DEPARTMENT OF AUDITS AND ACCOUNTS

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January 29, 2018

Honorable Jay Powell
Chairman, House Ways and Means
133 Capitol
Atlanta, Georgia 30334

SUBJECT: Fiscal Note
House Bill 696 (LC 43 0759ER)

Dear Chairman Powell:

The bill would extend the existing sales tax exemption for computer equipment in O.C.G.A § 43-8-3(68) to include materials and non-computer equipment used in the construction, operation, and maintenance of high technology data centers (HTDC) that meet certain criteria. A qualified HTDC must result in an investment of at least $250 million over ten years. The bill has no effective date but for purposes of the analysis is assumed to be July 1, 2018.

Any estimate of revenue impact is dependent on the number and size of eligible HTDCs that locate in Georgia. Georgia State University's Fiscal Research Center (FRC) estimated the fiscal impact for a range of new HTDC activity. In FY 2020, the first year of the bill's full effect, FRC estimated a $15.2 million reduction in state revenue and $11.4 million reduction in local revenue (Table 1). The high estimate assumes a "hyperscale" HTDC locates every year and smaller scale qualifying projects locate in FY 2021-2023. The lower estimate assumes a "hyperscale" project in FY 2019 and FY 2020 and smaller scale projects locating in subsequent years. Details of the analysis are in the attached appendix.

Table 1. Estimated State and Local Revenue Loss

($ *millions*)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
State Revenue Effects:					
High	$7.6	$15.2	$19.1	$15.6	$17.1
Low	$7.6	$15.2	$11.5	$8.0	$8.2
Local Revenue Effects:					
High	$5.7	$11.4	$14.3	$11.7	$12.8
Low	$5.7	$11.4	$8.6	$6.0	$6.2

Impact on Expenditures
The bill would not result in significant new expenditures by the Department of Revenue.

Sincerely,

Greg S. Griffin
State Auditor

Teresa A. MacCartney, Director
Office of Planning and Budget

GSG/TAM/mt

Analysis by the Fiscal Research Center

The proposed bill requires that the HTDC meet several criteria, including in particular a minimum investment threshold of $250 million in total cost over its initial 10 years of operation. An HTDC is defined to mean "a facility, campus of facilities, or array of interconnected facilities in the state that powers, cools, secures, and connects the computer equipment of customers, tenants, or licensees of a data center owner and operator." Other requirements include:

- Data center construction
  - with dual, nonflammable roof rated for 200 mile per hour wind speeds, and
  - without flammable materials;
- Cooling system technology that can cool the computer equipment indefinitely without water;
- Can maintain shelter-in-place security and operations for 100 hours;
- Offering denial of service mitigation services

High technology data center equipment includes all "materials, components, machinery, hardware, software, or equipment ... used to" create, operate, and protect the data center or generate or deliver power, environmental conditioning, and telecommunications services in the data center. Thus the exemption would apply to substantially all tangible personal property used to build, operate, or maintain the HTDC.

Note, however, that computer equipment sold to companies classified under certain technology-related NAICS codes is already exempt from sales tax under O.C.G.A. §48-8-3(68) without the proposed amendments to that code section. Among those NAICS codes are ones that arguably encompass some or all HTDCs, e.g. 541513 Computer Facilities Management and 541513 Other Computer Related Services. NAICS codes are classifications of convenience for statistical purposes of government agencies and others, and larger enterprises, in particular, may operate under many NAICS classifications at the same time or over time. Thus it is assumed that any given HTDC qualifying for the proposed exemption would also qualify for the existing exemption for the computer equipment installed in the center. The effect of the proposed exemption would be to extend the exemption to materials and non-computer equipment used in the construction, operation, or maintenance of the HTDC.

However, the language of subparagraph (B)(i) appears to suggest that computer equipment sold to a purchaser that is not a "high-technology business" as defined by the NAICS codes in the law may nevertheless be eligible for the computer exemption if such equipment is "to be incorporated or used in a [HTDC]." If so, then computers owned by lessees of HTDC space that are not themselves high-technology businesses may be made eligible for exemption under the proposed bill, increasing the revenue impact. Unfortunately, it is not possible at this time to estimate the amount of such otherwise ineligible computer equipment that *may* be made eligible by the proposed bill under this interpretation.

Data Center Industry Overview

The types of data centers likely to meet the investment threshold and other qualifying specifications described above are large-scale centers such as those being built by or for firms offering colocation, cloud storage and hosting, and similar services including, for example, well-known names like AT&T, Apple Computer, Google, Microsoft, Amazon Web Services, and Oracle. A host of other data center owners and operators are less well-known, but also actively expanding, including several that are structured as Real Estate Investment Trusts to develop, own, and lease data center space to service-providers like those listed above as well as to any other business enterprise in need of data center space. Among the largest of these are Digital Realty Trust, Equinix, Switch, CyrusOne, Stream Data Centers, T5 Data Centers, CloudHQ, and QTS Data Centers, which owns and operates in Atlanta the ninth largest U.S. data center as of 2016, according to Site Selection Group. Finally, some of the firms listed above (e.g. Amazon and Google) and others like Facebook have a large digital presence in their core businesses and thus have been building networks of data centers to meet their own internal needs. Facebook, for example, opened its first company-operated data center in 2009 and now operates centers in at least five states and three foreign countries, with more locations in planning or under construction. Recently, a number of firms have announced plans to develop or expand data center campuses, including Facebook, Switch, CyrusOne, and QTS.

There are currently an estimated 1,444 data centers operating in the U.S. and 49 in Georgia, according to Wired Real Estate Group, though most of these are enterprise data centers or others that, if built today, would be unlikely to meet the investment threshold or other requirements for the HTDC exemption. According to Site Selection Group, the Atlanta metro area ranked as the tenth largest data center market in the U.S. in 2015, while Cushman & Wakefield ranks it as the eighth fastest-growing U.S. market in 2016.

New data centers or expansion projects most likely to qualify for the HTDC exemption are what the industry often refers to as "hyperscale" data centers, defined as such more by their architecture and scalability than by size, but tending to be very large in terms of space and energy-handling capacity. Industry news and research publisher Datacenter Dynamics estimates that there were 300 hyperscale data centers globally as of December 2016, up from 259 in 2015, with 135 of those facilities in the U.S., 45 percent of the total. Networking equipment company Cisco projects 485 hyperscale data centers globally by 2020, which would imply at least 59 new centers in the U.S. alone over four years, or nearly 15 per year, if it maintains only a 40% percent share.

Some examples of hyperscale projects built in recent years or announced in recent months are provided below:

- Facebook – Newton County, GA
  - 400 acres
  - $20 billion invested over two decades (five phases)
    - Initial investment of $1 billion (first phase)
- Switch – Douglas County, GA
  - 1 million sq. ft.
  - $2.5 billion
  - 100 percent powered by renewable energy sources

- CyrusOne – Chandler, AZ (Chandler I-V)
  - 641k sq. ft. in five phases starting 2011, last two to be completed 2017
  - Critical load capacity of 54MW
  - Total investment ~$321 million for buildings and improvements* (Chandler V includes powered shell only)
- Dupont Fabros (now Digital Realty) – Ashburn, VA (Ashburn Corporate Center #4-7)
  - 1,415k sq. ft. in four phases built from 2007 through 2016
  - Critical load capacity of 41.6MW
  - Total investment ~$1,388 million for buildings and improvements*
  - Two more centers (ACC9 & 10) under construction and two other parcels at same site (ACC8 & 11) held for future development
- Stream Data Centers – Chaska, MN (build-to-suit for US Bancorp)
  - 56k sq. ft., projected completion December 2017
  - Total cost $250 million
  - Critical load capacity 2.4MW
- Facebook Inc. – Fort Worth, TX
  - 660k sq. ft. in three buildings, broke ground July 2015, first two operational 2016-2017, third begun 2017
  - Total investment ~$767 million (estimated) for buildings and improvements*
  - Permit drawn for third building (220k sq. ft.) with estimated construction cost of $267 million
- Apple Inc. – Waukee, IA
  - Announced August 2017, planned operational 2020
  - 400k sq. ft.
  - Total investment ~$1,265 million
    - $620 million for buildings and improvements*
    - $45 million for non-computer equipment
    - $600 million for computer equipment

  * includes electrical and mechanical systems and equipment; excludes land

Key Assumptions and Fiscal Effects

Assumptions of the characteristics of hyperscale and minimum investment projects follow below, along with high and low case projection assumptions. Resulting projections of investment amounts for FY 2019-23 that would be exempted by the bill are provided in Table 2.

- Individual project initial investment total
  - Hyperscale Project: $1.25 billion (assumes similar scale to Apple IA project, incl. computers)
  - Minimum Investment Project: $250 million (assumes similar scale to Stream MN project, incl. computers)
- Building and improvements (B&I) portion (50 percent of total)
  - Hyperscale Project: $625 million
  - Minimum Investment Project: $125 million

- Taxable portion of B&I (materials, fixtures, and equipment)
  - Approx. 53 percent based on Apple materials tax rebate of $19.6 million on $620 million cost at 6 percent Iowa state sales tax rate
    - Hyperscale Project: $330 million
    - Minimum Investment Project: $66 million
- Non-computer equipment (equipment not part of B&I)
  - Hyperscale Project: $50 million
  - Minimum Investment Project: $10 million
- Investment subsequent to initial phase (annual, roughly 5 percent of B&I)
  - Hyperscale Project: $31 million
  - Minimum Investment Project: $6 million
- Project Buildout Timing
  - Hyperscale Project: Initial investment over 2 years
  - Minimum Investment Project: Initial investment over 1 year
- Number of Projects Initiated
  - High Case:
    - New hyperscale project initiated every year beginning in FY 2019
    - Minimum investment project initiated in FY 2021 and each subsequent year
  - Low:
    - New hyperscale project initiated in FY 2019 and FY 2020
    - Minimum investment project initiated in FY 2021 and each subsequent year

Table 2. Taxable Investment Absent Proposed HTDC Exemption

(*$ millions*)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
High Case	$190	$380	$477	$390	$427
Low Case	$190	$380	$287	$200	$206