SENATE COMMITTEE ON
BUSINESS, PROFESSIONS AND ECONOMIC DEVELOPMENT
Senator Angelique Ashby, Chair
2025 - 2026 Regular

Bill No:	AB 940	**Hearing Date:**	June 23, 2025
Author:	Wicks		
Version:	March 24, 2025		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Sarah Mason		

Subject: Quantum Innovation Zones

SUMMARY: Authorizes the establishment of a Quantum Innovation Zone according to specified conditions.

NOTE: This measure is double-referred to the Senate Committee on Local Government, second.

Existing law:

1) Establishes GO-Biz within the Governor's office for the purpose of serving as the lead state entity for economic strategy and marketing of California on issues relating to business development, private sector investment and economic growth. (Government Code (GC) §§ 12096 et. seq.)

2) Authorizes GO-Biz to develop content in order to provide information and resources to inform the general public about place-based and other geographically targeted economic development programs, including, but not limited to, federal Promise Zones within California that are designated by the United States Department of Housing and Urban Development; and Opportunity Zones designated by the United States Treasury. Requires GO-Biz to at least annually convene representatives from various programs and agencies across the state and from various federal programs and agencies for the purpose of discussing how California can leverage Promise Zones and Opportunity Zones to meet state and local community and economic development needs. (GC § 12097.5)

3) Authorizes the establishment of a GEZ for the Northern Waterfront area of Contra Costa County until January 1, 2028 with a specified geography and stated purpose to build upon the comparative advantage provided by the regional concentration of highly skilled energy industry workers by prioritizing access to tax incentives, grants, loan programs, workforce training programs, and private sector investment in the renewable energy sector. Specifies that various cities in Contra Costa County, one city in Solano County, and Contra Costa County may be included in the GEZ upon adoption by the city or county legislative body that states intent to participate in the GEZ. Authorizes the GEZ board of directors to vote to include additional jurisdictions in the GEZ membership. (Government Code (GC) § 7599.100)

4) Specifies that the GEZ is comprised of representatives from stakeholder groups who serve as directors (GEZ Board). (GC § 7599.101)

5) Tasks the GEZ with: identifying projects and programs that best utilize public dollars and most quickly improve the economic vitality of the Northern Waterfront area of the County of Contra Costa; working with members of Congress and federal officials to gain federal support for projects identified as critical; partnering with the UC, the California State University, community colleges, and the state's other research and educational institutions, as well as private foundations; reviewing state policies and regulations; making recommendations to the Governor that would improve the economic well-being of the region and the quality of life of its residents and; creating an internet website that is managed and updated by an entity designated by the board of directors. (GC § 7599.102)

6) Requires a GEZ Board steering committee, on or before January 1, 2023, to develop metrics to be reported to the Legislature and state departments and agencies gauging the progress of the zone that include, but are not limited to jobs, wages, grants, and workforce training. Requires the GEZ, beginning January 1, 2023 and on or before January 1 of each year to post a report on its website and submit a letter to the Legislature informing that it has been posted. (GC § 7599.103)

This bill:

1) Authorizes the establishment of a Quantum Innovation Zone (QIZ) by two or more cities and counties upon the adoption of a resolution by the legislative body of each city and county that states the intent of the city or county to participate in the Quantum Innovation Zone. States that the purpose of a QIZ is to build upon California's comparative advantage provided by its concentration of academic, scientific, and technological assets, coupled with a highly skilled workforce, thereby prioritizing access to tax incentives, grants, loan programs, workforce training programs, and private sector investment in the quantum computing sector.

2) Specifies the representatives of stakeholder groups who comprise the QIZ board of directors (QIZ Board) and establishes a framework to determine: how QIZ Board members are confirmed; how Chairs are determined; how an executive board is selected and; conflict of interests and recusal processes if a conflict exists. Prohibits a QIZ Board member from using the name of the QIZ on any letterhead, business code, or identification badge unless the person has been authorized by the QIZ Board to do so.

3) Requires the QIZ to:

   a) Identify projects and programs that will best utilize public dollars and most quickly improve the economic vitality of the QIZ, especially those that leverage federal, state, local, and private sector resources in a coordinated effort to support the development of the quantum computing economy.

   b) Work with members of the state's congressional delegation and federal officials, including any relevant federal interagency task force, to gain federal support for projects identified by the zone as critical to the region's quantum computing economy.

c) Partner with the University of California, the California State University, community colleges, and the state's other research and educational institutions, as well as private foundations, to provide guidance, advice, and encouragement in support of studies of particular interest and importance to quantum computing and related industries.

d) Review state policies and regulations to ensure they are fair and appropriate for the state's diverse geographic regions, including the QIZ, and determine whether alternative approaches can accomplish goals in less costly ways.

e) Make recommendations to the Governor that would improve the economic well-being of the region encompassing the QIZ and the quality of life of its residents.

f) Create and maintain an internet website that is managed and updated by an entity designated by the board of directors.

4) Requires the QIZ Board to appoint a steering committee and, on or before one year after the establishment of a QIZ, submit a progress report submitted to the Legislature and state departments and agencies that is also posted on the QIZ website, based on metrics the steering committee develops that include: the number of jobs that were gained and lost in the quantum computing sector and related industries; the average wage of the jobs gained in the quantum computing sector and related industries; the number and types of grants solicited and received by, or on behalf of, the QIZ; the type and amount of workforce training conducted in the QIZ, by whom it was provided, and the amount of capital investment attached to provision of that training.

5) States findings and declarations that:

a) Earth is at a pivotal juncture in human history prompted by a scientific paradigm shift. Quantum entanglement is a nonintuitive but powerful property of the natural world, at the atomic and subatomic level, where two or more quantum systems become so connected that they affect each other even when separated by large distances. The essentials of this phenomenon have been known for over 100 years, but we now understand that quantum physics has the potential to fundamentally change the world of computing. The implications for society are astounding.

b) The theory of quantum mechanics was developed early in the 20th century to explain the counterintuitive wavelike and particulate behavior of atomic and subatomic matter. In the 21st century, humanity has begun to harness quantum mechanics to develop an array of diverse technologies that can make quantum computing a reality. California research institutions are at the forefront of pioneering these techniques.

c) Computers are designed to complete mechanical tasks rapidly and repeatedly. Yet storing data as binary bits with values of 0 and 1 has inherent limitations. The size of the computer grows linearly with the size of the problem. We are also reaching the physical limits of silicon semiconductor technology, with growth in speed and capacity described by Moore's Law coming close to its end point.

d) If society does not shift its computing strategy, by 2050, as much as 40 percent of global energy consumption could come from maintaining and cooling computers. This would be untenable for the planet.

e) Quantum bits (qubits) do not have precise values of 0 or 1. They simultaneously sample both values with probabilities intimately tied to the values of other qubits through entanglement. As a result, the size of the calculations they perform grows exponentially with the number of qubits. Quantum computers require orders of magnitude less energy and can tackle problems that would never be possible with conventional computers.

f) As economic competition grows and businesses choose to go where there is investment, California has limited time to leverage its unmatched technological and scientific assets to lead the next generation and drive new economic growth.

FISCAL EFFECT: This bill is keyed fiscal by Legislative Counsel. According to the Assembly Committee on Appropriations, the bill will result in minor and absorbable costs to the Legislature and state agencies to receive QIZ reports.

COMMENTS:

1. **Purpose.** The Author is the Sponsor of this bill. According to the Author, “quantum computing has the potential to fundamentally change the world of computing, and California is uniquely positioned to be a leader in this cutting edge technology. The state is home to world-class research institutions, trailblazing tech companies, and a highly skilled workforce that have driven innovation for decades. AB 940 reaffirms California's support of technological advancement by creating a pathway for the establishment of Quantum Innovation Zones, which will allow these stakeholders to come together as organized entities governed by a board of directors. The establishment of these zones will further knowledge sharing, boost economic vitality, enhance workforce development training, and bolster California's place as a leader in the world of quantum computing.”

   The Author adds that “California is behind many other states in recognizing the potential of quantum computing for what is very likely to be its revolutionary impact on society, the economy, and national security. Quantum computing is an emerging field of cutting-edge computer science harnessing the unique qualities of quantum mechanics to solve problems beyond the ability of today's most powerful computers. For a quantum computer, challenges that might take a classic computer thousands of years to complete may be accomplished in minutes.

   California has long been the national leader on technology-Silicon Valley has led on research and innovation for decades, and our State continues to be the world's largest hub for technology. Many of the world's largest tech companies were started and/or are based in the State, and California's current policymakers are continuing to position the State aggressively relative to Artificial Intelligence.

   However, other states are now making direct, substantial investments into quantum innovation, and as economic competition grows, businesses will look to establish

themselves in regions with more favorable investment environments. A spotlight is being placed on the vast potential of quantum computing-the U.N. proclaimed 2025 as the International Year of Quantum Science and Technology, and U.S. Senators have introduced the National Quantum Initiative Reauthorization Act, authorizing $2.7 billion over five years to advance practical applications in quantum technology.

At this critical moment, California has limited time to establish itself as a leader in quantum innovation to retain and grow the state's quantum businesses and workforce and to access significant federal funding. Without state buy-in, we risk missing the opportunity to be at the forefront of this revolutionary technology.

California's top competitors in quantum such as Harvard and the University of Chicago are now constructing new research facilities totaling tens of thousands of square feet and creating complementary educational programming. As a result, California-trained talent are beginning to pursue research and start companies elsewhere because other governments are offering critical incentives and infrastructure investments. California cannot afford to educate a quantum-ready workforce, only to have them to leave the State to work elsewhere…other states are now making direct, substantial investments into quantum innovation."

2. **Background.** In February 2010, the Little Hoover Commission undertook a review of the state's economic and workforce development programs. In its final report, *Making up for Lost Ground: Creating a Governor's Office of Economic Development*, it analyzed the status and effectiveness of current programs since the 2003 demise of the Technology, Trade and Commerce Agency and recommended the creation of a new governmental entity to fill the void left by the dismantled agency.

   The report called for a single entity that would promote greater economic development, foster job creation, serve as a policy advisor and deliver specific services (i.e., permitting, tax, regulatory, and other information) directly to the California business community. In April 2010, Governor Schwarzenegger issued Executive Order S-05-10 as a means to operationalize the report recommendations including the creation of the Governor's Office of Economic Development (GOED).

   In October 2011, the Governor signed AB 29 (John A. Pérez, Chapter 475, Statutes of 2011), which effectively codified GOED and changed its name to GO-Biz. Since its inception, the office has served thousands of businesses, 95 percent of which are small businesses. The most frequent types of assistance include help with permit streamlining, starting a business, relocation and expansion of businesses, and regulatory challenges.

   In March 2012, Governor Brown initiated a reorganization process to realign the state's administrative structure. Key changes include dismantling of the Business, Transportation and Housing Agency and the shifting of a number of key programs to GO-Biz including the Small Business Loan Guarantee Program, the California Travel and Tourism Commission, the California Film Commission, the Film California First Program, and the Infrastructure and Economic Development Bank (IBank). Currently, GO-Biz administers the following programs and units:

- Made In California program for the purpose of encouraging consumer product awareness and to foster the purchases of products manufactured in California.

- The California Inclusive Innovation Hub Program (iHub2) to incubate and/or accelerate technology and science-based firms, with a focus on underserved regions and communities.

- The California Competes Tax Credit Program under which "businesses who want to come to California or stay and grow in California" can receive an income tax credit.

- The California Business Investment Services Unit, which provides no-fee, tailored site selection services to employers and others who may be considering California for relocation or expansion.

- The California Business Portal, which provides information to California businesses about common questions, permitting, financial options, and more.

- The California Community Reinvestment Grants Program, which was included in Proposition 64, authorized GO-Biz to award grants to local health departments and certain nonprofit organizations to support communities disproportionately affected by the War on Drugs.

- Office of the Small Business Advocate which provides information and assistance to small businesses.

- The Zero Emission Vehicles (ZEV) Infrastructure Unit which works to accelerate the deployment of ZEV infrastructure.

- The International Affairs and Business Development Unit, which serves as California's primary point of contact for expanding international trade and investment relations. This unit focuses on foreign direct investment (services for foreign investors, foreign investment technical assistance, and the EB-5 Investor Visa Program), international trade promotion (STEP program, trade missions, export assistance, and the California-China Trade Office), and international agreements.

In 2022, GO-Biz established the Community and Place-Based Solutions Team (Team) to support local governments, non-profits, community-based organizations, colleges and universities, and other economic development partners in their community development needs. The Team provides key technical assistance for community and economic development planning. According to the Team's website, place-based economic development strategies are initiatives to encourage economic and community development activity in defined geographic areas. Many communities have started emphasizing place-based strategies to strengthen hyperlocal activities around physical place, economic conditions and social infrastructure. Place-based economic development strategies include a variety of approaches to incentivize investment in disadvantaged communities, including

funding for infrastructure & public facilities, job creation & workforce development, affordable & workforce housing, and more.

In February 2025, the *California Jobs First State Economic Blueprint* was released, following the establishment of a state Regional Investment Initiative (RII) in 2021. The report noted that the RII brought together "a diverse set of community members to build the economic vision for their region". 13 economic regions were identified: North State, Redwood, Capital, Sierra, Bay Area, North San Joaquin, Central San Joaquin, Central Coast, Kern County, Los Angeles County, Inland SoCal, Orange County, and Southern Border.

Promise Zones and Opportunity Zones as Efforts to Increase Economic Development. In the last decade, efforts such as Promise Zones and Opportunity Zones have emerged as a way to support the country's most disadvantaged and economically-distressed geographical locations and communities. Generally speaking, Promise Zones are high-poverty areas that are eligible for various tax credits in order to create jobs and spur investment. These zones also receive governmental aid and partnership in the form of assistance to reduce crime and recidivism, as well as increase educational opportunities. There are currently 22 Promise Zones in the United States.

Originally created via the federal 2017 Tax Cuts and Jobs Acts, Opportunity Zones are economically-distressed areas where private investments may be eligible for capital gain tax incentives, under certain conditions. According to the Brookings Institute, "Opportunity Zones offer favorable capital gains treatment for taxpayers with unrealized gains who invest in designated low-income communities." Only investors with pre-existing capital gains and those who anticipate facing future capital gains taxes qualify for Opportunity Zone tax benefits. Both of these efforts are examples of programs meant to increase economic development in areas that need assistance.

Green Enterprise Zones. In response to state mandates related to greenhouse gas emissions reduction mandates and goals to produce a clean-energy economy in the coming decades, AB 844 (Grayson, Chapter 377, Statutes of 2021) established a Green Enterprise Zone (GEZ) in Contra Costa County, the statutory framework for which this bill follows very closely. Following the passage of AB 844, Contra Costa County received $5 million in the state budget for one-time startup funding for the GEZ. The GEZ is administered by Contra Costa County and the GEZ Board convened for the first time on December 7, 2023.

Quantum Technology. According to the National Quantum Initiative, "Quantum Information Science (QIS) emerges from a deeper consideration of how quantum physics (our description of the world at the microscopic level) has implications for information science (how real systems like computers process information). Quantum information technology takes advantage of the fundamentally quantum properties of matter to design new types of computers, sensors, and networks which enable new speed, precision, or functionality. Building on key QIS scientific discoveries since the 1980s, pioneering experiments starting in the 1990's, quantum engineering from the 2000s, and commercial activity today, the world is on the cusp of a second quantum revolution. The prospects for innovation fueled by QIS, with

implications for our economic prosperity and national security, motivate an all-of-government and all-of-nation approach to coordinating QIS activities in the United States."

An August 2024 report of the Subcommittee on Quantum Information Science, of the Committee on Science, of the National Science & Technology Council notes that "Quantum information science and technology (QIST) is a critical and emerging field that could revolutionize the way information is collected, processed, and transmitted…Due to the many potential societal benefits of QIST, the field is being enthusiastically pursued around the globe."

3. **Arguments in Support.** Supporters write that QIZs can build upon California's comparative advantage in quantum computing that is provided by our concentration of academic, scientific, and technological assets and coupled with a highly skilled workforce. This will prioritize state access to tax incentives, grants, loan programs, workforce training programs, and private sector investments in the quantum sector. According to supporters, this bill will also foster the development of coordinated programs for workforce development, ensuring that a diverse and talented workforce is trained here and note these zones represent a unique opportunity to strategically bring together California's leading industry experts, skilled workforce, and world-class research institutions. According to supporters, AB 940 helps ensure that California remains at the forefront of this next frontier in computing.

SUPPORT AND OPPOSITION:

Support:

Bay Area Science and Innovation Consortium
IonQ
Microsoft Corporation
Technet
University of California

Opposition:

None received

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