



Legislative Council Staff

Nonpartisan Services for Colorado's Legislature

FINAL FISCAL NOTE

Drafting Number: LLS 18-0326 Date: September 6, 2018
Prime Sponsors: Sen. Lambert; Williams A. Bill Status: Signed into Law
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Bill Topic: CYBER CODING CRYPTOLOGY FOR STATE RECORDS

- Summary of Fiscal Impact: State Revenue, State Expenditure, State Transfer, TABOR Refund, Local Government, Statutory Public Entity

This bill requires the state's Chief Information Security Officer to annually identify, assess, and mitigate cyber threats to the state and encourages the state to adopt and apply distributed ledger technologies in its data systems where feasible. State expenditures increase beginning in FY 2018-19.

Appropriation Summary: For FY 2018-19, the bill requires and includes an appropriation of \$5.1 million to the Department of Higher Education and \$250,000 to the Office of Information Technology.

Fiscal Note Status: The fiscal note reflects the enacted bill.

Table 1 State Fiscal Impacts Under SB 18-086

Table with 3 columns: Category, FY 2018-19, FY 2019-20. Rows include Revenue, Expenditures (General Fund, FTE), and Transfers.

## **Summary of Legislation**

This bill requires the state's Chief Information Security Officer (CISO) to annually identify, assess, and mitigate cyber threats to the state. The CISO is required to annually collect information through public agency enterprise cybersecurity plans in order to assess the nature of threats to data systems and the potential risks and liabilities. This requirement applies to all units of state government except the General Assembly and institutions of higher education, which are permitted to participate.

**State data systems.** In coordination with the Colorado Cybersecurity Council, the Office of Information Technology (OIT) and the Government Data Advisory Board, the CISO is encouraged to:

- develop and maintain a series of metrics and to assess the data systems of each public agency for the benefits and costs of adopting and applying distributed ledger technologies;
- consider developing public-private partnerships and contracts to allow capitalization of encryption technologies; and
- ensure that platforms incorporate the nonrepudiation (inability to deny the authenticity of signatures) of participating entities in virtual transactions.

**Department of State.** The Department of State is required to consider research, development, and implementation for appropriate encryption and data integrity, including distributed ledger technologies, after it accepts business licensing records and upgrades its business suite. When distributing data to other public agencies, the department is required to consider using distributed ledger technologies.

**Institutions of higher education.** The Department of Higher Education (DHE) is required to allocate appropriations made by the General Assembly to the governing boards of institutions of higher education participating in activities related to cybersecurity and distributed ledger technologies, such as blockchains. Institutions of higher education must provide student scholarships in accordance with the bill's requirements, which are based on the total amount of funding received. On or before October 1, 2019, and each October 1 thereafter, the DHE, in consultation with institutions that receive funding, is required to prepare a progress report using baseline data submitted to the DHE in April 2018. The bill outlines the criteria to be included in the report, which must be submitted to the Joint Budget Committee and the business and education committees of the General Assembly. The DHE and each institution that receives funding must also present these findings in their respective SMART Act hearings. During the 2021 SMART Act hearing, and every three years thereafter, the Joint Business Committee must make recommendations to the Joint Budget Committee about whether to continue this funding.

**Department of Regulatory Agencies.** The Department of Regulatory Agencies (DORA) is directed to, in conjunction with OIT, consider secure encryption methods, especially distributed ledger technologies, for its data systems.

**Office of Information Technology.** In the administration of any new major information technology project, the OIT, working with the affected state agency, must evaluate the potential use of blockchain and distributed ledger technologies as part of the project. OIT must also conduct an assessment and present recommendations for a blockchain implementation project to the Joint Technology Committee of the General Assembly.

**Local requirements.** A county or municipal government may not impose a tax or fee on the use of distributed ledger technologies by any private person or entity or require any private person or entity to obtain a certificate, license, or permit from any public agency to use distributed ledger technologies.

## **Background**

A distributed ledger is a database that is shared and synchronized across multiple sites. It allows transactions to have public "witnesses," and may improve security because all of the distributed copies need to be attacked simultaneously for an attack to be successful. Blockchains are an underlying technology that can be used in a distributed ledger. A blockchain is a continuously growing list of records, called blocks, which are linked and secured using cryptography (encryption). Each block typically contains a timestamp and transaction data.

## **State Expenditures**

The bill increases state General Fund expenditures in the OIT by \$250,000 and 1.0 FTE for FY 2018-19 and by \$155,325 and 1.0 FTE in FY 2019-20 and future years. In addition, ongoing expenditures of \$5.1 million per year are expected for institutions of higher education beginning in FY 2018-19. Other future costs are possible, as discussed below.

**Office of Information Technology.** Funds will be used to hire 1.0 FTE solutions architect and to contract a portion of the required assessment. Costs are assumed to begin in FY 2018-19. Ongoing expenditures of \$155,325 for the FTE begin in FY 2019-20.

**Institutions of higher education.** The bill grants permission to the University of Colorado to include distributed ledger technologies in its curricula and research and development activities, as well as to provide training to state and local government agencies. Costs of \$2.8 million are anticipated and appropriated for these purposes. Costs will increase to provide funding for the Colorado State University system (\$1.2 million for research and engagement), Colorado Mesa University (\$300,000 for professional education), community colleges (\$300,000 for professional education), Western State Colorado University (\$200,000 to expand offerings in information assurance, network security, hacking and malware), and Metropolitan State University of Denver (\$300,000). It is assumed that these costs will continue in future years.

Workload will increase for the DHE and institutions that receive funding in order to conduct the bill's required reporting. This workload can be accomplished without further appropriations.

**Future costs.** Depending on the outcome of the study and efforts by OIT, state agencies, including the Department of State and DORA, could incur future implementation-related workload and costs related to distributed ledger technologies. The fiscal note assumes that implementation requirements will be included in separate legislation or through the annual budget process once the assessment is complete and recommendations are made to the Joint Technology Committee.

## **Local Government**

The bill prohibits a county or municipal government from raising revenue through taxes, fees, certificates, and licenses related to distributed ledger technologies. As of this writing, it is assumed that revenue is not currently raised for these purposes.

**Effective Date**

The bill was signed into law by the Governor and took effect on May 30, 2018.

**State Appropriations**

For FY 2018-19, the bill requires and includes an appropriation of \$250,000 General Fund and an allocation of 1.0 FTE to the Office of Information Technology.

In addition, \$5,100,000 is appropriated to the Department of Higher Education for allocation to as follows:

- \$2,800,000 to the Regents of the University of Colorado;
- \$1,200,000 to the Board of Governors of the Colorado State University system;
- \$300,000 to the Trustees of Colorado Mesa University;
- \$300,000 to the State Board for Community Colleges and Occupational Education State System Community Colleges;
- \$300,000 to the Trustees of Metropolitan State University of Denver; and
- \$200,000 to the Trustees of Western State Colorado University.

**State and Local Government Contacts**

Counties	Higher Education	Information Technology
Municipalities	Revenue	