
Detailed Fiscal Analysis

Bill provisions

The bill expands general civil immunity to local governments, the state, and state colleges and universities, so that they are immune from liability in a civil action if an injury, death, or loss to persons or property results from the failure of a computer system due to Year 2000 (Y2K) date recognition problems. Current law does not provide immunity from liability for Y2K problems. However, under current law, local governments, the state, and state colleges and universities would still be liable in situations where the public officer or employee acted with malicious purpose, in bad faith, or in a wanton or reckless manner.

Examples of major problems that may occur as a result of computer date misinterpretations of dates include delayed payroll systems, consumer services such as electricity and water and sewer and public welfare systems; failed security and 911 systems; and malfunctioning emergency medical equipment and traffic control devices.

Addressing the Y2K problem

The General Accounting Office (GAO) has identified four distinct phases of Y2K compliance projects for governmental agencies¹:

- A. Awareness
- B. Assessment
- C. Updating (Remediation)
- D. Testing

Major Y2K date recognition problems include¹:

1. **Odometer problem:** So-called because it's in the hardware. All computers have a system clock, and on December 31, 1999, some of those clocks will roll over like a car odometer that's reached its limit and will indicate the year as 1900 (or something else other than 2000), which will then be picked up by application or software programs.
2. **Leap years:** There are approximately 365.25 days per year. Every year that is exactly divisible by 4 is a leap year, except for years that are exactly divisible by 100, which are leap years only if they are exactly divisible by 400. Therefore, the year 2000 is a leap year because it is exactly divisible by both 100 and 400. People who didn't know this complete rule governing leap year wrote many software programs, and these programs will not recognize the year 2000 as a leap year.
3. **Two-digit year representations:** Computer programmers have been notoriously fond of representing years in two digits, e.g. 1997 as 97. They did this out of pressure to conserve computer memory, space on computer output forms, and for other reasons. Unfortunately,

¹ Rabin, William D. and Terrence P. Tierney. *The Year 2000 Problem, It's worse than we thought*. New York J.P. Morgan Securities Inc., Equity Research: May 15, 1997.

calculations based on two-digits will only work correctly within the century. For example, a 30-year mortgage taken out in 1992 will mature in the year 2022, but when you subtract the two year-in-centuries, you get (22-92) = -70 years, which is NOT the correct term of the loan. Nobody knows how many programs have been written in this fashion. The original programmers may have retired; the documentation may have been lost; and the sub-routines with the defect may have been promulgated throughout numerous seemingly unrelated programs.

Fiscal effects

Expanding civil immunity in this area could reduce or eliminate legal expenditures arising from the need to defend lawsuits and/or from civil court damage awards resulting from lawsuits involving the failure of computer systems due to year 2000 date recognition problems. These cost savings could be significant as it appears many local governments and some state agencies will not be fully Y2K compliant by the end of 1999. Even governments or agencies that have updated and tested all their computer systems may experience unexpected Y2K problems with their systems. According to a 1997 General Accounting Office, only about 25% of state and local governments will be ready by 2000.

State agencies in Ohio are in various phases of their Y2K projects. The Department of Administrative Services (DAS) sent directives in 1996 and 1998 to urge state agencies to begin the process of identifying, assessing, renovating, and testing computer systems that are critical to the agency or that would have catastrophic consequences if they fail. DAS also contracted with the Gartner Group and with Meta, two prominent IT firms, for guidance and technical assistance with planning for Y2K. The following table shows the status of compliance by major agencies.

STATUS OF CABINET AGENCY Y2K COMPLIANCE		
Agency	Scheduled Completion Date	% Complete
Administrative Services	October 1999	60
Aging	June 1999	95
Agriculture	April 1999	95
Alcohol and Drug Addiction Services	July 1999	90
Budget and Management	January 1999	100
Commerce	December 1998	100
Development	August 1999	80
Education	July 1999	85
Employment Services	July 30, 1999	88
Environmental Protection Agency	June 1999	90
Human Services	December 1999	67
Insurance	September 30, 1999	45
Lottery	December 1998	98
Mental Health	July 30, 1999	80
Mental Retardation and Developmental Disabilities	December 1999	71
Natural Resources	August 1999	83
Public Safety	July 1999	85
Rehabilitation and Correction	August 1999	70
Taxation	January 1999	100
Transportation	January 1, 2000	79
Workers' Compensation	September 1999	76

This data was obtained from the Y2K Competency Center section of DAS' web site on May 4, 1999 (www.oy2k.state.oh.us/Agencies.htm). The office regularly updates the state agencies' progress toward Y2K compliance.

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ⁱ United States General Accounting Office, *Year 2000 Computing Crisis: An Assessment Guide*, September 1997.