Research Brief
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Kem C. Gardner POLICY INSTITUTE
THE UNIVERSITY OF UTAH
DAVID ECCLES SCHOOL OF BUSINESS

Market Assessment

Air Quality / Changing Climate Solutions Laboratory

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Executive Summary

The redevelopment of the Utah State Prison property in Draper, Utah, presents a significant opportunity for a generational investment in Utah's economic future. Of the 600 acres at the prison site, a portion is being considered for a university-led innovation district that solves difficult challenges and creates high quality jobs in Utah. One of these challenges, and a platform for future innovation, is air quality and a changing climate.

Utah community leaders seek to invest in an air quality/changing climate solutions laboratory at The Point (the name selected for the redevelopment of the prison site by the Point of the Mountain State Land Authority). Gov. Spencer Cox signaled his support in his strategic plan known as the *One Utah Roadmap*, and the Utah Legislature made an appropriation in the 2021 General Legislative Session to plan a university-led, public-private Innovation District at The Point. Both actions are consistent with a recommendation made in *The Utah Roadmap: Positive Solutions on Climate and Air Quality* (2020) to create a research laboratory to help address Utah's air quality challenges and make a meaningful contribution to climate research.

This market assessment explores the background and history of university research parks; considers the research scope, limitations, and characteristics of an air quality/changing climate laboratory; identifies potential governance of the lab; assesses the value of technology infrastructure; and summarizes the economic value of developing an Innovation District at The Point. It also posits next steps for development of an air quality/changing climate solutions laboratory, including the formation of an exploratory team, visits to national laboratories, and development of a formal, site-specific feasibility study.

Key Findings

This study confirms the value of a research facility addressing Utah's unique environmental challenges. Scope exists for other platforms of innovation, such as health technology, energy, life sciences, smart cities, and outdoor products.

We summarize below 12 key findings.

1. **Utah's air quality history confirms the need for solutions.** Wasatch Front inversions form because of bowl-like basin characteristics that seal in air pollutants. Researchers seek improved understanding of how precursors lead to formation of fine particulate matter that causes health effects ranging from respiratory symptoms to suicide to pre-term birth and decreased birthweights.

2. **Technology is highly valued in Utah's economy.** IT and e-commerce tech companies have spurred Utah job growth, averaging 4.9% per year from 2008 to 2018, and accounting for 6.4% of total private employment.[1] The technology sector was directly and indirectly responsible for 18.0% of Utah GDP in 2018. Green technology companies in Utah are poised to meet environmental challenges along the Wasatch Front and in the Uinta Basin.

3. **Utah's business community seeks improvement of local air quality.** In 2017, Utah business leaders noted difficulties in attracting talent to Utah because of poor air quality. Wasatch Front cities Salt Lake-Orem-Provo rank ninth in the American Lung Association's 2020 Top 10 Cities Most Polluted by Short-Term Particle Pollution (24-hour $PM_{2.5}$). Particle pollution may cause asthma attacks, hearth attacks, and lung cancer.[2] Economists warn that talented labor—whether here or being recruited to come here—views air quality as a significant factor in location decisions.

4. **International researchers study air quality issues created by the unique topography of the Wasatch Mountain Range.** The Wasatch Mountains, Oquirrh Mountains, and Traverse Mountain form a basin that traps cold air in the Salt Lake Valley and shields it from the stronger winds aloft that could clear out inversions. Utah inversions often occur after a snowstorm. The snow cover makes the air colder near the ground, and the clear skies warm the upper atmosphere. If a high-pressure system moves in, the gradual sinking of warm air acts as a cap over the cooler air, much like a lid over the valley bowl. The longer a high-pressure system lasts, the longer and stronger the inversion and the worse the air quality.

   Air quality data from both light rail and stationary monitoring sites in Utah provides years of data for researchers to analyze. The University of Utah has established its Wasatch Environmental Observatory, a network of sensors and instruments along the Wasatch Front, providing an existing framework for future opportunities such as the Air Quality/Changing Climate Solutions lab.

   While particulate matter (PM) concentrations have declined elsewhere in the United States, several western basins have continued wintertime PM concentrations that have not decreased. A gap in understanding the role of meteorology, atmospheric chemistry, and formation of PM precursors has slowed progress in reducing PM concentrations. AQUARIUS (Air Quality in the Western United States) will mount an aircraft campaign in the winter of 2022/2023 to investigate wintertime PM formation in mountain basins of the western U.S.[3]

5. **2030 or 2034 Olympic Winter Games.** Salt Lake City is America's choice to host the next Olympic Winter Games. Demonstrated air quality improvements will strengthen Utah's bid. After Salt Lake City hosted the 2002 Winter Olympics, the 2008 Summer Olympics in Beijing called attention to health impacts of particulate matter (PM_{10}) in the air. To safeguard Olympic athletes, the Chinese government imposed severe measures such as temporary factory closures, limiting automobile circulation based on odd-even license plate numbers, and unilaterally raising motor gasoline prices to discourage automobile travel. Since the Beijing measures for improving air quality are not viable for U.S.-hosted Olympic Games, a successful Utah bid for the 2030 or 2034 Olympic Winter Games would benefit from research and technology that improve Wasatch Front air quality.

6. **Recent land use decisions make development of an air quality/changing climate lab favorable.** The relocation of the Utah State Prison in Draper to the Northwest Quadrant of Salt Lake City frees up acreage in the south end of the Salt Lake Valley at the heart of Utah's Silicon Slopes. The technology-oriented activities of an air quality/changing climate laboratory will benefit from proximity to the technology activities of Silicon Slopes. The 600-acre prison site becomes available in 2022. The Point of the Mountain State Land Authority is currently evaluating site development options including an Innovation District.

7. **Promising tech industry opportunity.** Utah's 10-year annual tech industry growth was second highest in the U.S. between 2008 and 2018, and the industry had the fifth-highest share of employment among all states.[4] Eighty percent of Utah's tech sector jobs are in Utah and Salt Lake counties, where the state's three largest universities, Brigham Young University, the University of Utah, and Utah Valley University, are located. Average annual compensation is $106,100 in the tech sector, nearly 80% higher than compensation in other industries.

8. **Proximity to the Idaho National Laboratory (INL) and the National Renewable Energy Laboratory (NREL).** Utah's air quality/changing climate lab would reside between two national laboratories offering potential collaboration and cooperation. INL offers a Cooperative Research and Development Agreement (CRADA) for joint work on new technologies. INL personnel frequently sit on advisory boards for technology companies, offering insight and expert guidance.[5] NREL offers 1) access to an Innovation and Entrepreneurship Center, 2) an Innovation Incubator offering $250,000 non-dilutive grants to validate proof of concept, and 3) a GameChanger Accelerator providing access to financial resources, lab facilities, and advice from subject matter experts.

9. **Point of contact for Utah-based green technology entrepreneurs and researchers.** An innovation hub is a support structure for new technologies. The air quality/changing climate lab offers a location for academics and entrepreneurs to gather on a regular schedule. The slate of green technology work from Utah's universities currently includes:
   - The National Science Foundation awarded $26 million to Utah State University for a research center to advance sustainable, electrified transportation.
   - Weber State University is the site of the National Center for Automotive Science and Technology. Cars, trucks, and other mobile sources account for 48% of the Wasatch Front's air pollution during inversions.
   - The Department of Energy awarded $140 million over five years to the University of Utah for establishment of a Frontier Observatory for Research in Geothermal Energy (FORGE) focused on developing enhanced geothermal systems.

10. **Utahns are concerned about health impacts of poor air quality.** Utahns value a high quality of life, featuring good outdoor recreation and robust economic development. Poor air quality detracts from the quality of life and is regularly listed in the top three issues identified by Utahns.[6] Poor air quality discourages outdoor activity by residents and affects decisions made by visitors about where to travel. Local medical professionals have published numerous Utah-based health studies on health impacts caused by poor air quality. Demographic groups bearing the greatest health risks are pediatric, maternal, and geriatric.

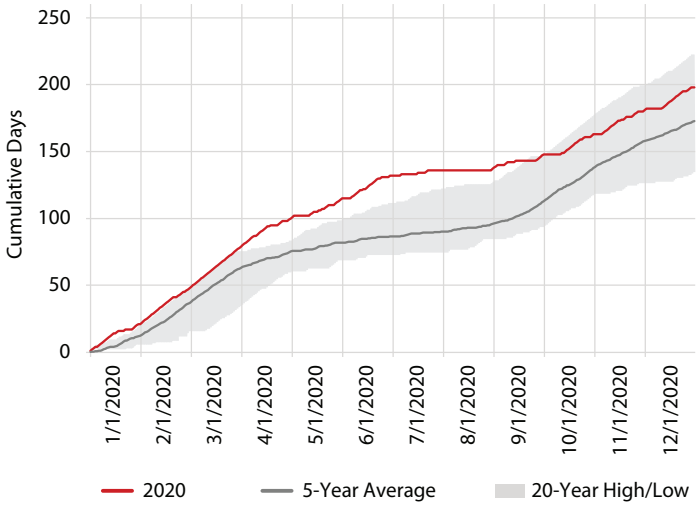
11. **Data collected by monitors on Salt Lake City's light rail system (TRAX), stationary equipment, and roving automobiles provide researchers with a significant database.** Characterization of Salt Lake Valley's air quality has been enhanced by:
   - TRAX train cars deploy onboard sensors to observe variations in pollutants (ozone and particulate matter) and greenhouse gases (methane and carbon dioxide) across the Salt Lake Valley. This project allows continuous observation of pollutant concentrations on all TRAX lines.
   - Stationary equipment located in Salt Lake Valley measures criteria pollutants. Equipment in Sugarhouse, the University of Utah, and southwest Salt Lake Valley measures carbon dioxide.
   - Roving automobiles have gathered criteria pollutant data in Salt Lake Valley over an eight-month period. Salt Lake was one of four cities globally that collected street-by-street pollution data.

12. **Potential for lasting environmental impacts in Utah.** The COVID-19 pandemic proved that reductions in vehicle traffic associated with shelter-in-place orders significantly improved air quality along the Wasatch Front. In March 2020, Utah Governor Gary Herbert declared a state of emergency. Ten days later Salt Lake County issued a public health order closing business and commercial activities. The reduction in vehicle traffic created immediate improvements in air quality.

    Good air quality index (AQI) days are a function of ozone and particulate matter ($PM_{2.5}$) levels. Figure 1 shows Salt Lake County was consistently above the 20-year band of cumulative good AQI days during the pandemic. Reduced vehicle traffic created air quality improvements through the first nine months of 2020 that may continue by either teleworking or adoption of lower-carbon vehicles.

Figure 1: Cumulative Number of "Good" AQI Days in Salt Lake County

(AQI<50)



Source: U.S. EPA AirData, https://www.epa.gov/air-data

Background and History

Research parks act as a seedbed for regional development of innovation- and technology-related businesses. As agricultural or manufacturing businesses declined in the United States over recent decades, technology-led businesses grew. The most well-known research parks are the Stanford Industrial Park of northern California and the Research Triangle Park in North Carolina. Today, over 100 university-affiliated research parks exist in the United States. Benefits of research parks range from positive impacts on economic activity in the community to creating dynamic live-work-play places.

Table 1 provides a profile of a typical North American research park.

The University of Utah Research Park, created in 1968 through a federal land grant, stimulates economic development and helps retain University of Utah graduates by providing local research jobs. The "academic capitalism" of a research park encourages researchers to push their work through commercial development by forming enterprises to produce and market products and services. The Research Park, also known as Bionic Valley, has a strong bioengineering emphasis. The Artificial Heart Research Laboratory developed surgical techniques for artificial heart implants. The University of Utah Research Park has 75 university offices and 48 private company offices.

Table 1: North American Research Park Characteristics

Size	119 acres 7 buildings 250,000 square feet
Location	Located in a suburb Population of fewer than 500,000
Governance	Operated by a university
Tenants	64% for-profit companies 24% university facilities 8% resident university departments 4% government agencies
Employment	850 employees Industries include software, biosciences, and aerospace/defense
Services Provided	Linking to sources of capital Business planning Marketing and sales strategy advice Access to subsidized space Technology and market assessments

Source: Battelle Technology Partnership Practice, *Driving Regional Innovation and Growth: The 2012 Survey of North American University Research Parks*

PIVOT has helped more than 300 companies, possessing a collective market capitalization of $3 billion. These companies created 40,000 jobs and launched 750 products into the marketplace.

Research Scope and Limitations

Activities of Utah's air quality/changing climate laboratory will cut across the roles of both governmental and university stakeholders.

- The Utah Division of Environmental Quality (DEQ) has a regulatory role in tracking and monitoring criteria pollutants. Improving Utah's emissions inventories and monitoring network facilitates DEQ's ability to regulate.
- Utah's research universities are best adapted to advance new technologies and convene entrepreneurs and experts to innovate.

DEQ and the research universities have a mutual dependency on one another to achieve their objectives. For example, research universities in Utah have placed monitoring equipment on light rail transport in Salt Lake Valley and established a research center in the Uinta Basin dedicated to understanding ozone formation. The work of research universities informs DEQ's regulation of air quality in Utah.

Government and university stakeholders were interviewed regarding their respective roles. Considerations include:

- Characteristics of an AQ/CC lab
- Oversight and coordination of activities
- Funding
- Infrastructure requirements

This brief presents findings and next steps for state government and universities along the Wasatch Front, but it is not a feasibility study. The research is limited to an exploration of the market context and data for developing an air quality/changing climate solutions laboratory as defined by *The Utah Roadmap*.[7] Additional research will include an evaluation of the technical, economic, and financial feasibility of the laboratory.

Essential Characteristics of an Air Quality / Changing Climate Laboratory

The Utah Roadmap's Milepost 3 defines the key activities of an air quality/changing climate solutions laboratory as:

1. Improvement of greenhouse gas and criteria pollutant inventories
2. Expansion of the monitoring network
3. Research (basic and applied)
4. Advancement of new technologies
5. Convening entrepreneurs and experts to innovate.

The first two activities fall within the remit of the Utah Department of Environmental Quality (DEQ), which regulates compliance with federal air quality standards. Examples include compliance with particulate matter, ozone, sulfur oxide, and nitrogen oxide levels.

Improving emissions inventories and expanding the monitoring network enhances regulation of those emissions subject to national air quality standards. Currently the U.S. Energy Information Administration (EIA) tallies each state's annual greenhouse gas emissions. However, a Utah-generated emissions inventory would identify emission sources as well as volumes, enabling DEQ to recommend effective remediation strategies.

Basic research is a collegial activity between DEQ and in-state universities, including University of Utah, Weber State University, Utah State University, and Brigham Young University, and the Utah Division of Air Quality (UDAQ). *Science for Solutions,* an annual forum in Utah, brings environmental stakeholders together to share findings and opportunities for collaboration.

As an example, Utah State University's Bingham Research center has studied wintertime ozone in the Uinta Basin for the last decade. Utilizing measurement instrumentation and models allows for a better understanding of the atmospheric chemistry of air pollution in the basin.

Table 2 contains 16 ongoing or recently completed basic research studies led by *Science for Solutions* contributors.

Applied research that leads to technology development occurs in universities and research parks. Capital funding is critical at two junctures in the innovation process. The first juncture is establishing proof of concept that a technology delivers the desired result via a prototype model. The second juncture is advancing a prototype model to full-scale commercial operations.

Convening entrepreneurs and experts to innovate also occurs in universities and research parks. The Partnership for Innovation, Ventures, Outreach, and Technology (PIVOT) at the University of Utah has the ability to convene its counterparts from other Utah universities as well as innovation leaders from PIVOT "alumni" companies.

Based on considerations above, Table 3 shows an assessment of Salt Lake Valley as a site for the air quality/changing climate laboratory.

Table 2: Studies Launched by Science for Solutions Since 2018

	Current and recently completed *Science for Solutions* studies	Universities	Grant ($K)
1	Emissions of Reactive Organics from Natural Gas-Fueled Engines	USU	117
2	Vertical Ozone Profiles in the Uinta Basin and Validating Drones as an Air Measurement Platform	Uof U, WSU	92
3	Quantitative Attribution of Wildfires on Summertime Ozone Concentrations along the Wasatch Front	Uof U, San Jose State	79
4	Halogen Sources and their Influence on Winter Air Pollution in the Great Salt Lake Basin	National Oceanic and Atmosperic Administration	83
5	Winter Measurements of Heavy-duty Vehicles to Characterize the Cold Temperature Effectiveness of Selective Catalytic Reductions Catalyst in Controlling Oxide of Nitrogen Emissions	University of Denver	52
6	Improving Volatile Organic Compound Emission Estimates for the Uintah Basin	USU	140
7	Characterizing Air Quality Impacts from Exceptional Events along the Wasatch Front	BYU	150
8	Improving WRF/CMAQ Model Performance using Satellite Data Assimilation Technique for the Uintah Basin	USU	38
9	The Red Butte Canyon Air Mass Exchange and Pollution Transport Study	Uof U	35
10	The Red Butte Canyon Ozone Network: Leveraging Existing Infrastructure to Probe Background Concentrations, Canyon Flows, and Stratospheric Oxidant Exchange	Uof U	40
11	Jordan Narrows Gap Ammonia Transport Study	Uof U	19
12	Wasatch Front Ammonia and Chloride Observations	USU, Uof U, BYU	210
13	Aethalometer Study for Estimating Compliance with Wood-burning Ban	Uof U	30
14	Composition of Volatile Organic Compound Emissions From Oil and Gas Wells in the Uinta Basin	USU	30
15	Bountiful City Dichloromethane and Formaldehyde Source Apportionment Study	Uof U, BYU	80
16	Ammonia Emission Assessment from Diesel and Gasoline Engines under Utah Specific Conditions	USU, UDAQ, WSU	60
Total Funding Amount			**1,255**

Source: Utah Department of Environmental Quality, Division of Air Quality

Table 3: Essential Characteristics of an Air Quality / Changing Climate Laboratory

Characteristic	Does Salt Lake Valley fit the profile?
Proximity to state universities	Five universities along the Wasatch Front are located an average of 43 miles from Salt Lake Valley.
Collaboration with US National Laboratories	Two national labs, the Idaho National Lab and the National Renewable Energy Lab, both offer outreach programs to start-up companies developing new technologies. These national labs are located a 1.5-hour plane ride away from Salt Lake City.
Government Partnership	Governor Cox's One Utah Roadmap features an air quality/changing climate solutions laboratory in its Economic Advancement section.
Infrastructure	Utah's Point of the Mountain State Land Authority announced development plans that include a research center on a 600-acre site in south Salt Lake Valley.
Access to qualified labor force	Utah legislative initiatives in the last decade increased university graduates from engineering, computer science, and related technology programs. Engineering graduates increased by 80% and computer science graduates by 130% over the period from 2000 to 2015.

Source: Kem C. Gardner Policy Institute

Governance of Air Quality / Changing Climate Solutions Laboratory Activities

Each air quality/changing climate solutions activity listed in Milepost 3 carries governance roles and responsibilities.

The Utah Division of Air Quality (UDAQ) is best suited to govern emissions inventories and monitoring networks because UDAQ maintains compliance with Clean Air Act and National Ambient Air Quality Standards. On the back of UDAQ efforts, the U.S. Environmental Protection Agency announced in November 2020 that Salt Lake City and Provo have moved from "non-attainment" to "maintenance" status for fine particulate matter ($PM_{2.5}$) under the Clean Air Act.

UDAQ, a member of the Western Regional Air Partnership, works with neighboring states to reduce haze in the Mighty Five national parks (i.e., Arches, Bryce, Canyonlands, Capitol Reef, and Zion) located in southern Utah. State Implementation Plans in the last two decades focus on reducing the atmospheric concentrations of nitrogen oxides, fine particulate matter, volatile organic compounds, and sulfur oxides.

UDAQ is best suited to govern basic research focusing on fundamental understanding of atmospheric conditions giving rise to poor Wasatch Front air quality. An example of basic research is the enhanced understanding of ammonia in creation of fine particulate matter ($PM_{2.5}$). This substance aggravates existing cases of respiratory and cardiac conditions. Funds appropriated by the Utah Legislature help UDAQ perform its regulatory function. UDAQ guides studies conducted by university researchers.

The University of Utah has decades of experience governing applied research focusing on technology development and convening of entrepreneurs and innovation experts. PIVOT's 30-person staff includes specialists in commercialization, entrepreneurship, intellectual property, contracts management, technology, and corporate engagement.

Need for Technology Infrastructure

Fifty-two percent of Fortune 500 companies have merged, been acquired, or gone bankrupt since 2000. Innovation either disrupted or reduced established companies.[8] Innovation has shifted from inventive and entrepreneurial individuals to being a core competency for sustainable organizational success.

Governments encourage entrepreneurship and startup activity to spur job creation and economic growth. **Technology ecosystems** use shared, scalable resources to pursue challenging objectives.[9] Table 4 lists organizations fostering technology ecosystem activities.

Successful interactions of these technology ecosystem components were characterized by an Association of University Research Parks survey[10] in Table 5 below.

Table 4: Organizations Fostering Technology Development

Type	Characteristics
University Research Parks	1. Master plan designed for research and commercialization. 2. Partnership with one or more universities. 3. Fosters formation of new companies. 4. Technology development from lab to marketplace.
Incubators	Services provided to companies in all stages of growth and development include 1) mentorship; 2) access to business services such as accounting, intellectual property management, computer services, and office space; and 3) access to angel investors or venture capital.
Accelerators	Services target earliest-stage companies. Prospective members of the accelerator compete for a fixed-duration residency. Accelerators are for-profit businesses founded by venture capitalists.
Innovation Hubs	Emphasis on networking and community building instead of traditional workshops and laboratories. Innovation hubs encourage members to share ideas and perspectives, advancing the speed of research and development.
National Labs	The U.S. Department of Energy's national laboratory network promotes growth of applied scientific research and development of new energy technologies.

Source: Nielsen Connect Partner Network

Table 5: Beneficial Technology Ecosystem Interactions

Interaction	Why Important?
Match between core competency of universities and ecosystem tenants	Innovators value access to subject matter experts from academia as a sounding board.
Capacity to assist tenants in technology commercialization	Innovators may have limited experience in commercializing technology.
Access to equity capital sources for tenants	Innovators may have limited awareness of the capital required to cross two thresholds. *Technological Valley of Death*: Capital needed for proof of concept. *Commercialization Valley of Death*: Capital needed to move from prototype model to full-scale commercial operations.
Availability of multi-tenant space for incubator graduates	Innovators may value continuity of accounting and intellectual property services provided by incubators.
Access to university resources, facilities, and faculty	Innovators value mentorship and access to wet lab space.
Access to a business incubator	Innovators may need help developing a business plan and securing capital.

Source: Association of University Research Parks

Economics of an Innovation District

Figure 2: Innovation District Potential Economic Impacts, 2024–2045

Assumptions

- Construction begins in 2024 with 70k sq. ft each year
- Construction costs equate to $275/sq. ft., inclusive of furniture, fixtures, and equipment
- Operational/Spinoff employment begins in 2026 with 895 new jobs and increasing thereafter
- Industry mix of new direct jobs matches targeted industry mix in Salt Lake and Utah counties

Source: Kem C. Gardner Policy Institute

The Utah System of Higher Education has proposed a dynamic hub of innovation be located at The Point. This hub – called the Innovation District at The Point – would be located at Point of the Mountain. It will leverage the strength of Utah's research universities to create high quality Utah jobs and solve difficult Utah problems. It features a Convergence Hall where flexible and scalable programming, events, and convenings will take place. It also includes four platforms of innovation that represent areas of research excellence and opportunity. The first platform is an air quality/changing climate solutions laboratory.

Using data informed by the University of Utah's experience with Research Park, we modeled the Innovation District's potential 20-year economic impacts. Innovation activities are projected to grow Utah employment by over 11,000 jobs and generate $21 billion in cumulative earnings over two decades (see Figure 2).

History of Point of the Mountain Discussion in Utah

The Utah State Prison moved from Sugarhouse, in Salt Lake City, to Draper in 1951. Since the 1951 move, Draper has transformed from a rural enclave into a suburban community. The Utah Legislature considered moving the prison based on the assumption that rising Draper land values would support prison relocation costs. In 2015, the Legislature voted to relocate the prison to the northwest quadrant of Salt Lake City, west of the Salt Lake City International Airport. Present estimates peg Utah State Prison construction costs at $1 billion.

Land values in Salt Lake and Utah counties increased due to population growth, but a business transformation in the State of Utah also commenced in the 1990s. Utah's governmental leaders actively recruited entrepreneurs from Silicon Valley to relocate operations to Utah, emphasizing Utah's talent pool, lack of congestion, and proximity to California. As a result, eBay located their main customer service center in Draper and Intel placed a semiconductor research group at Lehi. Other firms followed.

Silicon Slopes refers to a region with information technology companies, data storage manufacturers, software development companies, and e-commerce companies. This region is centered in northern Utah County and Southern Salt Lake County but extends as far north as Cache Valley, as far south as Provo, and as far east as Park City.

The Point of the Mountain corridor extends from South Jordan in Salt Lake County to American Fork in Utah County. Technology companies including Adobe, Micron, eBay, Ancestry, and AdvancedMD have developed close to the I-15 freeway (see Figure 3 and Table 6).

Figure 3: Point of the Mountain Corridor Tech Companies

Source: Kem C. Gardner Policy Institute analysis of Utah Department of Workforce Services data and State of Utah, SGID

Table 6: Largest Tech Employers in the Point of the Mountain Corridor

(Companies with at least 500 jobs)

Company	Description	Employment
Adobe	Software	3,000 to 4,000
eBay	E-commerce	1,000 to 2,000
Micron	Semiconductor manufacturing	1,000 to 2,000
Ancestry	Internet publishing	600 to 1,300
Dell EMC	Computer systems design	500 to 1,200
AdvancedMD	Custom computer programming	500 to 1,000
Domo	Software	500 to 1,000
Henry Schein	Software	500 to 1,000
Pluralsight	Software and computer training	500 to 1,000
Cotiviti	Data processing and hosting	500 to 1,000
Workfront	Custom computer programming	500 to 1,000
Xactware	Computer systems design	500 to 1,000

Note: Point of the Mountain corridor is defined as South Jordan to American Fork. Federal disclosure guidelines permit broad employment ranges, not exact counts. Job counts were combined for company aliases. For companies with establishments in multiple industries, only tech industry jobs were included. Industry descriptions are for the NAICS industry in which the company had the most jobs.
Source: Utah Department of Workforce Services

Next Steps

This assessment lays the groundwork for additional steps that decision-makers may wish to explore. These steps include creating an exploratory team, visiting national laboratories, and conducting an economic and financial review of developing an air quality/changing climate solutions laboratory, including an Innovation District, in Salt Lake Valley.

Exploratory Team

This team would evaluate development of the air quality/changing climate solutions laboratory in close consultation with the Utah Legislature, the Point of the Mountain State Land Authority (POMSLA), and local business and community leaders. Potential representatives on the team may include:

- Utah Department of Environmental Quality
- Salt Lake County
- Salt Lake Chamber
- Representatives from NREL and INL
- Representatives from the University of Utah and Utah State University
- Utah Division of Air Quality
- Point of the Mountain State Land Authority
- Mayors in neighboring jurisdictions

Entity Visits

Visits to the NREL and INL would raise awareness of collaboration opportunities between these federal government entities and Utah.

Feasibility Study

The 2021 Legislative Session allocated funds in Senate Bill 3 to the University of Utah for an Innovation District at the Point. A portion of these funds may be used for a site-specific feasibility study. The study should evaluate the technical, legal, and financial feasibility of an Innovation District that would house the air quality/changing climate solutions laboratory. Since these site activities serve the state's economic interests and impact surrounding jurisdictions, POMSLA, composed of Utah legislators and local jurisdictional authorities, would be the ideal entity to oversee a feasibility study. An economic and fiscal impact study would allow POMSLA members to evaluate the return on investment.

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