



“Connecticut has always been a birthplace of innovation...  
The question before us now is ‘what’s next?’”  
Governor Dannel P. Malloy, *State-of-the-State Address, January 7, 2015*

## Introductions



Our shared history in Connecticut demonstrates a commitment to new ideas and betterment of the old. From the invention of the sewing machine to decades of leading the insurance industry to the development and production of fuel cells, we in Connecticut have spent centuries showing the world how to improve. From world-ranking productivity to one of the highest levels of foreign direct investment, Connecticut models the attributes that are defining the modern economy. As we move further into the 21<sup>st</sup> century, Connecticut is dedicated to continuing to innovate and live up to our rich history as a national and world leader.

Connecticut’s strength starts with its people. We have the third most educated workforce in the nation, as well as one of the healthiest populations and highest incomes per capita. We are a community of forward-thinkers, innovators, and researchers. By aligning education more closely with the needs of the private sector, Connecticut is ensuring that future generations have the skills to transform our world.



Connecticut Rankings in the United States <sup>1</sup>	
Share of Insurance Jobs	1 <sup>st</sup>
Overall Health of Residents	3 <sup>rd</sup>
Advanced Degrees per Capita	3 <sup>rd</sup>
Business Research & Development per Capita	4 <sup>th</sup>
State Innovation	5 <sup>th</sup>
Productivity per Capita	5 <sup>th</sup>
Energy Efficiency	5 <sup>th</sup>
Scientists & Engineers per Capita	6 <sup>th</sup>
Patents per Capita	7 <sup>th</sup>
Venture Capital Deals per Capita	8 <sup>th</sup>

Connecticut also possesses an unparalleled quality of life. The abundance of natural resources, extensive network of cultural and creative assets, and variety of communities make Connecticut a great place to live and do business. Our location is ideal for residents and businesses alike, with ready access to

major markets, financial centers, and colleges and universities. Within 500 miles of Connecticut is one-third of the U.S. economy and two-thirds of the Canadian economy, making Connecticut one of the best locations in the nation.

While the state has many assets, Connecticut does suffer from a perceived negative business climate, driven in part by a series of difficult budget years. Much work has been done to set the state on smoother fiscal footing and to address the business climate concerns. Recent developments include the establishment of expenditure and bond caps and a major agreement with state employee unions.

In addition, the state has developed and is executing a strategic plan. This plan calls for investing in targeted industries, retaining anchor companies, expanding STEM education and the improving the quality of life that provide a strong foundation for the state’s economy. Many companies in Connecticut participate in national and international trade across various sectors. The Manufacturing Innovation Fund, the Bioscience Innovation

<sup>1</sup> Eversource, 2017 Connecticut Economic Review

Fund, the Technology Talent Fund, Innovation Places, and the Connecticut Port Authority are examples of the recent initiatives coming out of our strategic plan that are helping to expand business opportunities in Connecticut.



In order to maximize our strengths, the Economic Development Strategic Plan has targeted priority investment areas including healthcare/bioscience, insurance and financial services, advanced manufacturing, digital media, Green and other tech-driven businesses and tourism with attention to how these sectors collaborate and intersect.

Within these targeted industries are more specialized areas that show promise for the Connecticut economy including biomedical devices, aircraft manufacturing, and boat building.

The significant continued investment in Connecticut's infrastructure and cities over the next decade will reap many economic benefits. Not only will updated infrastructure make doing business in Connecticut easier, the state's continued streamlining of permitting processes will ensure that businesses are able to focus on creating jobs and increasing capacity. Connecticut is also committed to utilizing and encouraging energy efficiency and alternative energy sources and to the continued betterment of education in the state.

The vision for Connecticut is one of innovation and excellence in people, places and organizations — in other words, vibrancy. This vibrancy will continue to attract talented and creative people and grow businesses. Our attention to, and investment in, the identified strategic areas of talent development, economic growth, and strong communities will be rewarded with long-term stability for our state.

## Strategic Plan

Economic development is most effective when approached with a clear vision, an eye for long-term stability and growth, and a strong plan of execution. While the state needs to continue to manage its finances responsibly and maintain efforts to streamline government, we also must make the required investments to move our economy forward and innovate in ways that will benefit all Connecticut residents. Given that Connecticut has an impressive standing in many areas, this plan builds on our strengths while making changes to address our shortcomings.



## Our Vision

Connecticut ranks among the top quartile of states in economic performance

## Our Mission

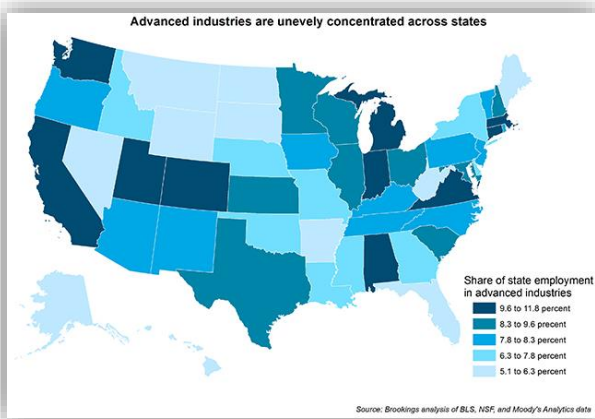
Develop and implement strategies to increase the state's economic competitiveness

## Our Objective

Build on our established strengths, invest in growth and emerging sectors; differentiate based on our key assets:

- **Grow the Business Clusters that Drive Connecticut's Economy and Encourage Entrepreneurial Development**
  1. Retain and grow our existing job base
  2. Facilitate ecosystems for industries to strengthen, connect, and collaborate
  3. Support entrepreneurial activities
  4. Build exports and encourage foreign direct investment
  5. Promote Connecticut's brand effectively nationally and internationally
- **Ensure a Workforce that Meets the Needs of the Future**
  1. Understand the future needs of employers
  2. With education partners, grow and enrich our talent pool and develop both short and long range initiatives to invest in our institutions around the key STEAM (science, technology, engineering, arts, and mathematics) skills
- **Create Livable, Vibrant Communities**
  1. Create vibrant neighborhoods through innovation, art, culture, and historic preservation
  2. Ensure quality housing at a broad range of prices
- **Invest in Infrastructure and Support Systems that will Foster Business Growth**
  1. Continue to strategically invest in transportation infrastructure
  2. Work to reduce or offset the cost of energy while reducing greenhouse gas emissions
  3. Continue efforts to create a more responsive and cost-effective government that reforms the regulatory environment and makes it easier to do business in the state
  4. Encourage environmentally-friendly, modern, and resilient development

## GROW THE BUSINESS CLUSTERS THAT DRIVE CONNECTICUT'S ECONOMY AND ENCOURAGE ENTREPRENEURIAL DEVELOPMENT



Industry cluster strategies are an important component of a comprehensive economic development strategy. By understanding Connecticut's particular strengths, we can target economic development resources on businesses with the best opportunity to succeed.

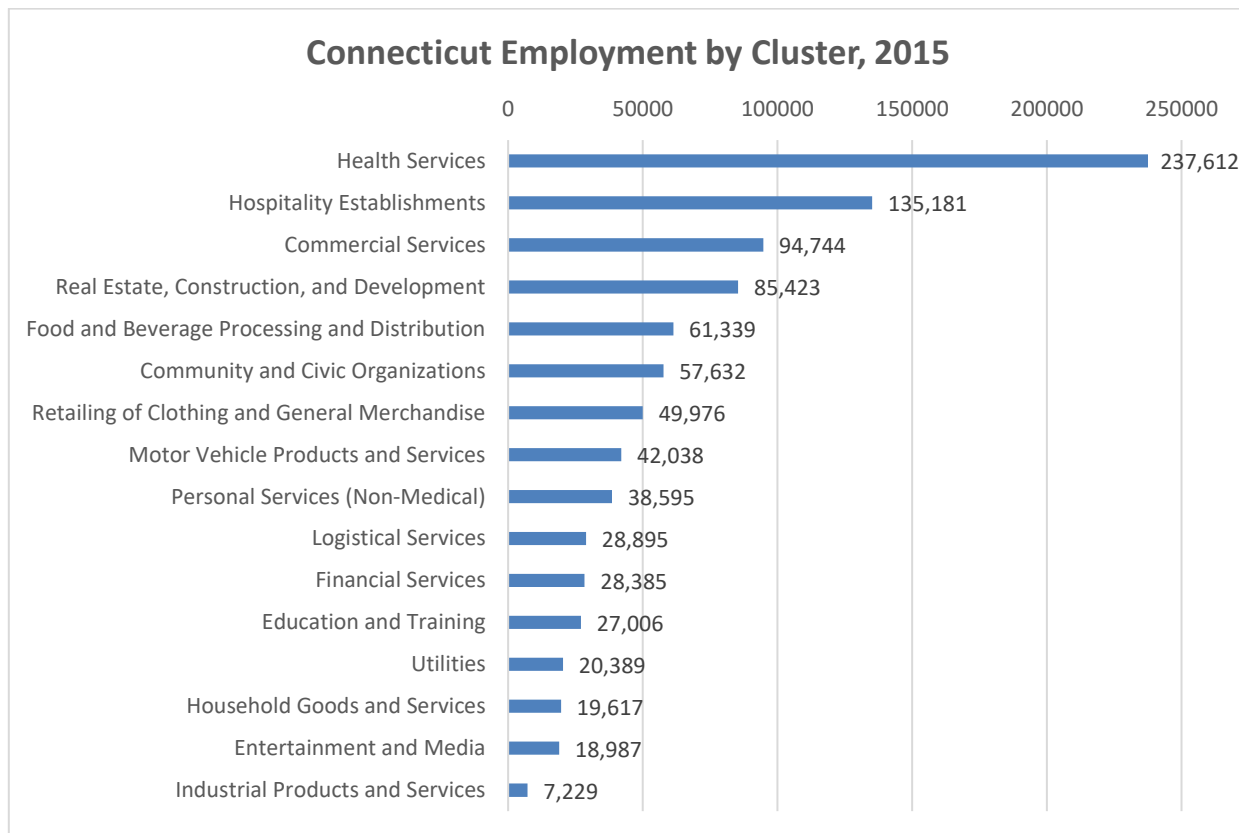
The state has developed growth strategies around six industry clusters: health care/bioscience, financial services and insurance, advanced manufacturing, digital media, green technology and tourism. With an increasingly automated world, refined and technical industries will be the centerpiece of the future global economy. Advanced

industries, as termed by the Brookings Institute, are those that are research-intensive and utilize science, mathematics, engineering, and technology skills. These advanced industries, like aerospace manufacturing and bioscience, provide strategic opportunities for Connecticut because of high employment concentration. Of the 100 large metropolitan areas with high concentrations in advanced industry employment and related workforce talent, four are in or encompass part of Connecticut. In 2015, advanced industries employed 169,271 full-time workers in Connecticut. These direct jobs supported an additional 135,420 indirect jobs in other industries in the region. Advanced industries directly accounted for 9.9% of all jobs in the region. This employment share was ranked No.9 among all states.<sup>2</sup>

These strategic targets are based on three key guiding questions:

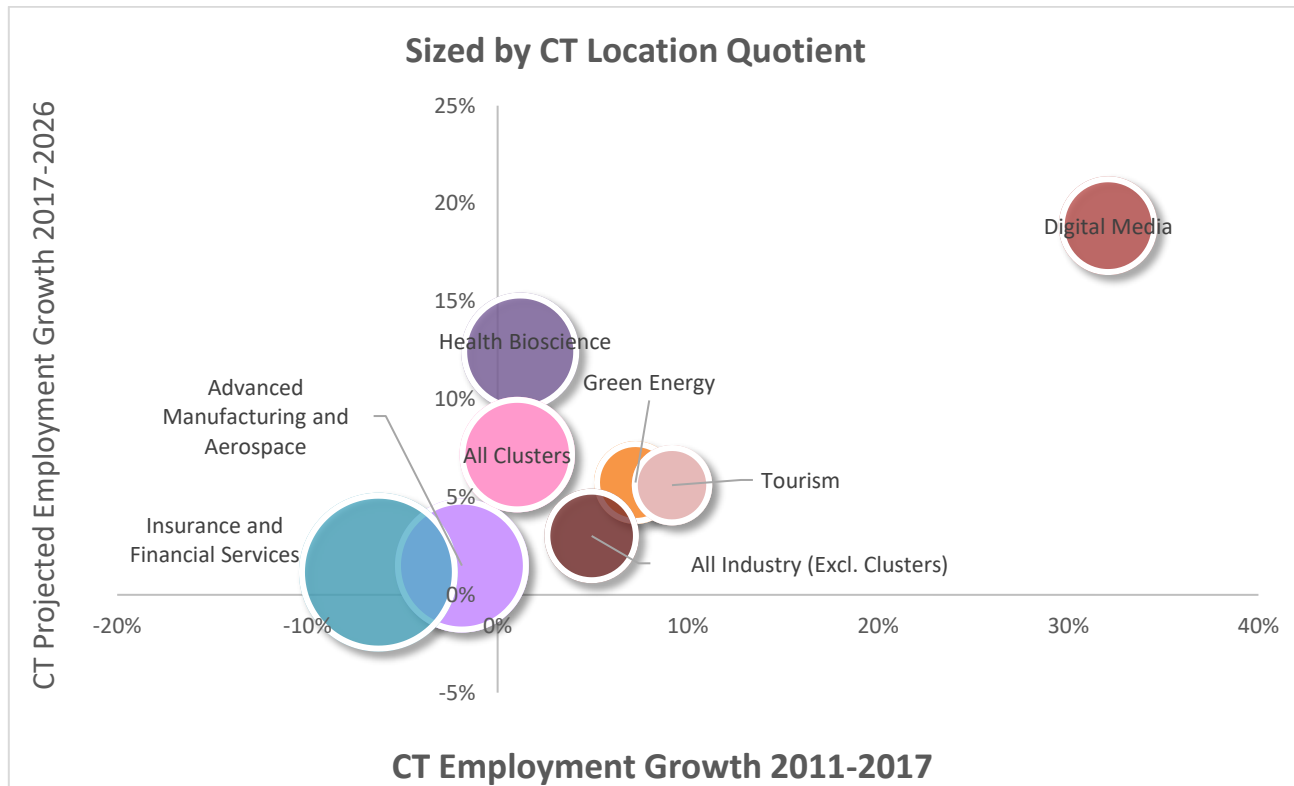
- 1.) In which areas do we have current size, depth and leadership positions?
- 2.) In which parts of the economy are we likely to see the fastest rates of national and global growth?
- 3.) In which high growth areas do we have the talent and ingenuity to compete?

From the chart below, it's clear that we have strong presence in the health care/bioscience, financial services/insurance, and advanced manufacturing sectors. Selecting these particular clusters will build upon the considerable strengths of our current employers and university skills. We must also look to the future to ensure we are investing in areas that are small today, but have growth potential. Thus, emerging opportunities in targeted areas such as green and digital tech remains a priority.



<sup>2</sup> The Brookings Institute, "America's Advanced Industries," <https://www.brookings.edu/research/americas-advanced-industries-new-trends/> (August 2016)

To determine Connecticut's competitiveness in certain industries or clusters, the location quotient (LQ) is used. The location quotient compares Connecticut's density of jobs in a particular occupation in comparison to the national average. Two of the state's six strategic clusters, green technology, and tourism, had an LQ in 2017 less than one, indicating an opportunity for Connecticut to grow local businesses in these clusters. Our policy goals are geared to cultivating these clusters to increase their competitive positioning. The other four clusters, insurance and finance, advanced manufacturing, digital media and health and biosciences had an LQ more than one, a distinct competitive advantage in the regional economy. Policy goals should protect and enhance these clusters. The chart below shows historic and projected employment growth in the state's six target clusters.



Source: Connecticut Economic Resource Center, 2018

### Clusters by the Numbers

- Total employment in Connecticut for these six clusters is projected to grow by 7% from 606,856 in 2017 to 650,355 in 2026 as compared to 3% growth across all industries.<sup>3</sup>
- Average annual earnings in the six strategic clusters were significantly higher than the state average in 2016 and represented an excellent opportunity for individuals in Connecticut to earn livable earnings. The average annual earnings for the aggregate of these six clusters was \$89,062 as compared to \$70,652 across all sectors.<sup>4</sup>

<sup>3</sup> All Business Cluster data came from Economic Modeling Specialists International. Employment data is full coverage meaning it includes QCEW employees, non-QCEW employees, self-employed, and extended proprietors.

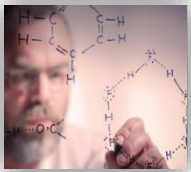
<sup>4</sup> Some NAICS codes used were updated from 2007 NAICS codes to 2012 NAICS codes.

- The aggregate of exports from these clusters was \$115.4 billion or 65.6% of total state exports in 2016. Similarly, the aggregate of sales from these sectors was \$217 billion or 46.7% of total state sales in 2016.<sup>5</sup>

Targeted investment of economic development funds in these industry clusters is expected to further develop the state's competitive advantage and foster an increased inflow of resources from abroad.

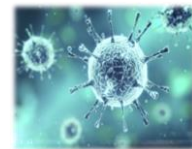
## Overview of Business Clusters

**Healthcare/Bioscience:** Healthcare promises to be a strong driver of employment in the coming decade. Traditional healthcare jobs in healthcare delivery will grow due to the aging of the baby boomers and their need for additional healthcare services. Connecticut also will see growth from its strong position in life sciences (including pharma, medical devices, and genomics) due to the strength of the university research community and the strong array of companies expanding their R&D and manufacturing presence in the state. The cluster's competitiveness is also fueled by the highly effective technology transfer offices at Yale and UConn.



Connecticut's groundbreaking stem cell research legislation provided a platform for Yale, UConn and Wesleyan University to strengthen their position in the top tier of institutions/regions focused on this important field by supporting research and development as well as laboratory infrastructure. The recruitment of The Jackson Laboratory and other leading research organizations to Connecticut, with expertise in personalized medicine research, complements research and tech transfer at our top universities and hospitals. These organizations' strong reputation helps to enhance Connecticut's visibility as a global leader in life science research.

Currently, the bioscience cluster in Connecticut is composed of nearly 39,000 employees at more than 2,500 companies.<sup>6</sup> This industry is bolstered by Connecticut's educated workforce, with the sixth highest percentage of science and engineering doctorates in the nation.<sup>7</sup> The State of Connecticut demonstrated commitment to facilitating translational research and forward-thinking work in the bioscience field with the creation of the Connecticut Bioscience Innovation Fund (CBIF) in 2013. CBIF is working to invest more than \$200 million in innovative and promising bioscience research and companies over ten years.<sup>8</sup>



Within the bioscience industry in Connecticut, a sizeable portion of jobs are biomedical device jobs – a sub cluster that shows promise for strong future growth.<sup>9</sup> Biomedical device development marries two of Connecticut's target industries: healthcare/bioscience and precision/advanced manufacturing.

<sup>5</sup> Please note, clusters originally included employment under the NAICS codes of 9271 (Space Research and Technology) and 92613 (Regulation and Administration of Communications, Electric, Gas, and Other Utilities). However due to data constraints, we were unable to include employment data from those industries in the analysis.

<sup>6</sup> Economic Modeling Specialists International, 2016

<sup>7</sup> Eversource, 2017 Connecticut Economic Review

<sup>8</sup> Connecticut Bioscience Innovation Fund, <http://www.bioinnovationct.com/ctbioscience-fund/>

<sup>9</sup> The Connecticut Economic Digest, Vol. 17, No. 2.

**Insurance/Finance:** For over one hundred years, the insurance industry has been synonymous with Hartford and Connecticut because of the state's competitive focus on technology; an unyielding commitment to quality and service-excellence for the consumer; a global reach to the consumer and financial markets; and the most educated and experienced financial services employees in the world. In addition to the robust insurance industry, Connecticut benefits from the presence of myriad other financial services organizations, including private equity firms, hedge funds, venture capital firms, and several national and international banks. The finance subsection of the industry in Connecticut is projected to grow by as much as 30% by 2024.<sup>10</sup>



In 2016, finance and insurance accounted for 12.8% of the state's gross domestic product.<sup>11</sup> With over 100,000 insurance and financial service employees, Connecticut has a vast array of talent in the industry. The state remains the insurance capital of the world, with 1,449 insurance companies calling the state home and generating \$33 billion in premiums annually.<sup>12</sup> The state is home to financial industry giants such as AETNA, Hartford Steam Boiler, The Hartford, CIGNA, Bridgewater Associates, and AQR Capital Management, as well as many other strong small and midsize organizations like Webster Bank, People's United Bank, and ConnectiCare.

A focus area for Connecticut is continued leadership in the hedge fund, private equity and venture capital industries. The state is currently 2<sup>nd</sup> in assets managed in hedge funds with more than \$300 billion managed by Connecticut firms.<sup>13</sup> Given the strength of this sector and the large amount of data that is gathered by Connecticut companies, there is also growing presence of data analysis, data management, and cyber security firms in the state, including global companies such as Infosys.

**Advanced Manufacturing:** Connecticut remains robust in manufacturing despite employment growth challenges in the past two decades. Connecticut ranks 4<sup>th</sup> in the states in business R&D invested per capita and 5<sup>th</sup> for workforce productivity.<sup>13</sup> The major global players in this industry such as Electric Boat, Sikorsky, Pratt & Whitney, and Kaman call Connecticut home and are supported by a strong supply chain of approximately 4,500 aerospace component manufacturers and other advanced manufacturing companies.<sup>14</sup>



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<sup>10</sup> Connecticut Economic Resource Center, 2014

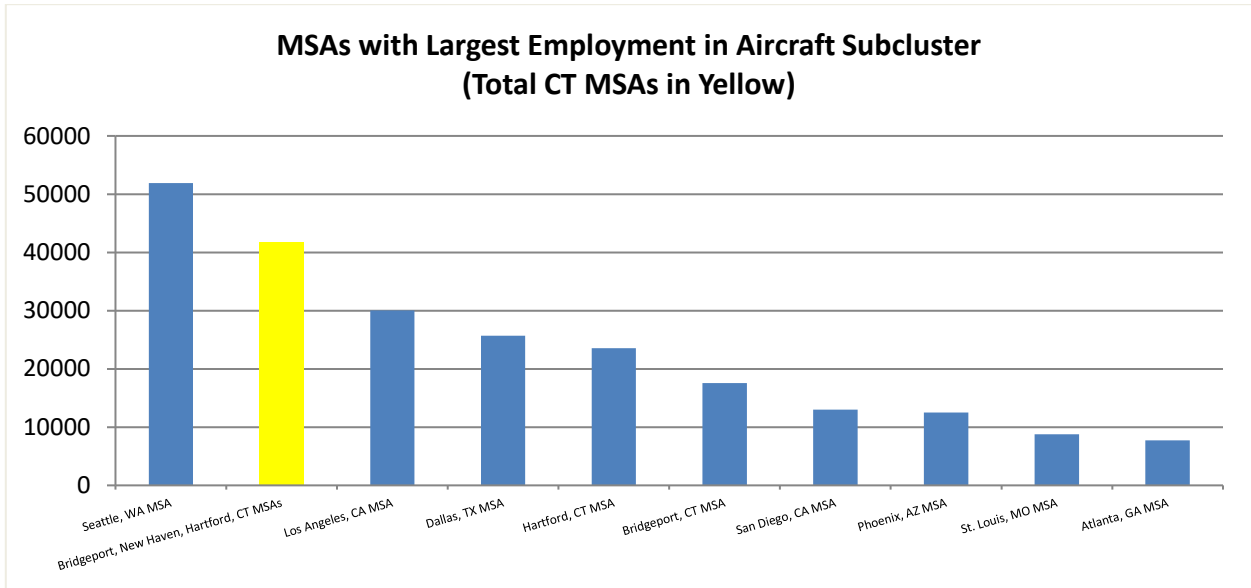
<sup>11</sup> U.S. Bureau of Economic Analysis, 2016

<sup>12</sup> Price Waterhouse Coopers, 2017 Connecticut Insurance Market Brief

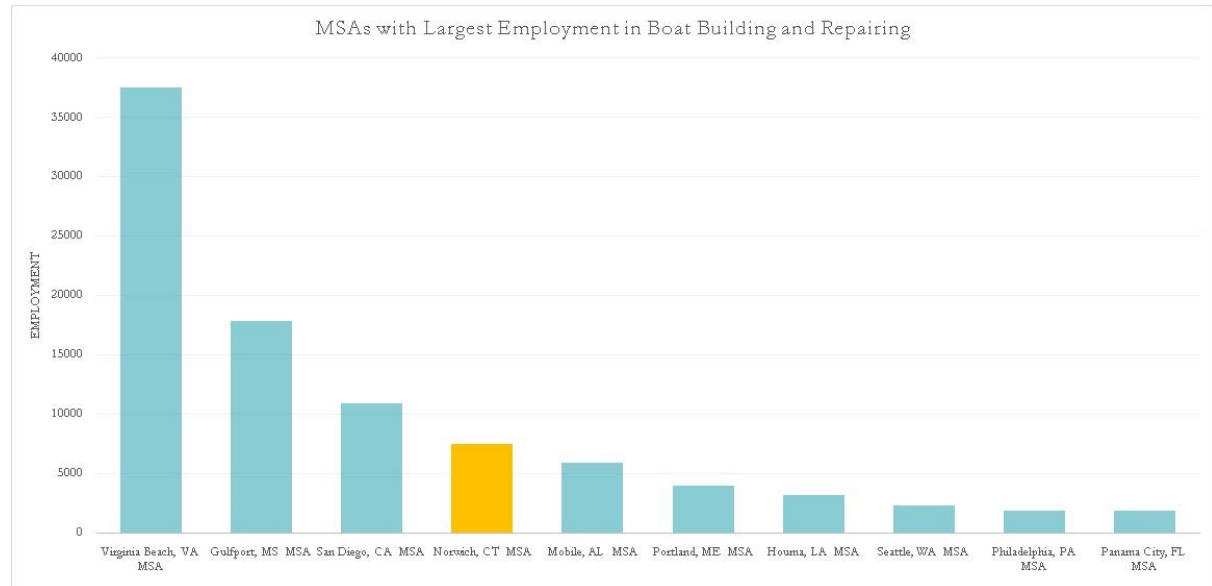
<sup>13</sup> Eversource, 2017 Connecticut Economic Review

<sup>14</sup> Aerospace Component Manufacturers (ACM), [ACM Membership Profilespdf](#)





Source: Connecticut Economic Resource Center, 2015



Source: Connecticut Economic Resource Center, 2015

The state leads in the fields of advanced manufacturing such as aerospace, additive manufacturing, and underwater defense technology. Aerospace looks to be especially promising in the coming years, as the demand for commercial airplanes has been skyrocketing. As the need for aerospace parts and components have increased Connecticut companies have benefitted, and, in 2016, Connecticut aerospace exports were \$7.7 billion.<sup>15</sup> In 2017, nearly 3000 new jobs were created in the sector, and demand for new hires continues to increase. The aerospace industry, as well as other manufacturing subsets, have benefitted from a tightly linked group of supply chain companies, many of which comprise the Aerospace Components Manufacturers association.

The State of Connecticut has committed to growing manufacturing through a dedicated \$75 million to fund supports for the manufacturing industry. Through the Manufacturing Innovation Fund (MIF), Connecticut manufacturing companies have the opportunity for

<sup>15</sup> Aerospace Industries Association, 2016

assistance in areas crucial to remaining competitive. The MIF is governed by representatives from industry and assists companies with funding for the most critical demands posed by the rapid growth of the industry: providing incumbent worker training, process improvement support, and new equipment. Connecticut was also awarded the Investing in Manufacturing Communities Partnership (IMCP) designation from the Economic Development Administration. This designation will provide the state preference and access to approximately \$1 billion of grant opportunities. The focus is to support the aerospace and shipbuilding industries.

The major global players in this industry such as Electric Boat, Sikorsky, Pratt & Whitney, and Kaman call Connecticut home and are expected to grow in the years ahead. The Navy's decision to increase the number of Virginia-class submarines per year, for example, will have a long-term positive impact on employment in the southeastern part of the state. Large manufacturers in the state are supported by a strong supply chain of approximately thousands of aerospace component manufacturers and other advanced manufacturing companies.

**Digital Media:** This fast-growing creative industry is comprised of numerous production and post-production facilities, digital animation, film, and gaming companies. The field involves the creative convergence of digital arts, science, technology, and business to present information in visually compelling and innovative ways. It constitutes a set of skills that are increasingly relevant in the corporate world, entertainment industry, science and technology realms, mass media, education, and numerous other fields.



Since 2006, average spending in this industry has been \$200 million per year. This increase has been fueled in part by the state's attractive tax credit programs and the arrival of many new industry players. Connecticut is home to many industry giants such as ESPN, NBC Sports, and WWE, as well as television networks such as YES and A&E. Several talk shows and digital movie studios like Blue Sky Studios, a division of 20<sup>th</sup> Century Fox, also are located in the state.

In recognition of the potential of this cluster, the state has supported the creation of two undergraduate degrees being offered by UConn in digital media and design. The degrees are cross-disciplinary programs intended to give students in Connecticut a competitive edge for career success in the rapidly growing job market and to provide employers in the industry access to the required skill sets to further develop their markets.

**Green Technology:** National and global policy attention is being focused on renewable energy and energy efficiency. Connecticut is well positioned to take advantage of these trends building upon the early successes we have seen in this arena. Connecticut has been ranked #6 in the nation for energy efficiency and was named the 5th greenest state by WalletHub.<sup>16</sup> We are a global leader in fuel cells and energy efficiency, with several fuel cell manufacturers located in the state and more than 600 companies comprising the fuel cell and hydrogen supply chain.<sup>17</sup> This strategy recognizes our unique position as a leader in this area.



<sup>16</sup> WalletHub, 2017's Greenest States, <https://wallethub.com/edu/greenest-states/11987/>

<sup>17</sup> "State of the States" Fuel Cells in America 2016," U.S. Department of Energy, Fuel Cell Technologies Office, (November 2016)

Connecticut has put in place high-level policy to maximize our share of energy-related business growth. The Department of Energy and Environmental Protection (DEEP) developed the first-ever Comprehensive Energy Strategy (CES) for the State of Connecticut—an assessment and strategy for all residential, commercial, and industrial energy issues. When implemented, the CES will move Connecticut toward a cheaper, cleaner, and more reliable energy future while creating thousands of jobs.



The Connecticut Green Bank is the first full-scale clean energy finance authority in the nation. It leverages public and private funds to drive investment and scale up clean energy deployment in Connecticut. It does so by offering innovative, low-cost financing such as the C-PACE program to encourage homeowners, companies, municipalities, and other institutions to support renewable energy and energy efficiency. In 2017, the Green Bank received the Innovations in Government Award from Harvard University for its approach to green energy financing, which is helping to create jobs, lower greenhouse gas emissions, and decrease energy bills.

**Tourism:** Tourism and hospitality represents a \$14.7 billion industry in Connecticut employing 121,500 people and generating \$1.7 billion in state and local taxes.<sup>18</sup> According to the World Travel and Tourism Council, tourism is predicted to grow 3.9% annually in the next 10 years worldwide. North American growth is expected to be in the 3.2% range annually over the same period.<sup>19</sup> Connecticut's natural beauty, diverse arts and cultural activities and events, and premier destinations combine to make a focus on tourism a natural fit for our state.



Now in its 6th year, the award-winning “still revolutionary” marketing and branding campaign has helped grow the \$14.7 billion tourism industry and has generated business for thousands of tourism attractions across the state. At the center of the campaign is the all-new CTvisit.com, which promotes over 4,000 different hotel, restaurant, attraction and event partners. In 2017 alone, the campaign specifically named almost 2,000 different partners, drove almost 5 million visits to the website, and generated over 3.2 million leads. All this momentum has contributed to strong job growth. In fact, it now takes 82,688 jobs to directly support the tourism industry, one of the state's top sectors.



This marketing effort is also crucial to ensuring that businesses inside and outside of Connecticut are aware that the state is creating a truly competitive business environment. The campaign serves to highlight the state's attention to 1) strong workforce; 2) entrepreneurial activities; 3) programs to support company growth; 4) commitment to fiscal responsibility; and 5) regulatory reforms that enhance business opportunities.

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<sup>18</sup> “The Economic Impact of Tourism in Connecticut: For Calendar Year 2017,” Tourism Economics, Wayne, PA

<sup>19</sup> World Travel and Tourism Council, *Global Economic Impact & Issues 2017*

## Facilitating Growth for Companies Small and Large, New and Mature

The state's economic development strategy concentrates on all levels and sizes of business in order to accelerate our economic recovery. The state will continue to leverage its financial and technical resources to assist companies from startup phase through maturity. In addition to strategies aimed at assisting various types of businesses with challenges specific to their operations, the state is active in ensuring that supports are made available that assist all businesses, like affordable high-speed internet.



Research shows that small companies, in comparison to young companies, produce the most new jobs in an economy. Connecticut ranks 7<sup>th</sup> in the nation in patents per capita - a good indicator of the state's innovative potential.<sup>20</sup> However, Connecticut is well behind the country as a whole in the rate of new firm formation and the share of employment in younger firms (0-5 years).<sup>21</sup> Thus, while Connecticut has a long history of innovation and patent creation, it is currently not demonstrating the follow-through in bringing these new ideas to market. Therefore, there is much opportunity for more entrepreneurial activity in the state. The State of Connecticut's strategy focuses on initiatives, investments, and assistance that will increase the chances of success for young companies by providing timely access to appropriate resources, including market and product expertise, talent, capital, and ideas.

Connecticut Innovations (CI), a quasi-governmental organization created in 1989 to provide strategic and operational insight to companies to push the frontiers of high-tech industries such as energy, biotechnology, information technology and photonics, plays a key role in the deployment of the state's efforts toward supporting innovation and entrepreneurship. This entity was one of the first early stage investment agencies developed by a state in the country. Since 1995, CI has made more than \$346 million in equity and risk capital investments, leveraging more than \$1.9 billion in private capital.



To further support entrepreneurs, the Department of Economic and Community Development (DECD) and CI have created an Innovation Ecosystem called CTNext. CTNext is providing the infrastructural underpinnings of Connecticut's innovative ecosystem, such as hubs where people of diverse backgrounds and interests interact with one another. CTNext is leading the Innovation Places initiative in the state that strives to bolster the innovation ecosystem in four CT cities, focusing on Insurtech in Hartford, undersea technologies in the Groton/New London area and Fintech/biotech in Stamford and New Haven.

Connecticut's economy is reliant on companies of various sizes and ages to ensure a stable long-term economy. The Small Business Express Program (EXP) provides funding and technical assistance to Connecticut's main street small businesses to spur job creation and economic growth. Additionally, the state provides financial and technical assistance to mid-large companies in our targeted clusters that are investing in growing their businesses. Outside Connecticut's borders, the state has worked to attract companies whose business needs fit well with the strengths of our economy.

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<sup>20</sup> Eversource, 2017 Connecticut Economic Review

<sup>21</sup> TEconomy Partners, *Baseline Assessment of Connecticut's Innovation and Entrepreneurship Ecosystem* (June 2017)

## Exports and Foreign Direct Investment

Exports are an engine of growth for Connecticut companies. The state, through DECD, works closely with its partners at the federal and regional level to provide support services and programs to help Connecticut companies take advantage of opportunities in the global marketplace by diversifying their customer base and their revenue streams. In 2016, Connecticut's commodity exports totaled \$14.39 billion.<sup>22</sup> It is important to note that this figure does not include service exports, for which the collection of data is inexact and unavailable at the state level. This means that export figures for a state like Connecticut- with a large concentration of insurance, financial and other services- understate the true magnitude of its overall export value.



Data indicates that 5,717 companies exported from Connecticut in 2014. Eight-nine percent of these companies were small and medium-sized enterprises with fewer than 500 employees. They accounted for 23% of Connecticut commodity exports.<sup>23</sup> Connecticut's top export commodities mirror the state's historic strengths and there is a demonstrated consistency among the state's top exports. In 2016, Connecticut's top four export commodities were (1) aircraft, spacecraft and parts thereof; (2) industrial machinery, including computers; (3) electric machinery, sound equipment, TV equipment, parts; and (4) optic, photo, medical or surgical instruments.<sup>24</sup>

The state's top five commodity export destinations were France, Germany, Canada, the United Arab Emirates (UAE) and Mexico. Connecticut exported over \$1 billion to each of these top five trade partners in 2016.<sup>25</sup>

Encouraging foreign-owned companies to establish or expand operations in Connecticut is equally important, as they employ 103,600 and invest \$14 billion annually.<sup>26</sup> Connecticut has proven to be an attractive location for international employers, ranking 22nd in the United States in the number of employees supported by U.S. subsidiaries. U.S. subsidiaries employ more than 7% of Connecticut's private-sector workforce. Connecticut ranks 10th in the country in the share of its workforce supported by these enterprises.<sup>27</sup>

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<sup>22</sup> WISER trade database, [www.wisertrade.org](http://www.wisertrade.org)

<sup>23</sup> "Connecticut Exports, Jobs, & Foreign Investment," U.S. Department of Commerce International Trade Administration, February 2017.

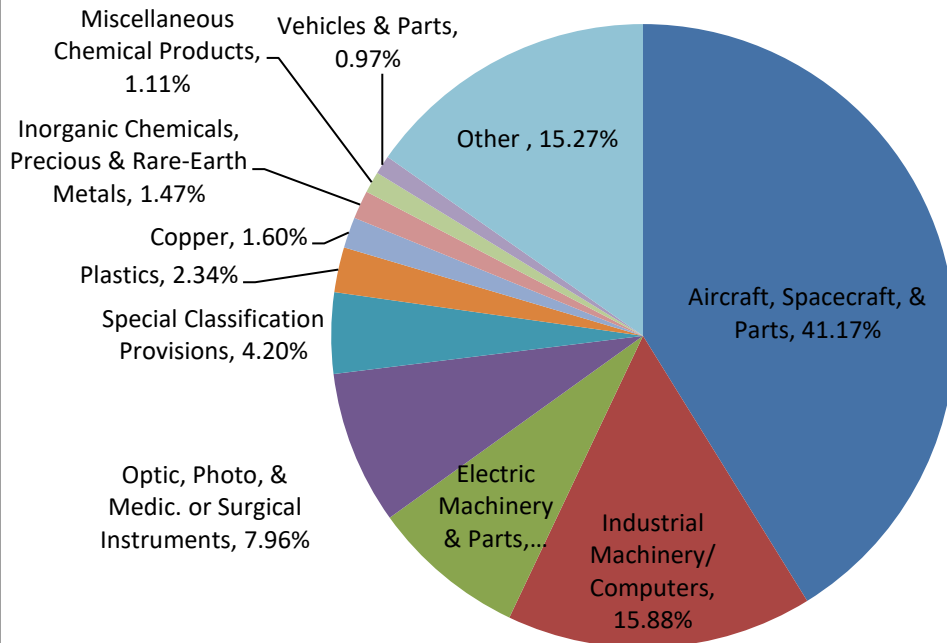
<sup>24</sup> WISER trade database, [www.wisertrade.org](http://www.wisertrade.org)

<sup>25</sup> WISER trade database, [www.wisertrade.org](http://www.wisertrade.org)

<sup>26</sup> WISER trade database, [www.wisertrade.org](http://www.wisertrade.org)

<sup>27</sup> Jobs by State" Organization for International Investment, <http://ofii.org/resources/jobs-by-state/connecticut>

## Connecticut Exports 2016



Source: WISER Trade

The state has launched an effort to proactively promote Connecticut abroad as the destination of choice for foreign direct investment. This strategy is a targeted approach to attract prospects from Germany and northern Europe, Israel, and Brazil to explore the potential to establish a presence in the state.

Connecticut is home to three deepwater ports (Bridgeport, New Haven, and New London) where the bulk of Connecticut's commercial maritime industry operates, as well as small and mid-size coastal and river harbors that also make important contributions to the State's economy. The Connecticut Port Authority, which was enacted by statute in 2014 and 2015, is working to provide improved opportunities for commerce with national and international partners. It is focusing its efforts on increasing the trade viability of Connecticut's ports through strategic marketing and economic development. Combined with the improved infrastructure from the projects that will be undertaken over the next several decades, the state is making investments to ensure that Connecticut becomes a hub for exporting and importing goods.

**GROW THE BUSINESS CLUSTERS THAT DRIVE CONNECTICUT'S ECONOMY AND ENCOURAGE ENTREPRENEURIAL DEVELOPMENT**

**Retain and grow our existing job base**

Action	Responsibility	Metrics
Work to ensure companies within the state retain and grow their workforce <ul style="list-style-type: none"> <li>• Outreach Program tiered approach                             <ul style="list-style-type: none"> <li>▪ Top 1000 businesses</li> <li>▪ Top 10 business by industry segment</li> <li>▪ Top regional businesses</li> </ul> </li> <li>• Promote state and state programs through PR, partners</li> </ul> Leverage existing & create industry, education and economic development organization relationships	DECD as lead	<ul style="list-style-type: none"> <li>• # of jobs created/retained</li> <li>• # of companies retained</li> <li>• \$ amount of private investment leveraged</li> <li>• State GDP</li> <li>• State employment level</li> </ul>

**Facilitate ecosystems for industries to grow and connect**

<ul style="list-style-type: none"> <li>• Focus on creating structure for assistance in manufacturing and iterative prototyping for manufacturers, including biomedical devices</li> <li>• Provide support to strengthen supply chains for manufacturing including biomedical and shipbuilding</li> </ul>	DECD/ Industry associations/ Bioscience and manufacturing companies	<ul style="list-style-type: none"> <li>• \$ invested in iterative processing facilities and assistance</li> <li>• # of CT manufacturers engaged in supply chains and # of employees in these firms</li> </ul>
Provide better assessment and support for financial firms, with particular focus on non-insurance firms and those located in southeastern CT	DECD/ Industry associations	<ul style="list-style-type: none"> <li>• # of members in industry associations</li> <li>• growth of GDP/employment in the sector</li> </ul>
Continue to engage in regional initiatives aimed at strengthening aerospace and defensive shipbuilding	DECD	<ul style="list-style-type: none"> <li>• # of regional initiatives/events</li> </ul>

**Strengthen Connecticut's national and global position**

Domestic recruitment efforts will focus on recruiting companies to Connecticut by: <ul style="list-style-type: none"> <li>• Careful research to target specific, well-suited businesses</li> <li>• Working with CT companies to leverage the supply chain to identify targets outside the state</li> <li>• Recruit at appropriate industry forums</li> <li>• Branding CT in the U.S. and global markets</li> </ul>	DECD and U.S. Commerce Department for export support	<ul style="list-style-type: none"> <li>• # of new business opportunities brought to CT</li> <li>• # of new jobs created</li> <li>• \$ amount of new private investment, including FDI</li> <li>• Tonnage at CT ports</li> </ul>
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**Spur innovation**

Execute CI strategies to support startups with expertise and capital	Connecticut Innovations	<ul style="list-style-type: none"> <li>• # of companies served</li> <li>• # of jobs created</li> <li>• ROI on equity investments</li> <li>• Leveraging of private \$</li> <li>• Leveraging of federal \$</li> </ul>
Implement the Innovation Places and other strategies to develop the ecosystem to drive new entrepreneurial activity across all sectors	Connecticut Innovations/ DECD	<ul style="list-style-type: none"> <li>• Level of new company formation</li> <li>• # of companies served by CTNext</li> <li>• # of jobs created</li> <li>• # of patents issued in the state</li> </ul>

**Promote Connecticut's brand to drive economic growth**

Continue to support and market the state	DECD	<ul style="list-style-type: none"> <li>• Impact of advertising as measured by # views, # of click-through, survey results</li> <li>• Tourism visits</li> <li>• Perception of CT as a tourist destination and business location</li> <li>• Hotel occupancy and ADR</li> <li>• Improved business climate perception</li> </ul>
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## ENSURE A WORKFORCE THAT MEETS THE NEEDS OF EMPLOYERS

A productive and innovative workforce is repeatedly cited by companies as the most important factor in their location decisions. With talent as a key draw for businesses in the state, we must ensure that a high quality and creative workforce is in place and that it grows and responds to the changing needs of our businesses.

The state is addressing immediate skills challenges, disparities in educational attainment and long-term demographic changes that will impact our workforce. Additionally, with the increasingly technical nature of jobs across all sectors, many Connecticut organizations are evaluating how best to attract and retain individuals with the necessary technical skills and capabilities.



The state recognizes that a multi-tiered approach to developing a workforce and providing the skills needed to meet the market demand is required. A strong partnership amongst education organizations, the training delivery system, and industry is essential. An example of this is the investment of \$20 million in the Advanced Manufacturing Centers at four of the Connecticut community colleges. This investment was a direct result of manufacturers indicating that they were struggling to find talent with manufacturing skills. Additionally, \$15 million in federal funding has been leveraged in three additional community colleges to purchase additional equipment and provide more training at these centers.

The federal funding has also been utilized to establish the "MAKE IT.HERE!" marketing campaign that is creating awareness and has increased manufacturing enrollment statewide by 60%. Building on that campaign, many of the community colleges have extended their outreach to high schools and middle schools, seeking to inform them of opportunities in the manufacturing industry, and providing them with a better understanding of advanced manufacturing today. The goal is to expand the pool of prospects available to grow the student population at these programs in our community colleges in the next 5 to 10 years, adding to the pipeline of skilled workers available to our industry partners.



In 2013, the state made an extraordinary investment in higher education. While other states were cutting their higher education budgets, Connecticut committed more than \$1 billion to UConn's STEAM programs, recognizing that the workforce of the future will be data-driven. Through this 10-year effort, the state will add 70% more seats to its engineering school, a new campus for digital media, and an expansion of R&D throughout the university. This unprecedented investment will ensure the talent required by future businesses will be met.

A new Technology Talent Advisory Committee was created during the 2016 Legislative Session to help devise and execute strategies to fill available IT jobs in the state. In 2017, the committee invested in tech talent internships to help young people develop the tech skills needed to thrive in IT careers and to introduce them to CT firms so they can get employment after graduation. Further, it is supporting high school STEM and tech initiatives and to strengthen college and university curriculums to meet industry technology talent needs.





The state's Manufacturing Innovation Fund (MIF) is also working to address the needs of and gaps in the Connecticut workforce. Based upon the input of industry leaders on the Advisory Board of the fund, MIF is providing funding to manufacturing companies for a variety of needs, but there is an emphasis on workforce development, including incumbent worker training and apprenticeship programs.

<b>ENSURE A WORKFORCE THAT MEETS THE NEEDS OF THE FUTURE</b>		
<b>Understand the current and future needs of employers</b>		
<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>• Create training programs to meet current gaps in our talent pool</li> <li>• Use partners such as CETC, DOL and employer groups to evaluate future needs of the employers in the state, with a special emphasis on our targeted clusters and highest unemployment areas</li> </ul>	DOL, CETC, DECD, CI	<ul style="list-style-type: none"> <li>• # of job placements</li> <li>• employment levels</li> <li>• #of training programs in targeted skills and geographic areas</li> </ul>
<b>With education partners, grow and enrich our talent pool to address any current gaps</b>		
<ul style="list-style-type: none"> <li>• Expand manufacturing and technology programs and grow engineering capacity in universities, colleges and community colleges</li> <li>• Assess other areas (such as healthcare, insurance/financial services, and information technology)</li> </ul>	Community Colleges, Technical Schools, UConn, Private colleges and universities	<ul style="list-style-type: none"> <li>• # of graduates</li> <li>• # of placements</li> </ul>
<b>Develop longer range initiatives to invest in our institutions around the key STEAM skills</b>		
<ul style="list-style-type: none"> <li>• Partner with education to offer STEAM courses to address employer needs</li> </ul>	UConn, K-12, Technical Schools	<ul style="list-style-type: none"> <li>• Measure success of UConn STEAM programs</li> <li>• Engage businesses for their feedback</li> <li>• Measure success of CT-ECO program</li> </ul>

## CREATE LIVABLE, VIBRANT COMMUNITIES

Connecticut's strength is its depth of local character. Each of its 169 towns is distinct, unlike any other in the state or the country. Shaped over centuries by Native Americans, English colonists, immigrants from around the globe, and their successors, by developments in agriculture, industry, transportation, and culture, and by the land itself, Connecticut's towns reflect their heritage in thousands of historic buildings, landscapes, and neighborhoods. At the same time, they exhibit their ongoing vitality through unique cultural venues, one-of-a-kind shops and restaurants, and the work of local artists and artisans. This diversity of character is a key source of our economic advantage. Our cities, with a scale and community orientation, are attracting more and more of the young workers who will fuel our growth. They value authentic places that offer opportunities for inspiration, connection, and personal impact.



The State Historic Preservation Office supports and strengthens these communities by investing in the historic places that define our state's character. Each year the SHPO distributes millions of dollars in assistance to owners of historic properties through its tax credit and grant programs; reviews thousands of projects through its environmental review program; provides technical assistance to communities across the state; and adds scores of historic properties to the State and National Registers of Historic Places.

Not only is Connecticut's landscape diverse but so is its population—another strength, since a diverse workforce is critical in communities that inspire and encourage innovation. The Small Business Express program emphasizes assistance to minority- and women-owned businesses, ensuring that investments made by the state reach across Connecticut to provide tools that all residents need to succeed.

Investing in our state's creative economy and impressive arts infrastructure will advance the attractiveness and competitiveness of Connecticut cities, towns, and villages as meaningful communities in which to live, work, learn, and visit. Creative enterprise is an essential component of Connecticut's mission to develop and implement strategies to increase the state's economic competitiveness. The non-profit arts sector in Connecticut, for example, contributes nearly than \$800 million in direct industry expenditures and supports more than 23,000 full time equivalent jobs.<sup>28</sup>

Through its grants and technical support, the Department of Economic and Community Development is helping to strengthen organizations in the arts and culture sector, thereby enhancing each community's competitive edge, bridging the social and economic divide, creating rich and meaningful experiences for residents and visitors, helping communities define and celebrate their distinct assets, and contributing to the development and retention of a creative workforce. The Department of Economic and Community Development is also currently managing a portfolio of more than \$200 million in capital projects, including more than \$50 million for arts and cultural organizations.



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<sup>28</sup> Arts & Economic Prosperity V, The Economic Impact of Nonprofit Arts and Cultural Organizations and Their Audiences in the State of Connecticut, 2017.

To help businesses create and retain jobs, quality housing choices are necessary. Affordable and workforce housing, particularly in and around transportation networks will serve as a building block for our future growth. The Department of Housing, along with the quasi-governmental agency the Connecticut Housing Finance Authority (CHFA), is investing over \$1 billion to help leverage private sector funding for the creation of 22,000 new housing units throughout the state. Additionally, a \$15 million pre-development and acquisition loan fund has been developed by CHFA, DECD, and the Local Initiatives Supportive Corporation (LISC) to encourage higher-density, mixed-use development near existing and new transit hubs to create more livable, walkable communities, and to expand access to jobs and housing.

<b>CREATE LIVABLE, VIBRANT COMMUNITIES</b>		
<b>Integrate arts/culture and preservation with economic development</b>		
<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>Focus arts grants and historic preservation grants on projects that catalyze economic and community development and support the existing arts and culture infrastructure</li> </ul>	DECD	<ul style="list-style-type: none"> <li># of historic structures preserved</li> <li>\$ of federal and state historic tax credits</li> <li>\$ granted for arts awards</li> </ul>
<ul style="list-style-type: none"> <li>Encourage enhanced integration of arts into economic development initiatives</li> </ul>	DECD/ Regional and local arts and tourism organizations	<ul style="list-style-type: none"> <li>Increased traffic at arts attractions</li> <li># of jobs created in arts sector</li> </ul>
<b>Ensure quality housing at a broad range of prices</b>		
<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>Implement the \$1 billion commitment to build new and renovate existing workforce and affordable housing</li> </ul>	DOH/CHFA	<ul style="list-style-type: none"> <li># of new affordable units</li> <li># of market-rate units in targeted locations</li> <li># of new supportive units</li> </ul>

## **INVEST IN THE INFRASTRUCTURE AND SUPPORT SYSTEMS THAT WILL FOSTER BUSINESS GROWTH**



The state's comprehensive approach to economic development looks beyond direct financial assistance programs. It focuses on areas such as transportation infrastructure, energy policy and government efficiency, which all contribute to making Connecticut a more competitive place to do business.

## Transportation Infrastructure Efforts

In 2015, Governor Malloy unveiled a 30-year, \$100 billion [plan](#) to update and improve Connecticut's transportation system. The plan will increase speed, access, and frequency of rail service within Connecticut, improve connections to major regional hubs like New York and Boston. Additionally, the plan will remove critical traffic bottlenecks and reduce congestion on major highways such as I-84 and I-95. Air travel will also be enhanced through improvements to Bradley International Airport.<sup>30</sup>



The many projects and upgrades included in the transportation plan are essential for Connecticut to grow its economy. A good transportation system is the foundation needed to support the efficient movement and delivery of goods, people, and services that are essential for business development. The improvements will make Connecticut's infrastructure safer, expand and improve all modes of transportation, reduce congestion, and improve the quality of life for residents. Highway improvements will significantly reduce congestion resulting reduced travel times, lower transport costs, and improved travel reliability. These savings in transport time and cost directly benefit Connecticut businesses by making them more competitive and improving access to markets within Connecticut and to regional and national markets outside the state.

Transportation investments hold the promise of revitalizing areas of the state served by rail and rapid transit. The aging infrastructure of the New Haven Line that links the New Haven, Bridgeport, and Stamford metro areas to New York City would be restored to good condition, which would provide more reliable, faster, and more frequent service to the nation's financial center. Additionally, the Hartford Line will provide new regional rail service in the New Haven – Hartford-Springfield corridor, and link these metro areas to New York City through connections to the New Haven Line. The proposed service is already generating development around key stations even before it opens in May 2018.

CTfastrak is a Bus Rapid Transit System – the first in Connecticut's history – that serves communities between New Britain and Hartford. Ridership on CTfastrak has surpassed initial estimates, and the system will be expanded in East Hartford and Manchester. CTfastrak is already spurring new development around its major stations due to the over 1 million of riders each year.



## Smart Growth for Towns and Cities

"Smart growth," including sustainable development, brownfield redevelopment, historical preservation and renovation, and transit-oriented development, helps communities attract businesses and workers. These new approaches to land-use planning, transportation, housing, environment and human needs will be integrated into our strategy and action plans in a way that makes them integral to our future economic activity. By leveraging previous investments in infrastructure with new developments and remediation, existing assets can be utilized in new and creative ways. In turn, we can achieve the goal of making our urban centers net contributors to economic growth in the state, reversing their lagging performance in recent decades.

<sup>29</sup> "Let's Go CT! Connecticut's Bold Vision for a Transportation Future."

[http://www.ct.gov/dot/lib/dot/documents/dcommunications/ctdot\\_30\\_yr.pdf](http://www.ct.gov/dot/lib/dot/documents/dcommunications/ctdot_30_yr.pdf) (Feb 2015), Page 15

<sup>30</sup> "Let's Go CT! Connecticut's Bold Vision for a Transportation Future." Page 32

Connecticut is now embracing these new approaches to development to meet the needs of the new economy and its workforce. Three regions of the state won highly competitive U.S. Housing and Urban Development (HUD) grants under the sustainable communities program in recent years. These grants dovetail well with the current efforts at the state level of DECD, DEEP, and the Department of Transportation (DOT) to direct future investments of state funds in a coordinated fashion consistent with sustainable community goals.

Over two decades, since the term "brownfield" was first applied to environmentally challenged properties, Connecticut has continuously developed increasingly beneficial public policies and tools to address regulatory and liability issues and the financial costs associated with remediation and reuse. Since 2011, Connecticut has invested approximately \$225 million in brownfield properties across the state, helping to prepare more than 2,283 impacted acres of land for development across more than 170 projects. The continued investment in redeveloping brownfield properties is expected to grow, given the current leveraging of \$32 of non-state investment for every \$1 in public funding spent on these important projects. The State of Connecticut has also developed a suite of liability relief programs to further ensure long-term investments in remediation and redevelopment of brownfield properties.



With the new investments in transportation that have recently been made in Connecticut, like CTfastrak, and those to come with the invigorated transportation plan set forth by Governor Malloy in 2015, transit-oriented development is becoming an increasingly important strategic component. As Connecticut's transportation infrastructure is diversified and improved, the state is committed to facilitating development that is strategically aligned with the important needs of its residents, including access to public transportation, walkability, and ease of access to necessary goods and services. Connecticut is also making significant investments in infrastructure and other capital projects in cities and towns throughout the state, including utility and sewer expansion, streetscape improvement, and new construction projects.

## Comprehensive Energy Policy

In 2017, the Department of Energy and Environmental Protection (DEEP) released a draft of its updated [Comprehensive Energy Strategy](#) for the State of Connecticut. The draft 2017 CES provides a framework to advance the State's goal to create a cheaper, cleaner, more reliable energy future for Connecticut's residents and businesses. DEEP is required to periodically update the CES to assess and plan for all energy needs in the state, including, but not limited to, electricity, heating, cooling and transportation.

The plan uses limited government resources to leverage private capital and increase the flow of funds into energy efficiency, renewable power, natural gas availability, and a 21st century transportation infrastructure that promotes mobility options, transit-oriented development, and market-based opportunities for clean fuels and clean vehicles. It identifies natural gas as a bridge to a truly sustainable energy future, and puts forward a seven-year game plan for expanding access to natural gas across Connecticut with a goal of providing nearly 300,000 Connecticut homes, businesses and other facilities with an energy choice that includes natural gas. The strategy calls for an expanded commitment to "all cost-effective" energy efficiency efforts. These revised energy provision strategies have also yielded environmental benefits by lowering emissions from

electricity production. Since 2007, the increased usage of natural gas has led to a 71% reduction in nitrogen oxides, 95% decrease in sulfur dioxide emissions, and 28% reduction in carbon dioxide emissions in New England.<sup>31</sup>

To ensure reliability, the state is also investing in “micro-grids” that allow off-grid generation of electricity for critical services and businesses. Together these efforts have resulted in a 12% decline in energy costs for the state – and more reductions are expected as the strategy is executed. Additionally, the Connecticut Green Bank administers programs like C-PACE that will continue to provide opportunities for lowering energy costs.

## LEAN and Reducing Regulatory Complexity

The State of Connecticut is committed to transform its government agencies to deliver enhanced service to its constituents while keeping cost under control. To this end, all agencies are engaged in applying LEAN principles and practices to identify improvement opportunities in the way they do business and deliver services. As these agencies continue to track toward leaner, more efficient organizations, they will in turn be better positioned to pass those improvements to businesses and communities around the state. Shortening turnaround times, making it easier to get answers, and creating simpler more comprehensible programs are all goals of the LEAN effort. These efforts are already paying off for constituents:

- DEEP now issues 90% of its permits in 60 days
- DCP has reduced time for Lemon Law Arbitration hearing decisions from 60 to 30 days
- DMV has reduced average wait times at its branch offices by 55%
- DOC has cut overtime in the Central Transportation Unit by 47%



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<sup>31</sup> CT Department of Energy and Environmental Protection, May 2015.

**INVEST IN THE INFRASTRUCTURE AND SUPPORT SYSTEMS THAT WILL FOSTER BUSINESS GROWTH**

**Continue efforts to create a more responsive government that remakes the regulatory environment and makes it easier to do business in the state**

<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>Continually review regulatory processes and procedures to maximize efficiency and effectiveness</li> </ul>	State agencies	<ul style="list-style-type: none"> <li>Customer satisfaction</li> <li>Time to complete permitting processes</li> </ul>

**Work to reduce the cost of energy**

<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>Execute the Comprehensive Energy Strategy that will provide cheaper, cleaner, more reliable energy</li> </ul>	DEEP	<ul style="list-style-type: none"> <li>Cost of energy and distribution</li> <li>Energy outages</li> <li>Improvement in CO<sub>2</sub> outputs</li> </ul>
<ul style="list-style-type: none"> <li>Launch a campaign to reduce energy costs for residents and businesses while reducing our greenhouse gas emissions, especially industrial manufacturers through C-PACE</li> </ul>	CT Green Bank	<ul style="list-style-type: none"> <li># of transactions</li> <li>Capital invested</li> <li>Energy savings</li> <li>Payback, NPV, IRR, SIR, and cash flow</li> <li>Reduction in CO<sub>2</sub> emissions</li> </ul>

**Continue to strategically invest in transportation infrastructure**

<b>Action</b>	<b>Responsibility</b>	<b>Metrics</b>
<ul style="list-style-type: none"> <li>DOT to invest to improve transportation systems in the state</li> </ul>	DOT	<ul style="list-style-type: none"> <li>Delivery of transportation projects on time and budget</li> </ul>

**Encourage environmentally-friendly, modern, and resilient development**

<ul style="list-style-type: none"> <li>Continue investments to make brownfields into usable and productive properties</li> </ul>	DECD with DEEP support	<ul style="list-style-type: none"> <li># of brownfield projects funded</li> <li># of redeveloped brownfields in state</li> </ul>
<ul style="list-style-type: none"> <li>Transit-Oriented Development: Work with municipalities to develop a plan for the rapid transit systems in the state (ex: CTfastrack and the New Haven-Springfield line)</li> </ul>	DOT, DECD and TOD cross-agency team (led by DECD)	<ul style="list-style-type: none"> <li>Engagement of towns in TOD work on rails/busways; development and execution of plans in TOD</li> </ul>