K preparations than smaller ones: larger hospitals have advanced farther than smaller hospitals, larger nursing homes are readier than smaller homes, and group practices have outpaced one-doctor offices.*

- *If any one segment of the health system is lagging, most consultants and other health industry experts agree, it is the physician's office.*
- *Some institutions are testing equipment even when it is declared Y2K compliant by the manufacturer. Others are relying on manufacturer certifications.*
- *Aggressive stockpiling is perceived as a real threat by industry associations and suppliers.*
- *Although many health organizations are well along with contingency planning, others have not yet begun to plan or are just starting to do so.*
- *Institutions remain extremely nervous about the potential for cash flow disruptions from Medicare, Medicaid and private insurers, even though these agencies foresee no trouble in making timely payments.*
- *As with other industries, health officials worry most about their reliability on infrastructure systems that are outside of their control.*

PREPARATIONS IN THE TRANSPORTATION SECTOR

Transportation is also one of the key infrastructure systems that are always mentioned when representatives of other industries talk about their "external dependencies." Without transportation, they cannot get their employees to their worksites, get their supplies delivered on time, or operate their own emergency vehicles.

A defining characteristic of the region's transportation network is the interdependence of its component systems. If private automobile traffic is disrupted, transit systems would be overwhelmed with new riders, most air passengers would be unable to get to the airport, and the 60% of commuter train riders who drive to the station would have to find an alternative. A breakdown in transit service would clog the roadways as bus and train riders headed for their cars. A disruption in rail freight systems could adversely impact commuter rail operations where passenger and freight share the same tracks, and could increase the number of trucks on the road.

Given the complexity of the transportation network and the multiplicity of modes, operating organizations and suppliers, it is difficult to assess how well all the elements of the system will do in responding to the Y2K challenge. However, assessments of major transportation

agencies—the Metropolitan Transportation Authority (MTA), New Jersey TRANSIT, the Port Authority of New York and New Jersey, TRANSCOM and the New York City's Year 2000 Project Office—indicate that most of the region's major providers have made significant progress in remediating, testing and contingency planning. Specific findings include the following:

- *Testing and remediation is nearing completion for "mission-critical" systems in the region's largest transit agencies.*
- *Major traffic and highway systems have largely been declared Y2K compliant.*
- *As with other sectors, the efforts of many smaller operators appear to be lagging.*
- *Electrical power and fuel supplies are the most critical external dependencies for the transportation network.*
- *Contingency planning is well underway, but they may not adequately address all areas of concern.*

PREPARATIONS IN ENVIRONMENTAL INFRASTRUCTURE SYSTEMS

The region's environmental infrastructure comprises three types of systems: water supply systems that deliver drinkable water; wastewater systems that collect, treat and dispose of sewage; and solid waste systems that are responsible for garbage collection and disposal. While there are distinct differences in the operations of these systems, they also bear many similarities from the perspective of Y2K preparation. Most of these common attributes lead to the conclusion that the risk of internal Y2K problems that will significantly disrupt regional water supply, sewer service or solid waste management is relatively low. These attributes, and other findings that are common to all three systems, include the following:

- *All three systems use pre-computer era technologies that have delivered smooth and largely uninterrupted service for several generations.*
- *All three systems are engaging in wide-spread planning for and remediation of Y2K problems.*
- *The internal culture of these systems places a high emphasis on types of advance planning and emergency response needed to avoid system failures that might result in widespread social disruption.*

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ABOUT RPA

For more than 75 years, Regional Plan Association has been the nation's most influential independent regional planning organization. Since 1922, RPA has worked to improve the quality of life in the 31-county New York-New Jersey-Connecticut metropolitan area by creating long-term comprehensive plans and promoting their implementation across political boundaries. On the basis of rigorous professional study, RPA recommends policy initiatives and physical and human infrastructure investments and involves the public in considering and shaping its future. RPA takes positions on major current public policy issues and works constructively and cooperatively on a non-partisan basis with public and private sector interests to advance its agenda.

- Industry regulators, Federal and state government, parent organizations and industry associations have engaged in various, ongoing programs of Y2K awareness and technical assistance that have provided further impetus to Y2K remediation efforts.
- Potential disruption of electric power supply is considered to be the most serious Y2K threat by the environmental system sources consulted.

In addition to these common findings, several observations concerning particular systems are particularly noteworthy.

WATER SUPPLY

- Small water supply systems serving between 25 and 1000 people are generally considered to be those most vulnerable to a disruption in water service from Y2K problems.
- Embedded chips are proving to be more technically difficult to remediate than hardware or software, and there may be some specific equipment failures and minor disruptions of water system operations as a result.
- Insuring an uninterrupted supply of water treatment chemicals is an important aspect of water supply contin-

gency planning.

WASTEWATER DISPOSAL & TREATMENT

- The greatest concern in the wastewater system is the reliability of electrical power to keep pumps operational.
- Some equipment failures may occur as a result of problems with embedded chips, and some disruption of treatment operations could follow.

SOLID WASTE MANAGEMENT

- Solid waste systems have a very small computer presence outside of administrative management functions (i.e., personnel, finance, etc.).
- Since solid waste collection and disposal is highly dependent on trucks and other vehicles, the availability of fuel and the operation of fueling facilities are regarded as the principal Y2K vulnerabilities.
- Solid waste operations would also be vulnerable to any significant and persisting transportation system disruptions.

For more information about RPA's Regional Y2K Initiative, to order the reports for \$10 each (all three for \$25), visit our website at www.rpa.org, or call Aram Khachadurian, Vice President, Program Development at 212.253.2727, x310. Or you may email him at aram@rpa.org.

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