

Fiscal Stability Commission Presentation

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Connecticut

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Presentation Overview

- Strategy
 - Build on Strengths
 - Address Gaps
- Financial Assistance
 - Competitive Landscape
 - Non-Financial
 - State Return on Investment
- Recommendations





DECD's Economic Strategy

Economic Development Strategy

- Build on our strengths (talent, location, quality of life)
- Focus on innovation and key business sectors to stimulate biz development, including offshore recruitment
- Focus on talent development
- Streamline governmental processes/regulation
- Address infrastructure issues
- Collaborate with key partners to improve business climate

Connecticut



Economic Development Strategy













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Connecticut Strengths: At the Center of it All

Within **500 miles** of Connecticut, you will find states with **1/3** of the nation's:

Population

Gross Domestic Product

Total Jobs

Businesses

Within that same radius, your market potential includes Canadian provinces with:

65% of total Canadian jobs

65% of total Canadian population

61% of total Canadian businesses

Excellent transportation to region and international locations



Connecticut Strengths: Workforce



National Science Foundation, 2016; U.S. Census Bureau, 2015; CERC calculations



Not only is our workforce highly educated, it's highly industrious – ranking **#5** in the U.S. for



Productivity is the spirit that drives Connecticut business. In terms of gross domestic product, Connecticut ranks higher than several major countries in productivity.



Connecticut Strengths: World-Class Educational Institutions

Yale UCONN



BOARD OF REGENTS FOR HIGHER EDUCATION

CT boasts 40 colleges and universities, ranging from lvy League to community colleges to world-class research institutions turning out highly educated workers and entrepreneurs







The State of Connecticut is investing significantly in education

Connecticut Emerging Strength: A Center of Innovation

#10 in states ready for growth in the "New Economy" Connecticut offers the kind of environment that is particularly conducive to

growth for companies that are capitalizing on the latest global economic trends.

A world leader in patents

If ranked as a "country," Connecticut's volume of patents would place it among the most innovative in the world, ahead of many European and Asian countries.

Connecticut ranks **7th** in patents per capita and has 39% more patents than the U.S. average.

In 2015, 2,158 patents were issued in Connecticut and 140,969 were issued in the U.S.







Manufacturing Strategy: Deeper Dive

Advanced Manufacturing: State of the Industry





Manufacturing generates nearly 11% of Connecticut's Gross State Product (GSP)

Every dollar spent in manufacturing adds \$1.89 in total economic activity



Manufacturing directly supports 159,500 employees with an average salary of \$95,118



In Connecticut, there are a diverse array of 4,500+ manufacturing enterprises – and growing





Connecticut manufacturers export \$15.5 billion each year, representing 94% of the states exports

Connecticut manufacturers bring in \$11.8 billion in defense contracts

Highly Skilled & Productive Workforce

- The talent here is highly skilled, very productive, and densely populated with the second highest concentration of aerospace workers in the US
- Worker productivity is nearly 20% higher than national average
- 159,000 manufacturing jobs in the state
- 4,040 machinists in Hartford County
- CT manufacturing workers earn 50% more (\$79,456) compared to the national average of \$52,915, making it an expensive but valuable workforce



Manufacturing employment - 2016



Major Advanced Manufacturing Companies

State is home to an exceptional combination of Original Equipment Manufacturing companies (OEMs)

- UTC/ Pratt and Whitney: Headquartered in the state since 1925 with all corporate, R&D, and some manufacturing
- Electric Boat: Based in CT for 106 years. Ramping up to meet the demand of 2 or perhaps 3 submarines per year; designing the replacement for the Ohio class (Columbia)
- Lockheed Martin/Sikorsky: Home of the inventor, Igor Sikorsky, the CT plant has been HQ for the helicopter company since inception (85 years); primary government manufacturing plant







Strategy for Growing Advanced Manufacturing

- Focus on strongest parts of the ecosystem: Aerospace and Shipbuilding
- Secure long-term relationships with the OEMs:
 - UTC agreement of 2014

Connecticut

- Ongoing support for Electric Boat
- Lockheed Martin/Sikorsky, 2016
- Ensure a strong and vibrant supply chain
- Build capacity in the universities, colleges and not-for-profits to support robust talent growth and innovation support



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Support and Strengthen Supply Chain Keeping innovation and suppliers close to the OEMs

- Manufacturing Innovation Fund
 - Assists smaller manufacturers in making innovative and strategic investments
 - Focuses on talent development to meet the growth expectations in aerospace and medical devices
 - Programs: voucher, apprenticeship, incumbent worker training



- Manufacturing Assistance Act/Small Business Express (loans, forgivable loans, grants, tax credits) to support expansion
- Investments in Training and Education At UConn, Community Colleges, Tech Schools and increasingly at comprehensive high schools to develop the next generation of talent

Created the \$75 Million Manufacturing Innovation Fund (MIF) to Support this Industry

- 879 smaller manufacturers assisted in making innovative and strategic investments
- \$47 million has been invested since 2014
- Focusing on:
 - talent development
 - supply chain health/growth
 - innovation & technology
 - energy efficiency



www.advancingmanufacturingct.com

MIF – Talent Development

 Incumbent Worker Training (IWT) - matching up to \$50,000 per employer to train incumbent workers in the appropriate skills to meet current and emerging market needs

—	MIF Investment	\$10.5 million
_	Total Commitments to date	\$7.3 million
_	# of Companies	306
—	Jobs to be created/retained	3,939
-	Workers trained	7,072
_	Workers receiving an upgrade in position	22%
_	Companies reported an upgrade in skills	78%
-	Companies expecting productivity increases	58%

 Pre-Apprentice and Apprentice: provides competency based learning for apprentices for on-the-job learning and related classroom instruction. Maximum funding is \$9,500 per apprentice for year one and \$9,250 for year two for the sponsoring company.

-	MIF Investment	\$7.8 millior
_	Total Commitments to date	\$4 million
_	# of Companies	20
_	# of Registered Apprentices	295
_	# of Registered Pre-Apprentices	36
-	# of Related Instruction Providers	10

MIF – Young Talent Development

 Young Manufacturers Academy - students learn what goes into producing products in workshops using lean manufacturing, engineering design, and high-tech industry software

_	Total Commitments 2016	\$250,000
—	Industry/Education Partners Engaged (FY 16)	15
_	Students Trained	142
_	Program Sites	8

 CT Dream It. Do It. initiative - campaign to create a positive image of today's manufacturing to support the future workforce pipeline

 Total Commitments in 2016 	\$266,523
 # of Students (FY 16) 	1,732
 # of Schools Represented 	62
 # of Towns Represented 	33
 # of Related Instruction Providers 	10

MIF - Supply Chain Health/Growth & Energy Efficiency

Supply Chain Health/Growth - Voucher Program:

Vouchers, ranging from \$5,000 to \$50,000, for the purchase of specialized expertise that will help improve operations (e.g., equipment purchase, LEAN, compliance)

 MIF Investment 	\$15 million
 Total Commitments to date 	\$14.4 million
 # of Companies 	436
 Jobs to be created/retained 	749 (643 full time) (106 part time)
 Total Value of Projects 	\$55 million
 Applicants to Distressed Communities 	28%
 Gross Margin improvement 	2.2%
 Products Exported Increase 	1.2%

Energy Efficiency – Energy on the Line:

Fully finances the upgrading of a manufacturing facility's energy efficiency, through the C-Pace Program

_	MIF Investment	\$800,000
_	Total Commitments to date	\$248,530
_	# of Companies	10
_	Total Value of Projects Initiated	\$4,086,953

MIF - Innovation & Technology

- Advanced Composites
 - **MIF** Investment
 - Total Commitments to date
 - # of Companies

\$5,000,000 \$2,900,000 2

\$440,000



- **MIF Investment**
- Total Commitments to date

RADE 2 Manufacturing Innovation

- **MIF Investment**
- # of Companies
- Project implemented
- Equipment Hours
- Types of Projects:

\$450,000 68 28 1.805 3D, x-ray scans





UCONN

UNIVERSITY OF CONNECTICUT



Connecticut Center for Advanced Technology, Inc.

In addition - DECD Financial Assistance for Business Growth in Manufacturing

Program	# of Companies	DECD \$	Jobs Retained	Jobs Created	Total Jobs C&R
Small Business Express	423	\$80,165,351	8,222	2007	10,229
MAA	81	\$225,004,689	19,636	4,289	23,925
First Five	4	\$109,100,000	2,317	1,008	3,325
TOTAL	508	\$414,270,040	30,175	7,304	37,479

 DECD financial assistance programs have aided over 500 companies as they invest and grow their businesses – about 20% of EXP and about 45% of MAA funding.

Export Support

- Also provide Export assistance through partnership with the federal STEP grant. 404 eligible small CT businesses have participated. STEP may be used for a variety of export activities including trade shows, trade missions, marketing and internationalization, U.S. Department of Commerce services (Gold Key, International Partner Search, International Company Profile), export training opportunities, and export B2B matchmaking.
 - CT has spent \$1.05 million in federal funds for STEP approved export activities.
 - CT companies receiving STEP assistance report anticipated export sales from various events including:
 - Hannover Messe: \$ 5,469,000
 Medica: \$1,950,000
 General Assistance Export Fund: \$90,032,146
 - General Assistance Export Fund. \$90,032,140
- The Farnborough and Paris Air Shows Since 2006, \$422 million is reported as anticipated sales by the sub-exhibitors in our booth

Education Investments Focused on Manufacturing

- Academia, i.e. UCONN, Board of Regents for Higher Education, Connecticut Conference of Independent colleges, CT Technical High School System are critical to building the workforce of the future
- Community Colleges have more than doubled the output of manufacturing graduates in the past 5 years
- Tech schools are producing hundreds of potential manufacturing workers during the day, and training in their facilities at night

Connecticut Technical High School System (CHTSS) Manufacturing Cluster Program Students		
	May-17	
Mechanical Design & Engineering		
Technology Students	505	
Precision Machining students 803		
Welding & Metal Fabrication students	90	
Automated Manufacturing students 47		
Mechatronics students 89		
1534		

Connecticut Community Colleges: Manufacturing Education Program Students

	2016	2011
Asnuntuck	388	154
Housatonic	116	55
Manchester	15	
Middlesex	82	
Naugatuck	109	57
Quinebaug	36	52
Three Rivers	43	
Totals	789	318

In Addition -- UCONN is Training More Students and Investing with Industry

- UConn School of Engineering has increased enrollment by 70%
- Tech Park brings industry together to do R&D as indicated below

Industry Partner	Center	Investment
ThermoFisher Scientific	Thermo Fisher Scientific Center of Excellence	\$25 Million
Eversource Energy	Eversource Energy Center	\$9 Million
General Electric	GE Advanced Technology Initiative	\$7.5 Million
United Technologies	UTC Institute for Advanced Systems Engineering	\$10 Million
Pratt & Whitney	Additive Manufacturing Innovation Center in partnership with Pratt & Whitney	\$7.5 Million
Fraunhofer USA	Fraunhofer Center for Energy Innovation	\$7.2 Million
COMCAST	COMCAST Center for Security Innovation	\$6 Million
Synchrony Financial	Synchrony Financial Center of Excellence in Cybersecurity	\$2.2 Million

In Addition: Ecosystem Partners Add Significant Value

- Aerospace Components Manufacturers (ACM): ACM is a regional network of 114 CT and southwestern MA-based aerospace companies. Works with regional, national and international experts to ensure continuous improvement of members' products
- Other Business and Manufacturing Associations:
 - CCAT
 - CONNStep
 - New Haven Manufacturers Association
 - Smaller Manufacturers Association of CT
 - Connecticut Tooling and Machining Association
 - Eastern Advanced Manufacturing Alliance
 - CBIA
 - Metal Manufacturers' Education and Training Alliance (METAL)



Our Manufacturing Strategy is Working ...



...But continued investment will be critical to sustained job growth

- Jobs on the increase after 25 years of decline:
 - EB hiring 4,000+ in 15 years
 - Pratt & Whitney hiring as many as 8,000 in next decade
 - Sikorsky growing jobs to 8,000 and increasing investment in supply chain
 - ACM members hired over 1,000 in 2017
- CT designated as an Investing in Manufacturing Communities Partnership (IMCP) for aerospace and shipbuilding
- Cross-New England Aerospace and Defense Cluster underway

#1 in insurance employees across the U.S.

#1 in the U.S. in insurance payrol

Financial Services & Insurance Strategy: Deeper Dive

Insurance & Financial: State of the Industry



The Insurance sector generates nearly 9% of Connecticut's Gross State Product (GSP)



The Insurance Industry supports 58,705 employees with an average wage of more than \$85,466



For every new job the insurance industry adds, 1.92 jobs are added to the Connecticut economy



Connecticut ranks #3 in the world in U.S. equity assets under management



The Financial sector generates nearly 11% of Connecticut's Gross State Product (GSP)



Connecticut ranks #2 in the world for large hedge funds, managing \$1 billion or more

Insurance Business Environment

- Key strength of the state is the depth of talent in insurance with strengths in legal, accounting, actuarial and data analytics
- M&A activity over the past 20 years has reduced the number of firms headquartered in the state and number of employed in insurance has declined slightly since the great recession
- Need to ensure other large insurers remain in the state and support their innovation and data analytic needs
- Continued excellence in the Insurance Department (which regulates companies domiciled here) helps make CT a good place to situate an insurance entity

The Insurance and Financial Services Cluster

Connecticut's Insurance and Financial Services Cluster (IFS) based in Hartford

- Established in 2003
- Designed to foster collaboration between business, academia and state government
- Comprised of 32 companies in Connecticut's insurance and financial service sectors Cluster strategy is based upon work already begun by IFS



IFS Cluster Strategy has invested in Talent Development



A one-week camp that provides students the opportunity to learn about the actuarial profession inside a local company.



May 2017, CT IFS launched the inaugural Banking Boot Camp with four bank sponsors and partners the Connecticut Department of Banking and Connecticut Bankers Association.



MEET THESE COMPANIES:





A public, college preparatory school for high school students, grades 9-12, who are interested in pursuing careers in the insurance and financial services industries.

Investment Fund Industry is Growing in CT

Connecticut is home to over 400 private investment funds, managing over \$750 billion in assets

Key Stats

214	984	102
Number of Hedge Fund Managers	Number of	Number of Hedge Fund Investors
i unu managers	neuge runus	Fulla investors

Investor Universes

	Connecticut	U.S.
No. of Hedge Fund Investors	102	3,271
Average Allocation to Hedge Funds		
(As a % of AUM)	12.80%	14.60%
Average No. of Hedge Funds in Portfolio	22-24	11-12
Average AUM	\$5.7bn	\$7.4bn
Typical Investment Size	\$18-36mn	\$14-38mn

Connecticut-Based Hedge Fund Investors by Type



Strategy Preferences of Connecticut-Based Hedge Fund Investors



Recent Cluster Activity is Focused on Innovation and Fintech



An accelerator which will focus on leveraging existing and emerging technology

- To change delivery of insurance products
- To improve claims management
- Managing regulatory requirements
- For innovating new insurance products
- To help insureds proactively reduce risk
- To increase the speed and scale of the industry



UPWARD HARTFORD

Co-working space with a focus on nurturing small businesses, start-ups, innovators, and entrepreneurs in the greater Hartford area. Insurtech will be located here



Connecticut Innovations \$5 million program designed to attract new ventures to the state from across the globe with a focus on

- Fintech
- Insurtech
- Digital Health
- Internet of Things

In addition to funding, winners will obtain access to a critical network of customers, investors, mentors and talent.



Other Strategic Investments to Build Upon Strengths

Build Talent in Expected High Growth Clusters

Strategy Goal





Connecticut

Selected Outcomes

- Next Generation CT—targeted \$1 billion investment in STEM disciplines at UConn
- 2011 Jobs Bills authorized \$20M to expand existing and develop new manufacturing programs in community colleges; Federal grant of \$30 million used to upgrade 3 more schools
- "300 Jobs, 300 Days" at Community Colleges pairing graduates with manufacturing jobs. Exceeded goal!!!!
- Manufacturing Innovation Fund programs aimed at developing future pipeline of talent serves 879 companies
- Launched Tech Talent Fund to enhance tech talent
- CT public schools have doubled Computer
 Science graduates in last few years

Talent Development, Con't

Strategy Goal



Outcomes

- CTNext's programs (Technology Talent Bridge, Innovation Places, Entrepreneur Learner's Permit, Entrepreneurs-in-Residence, accelerators and coworking spaces) have supported more than 1,900 members and entrepreneurs
- CTNext entrepreneur support system provides access to talent, space, expertise, services, and capital.
 Recent projects:
 - Innovation Places An effort to weave together entrepreneurship support and relationship-building with physical planning and development
 - Entrepreneur Learner's Permit Encourages entrepreneurship and job growth in our state
 - Tech Talent Bridge Helps companies connect with students in tech fields

Fostering Innovation in Universities/Urban Hubs

Strategy Goal





Connecticut

Selected Outcomes

- Dramatically increased engineers/engineering faculty at UConn; number of students up 70%
- \$1.5B construction investment in Next Generation CT at UConn to build new classrooms/labs and buy new equipment
 - Connecticut Innovations completed nearly 120 early stage company deals in fiscal year 2017, with \$38.4 million of investment
 - Connecticut Bioscience Innovation Fund provides funds to early stage companies, and nonprofits building commercialization infrastructure. Since inception and through June 30, 2017, the fund has invested approximately \$24 million in companies and projects
Infrastructure Investments Started, but More to be Done

Strategy Goal

Comprehensive Energy Policy

Selected Outcomes

- Comprehensive Energy Strategy (strategy for all residential, commercial, and industrial energy issues) was introduced by Malloy administration in 2015.
- In collaboration with New England States, it intended to help state have cleaner, less costly and more consistent access to energy.
- Progress has been stymied by changes in administration in other states and other issues.

- CT Green Bank (CGB) provides low-cost financing programs to support efficiency and renewable energy, including C-PACE and Energy on the Line.
 - Full financing of solar, fuel cells or other alternatives to help reduce cost of energy in the state
 - In 6 year history, CGB has installed more than 230 MW of clean renewable energy systems, helping reduce carbon by 3.7M tons (the equivalent of 37,000 cars); created almost 13,000 jobs; and leveraged \$900 million private sector funds.
 - Harvard 2017 Innovations in American Government Award
 - Recent budget crippled funding by cutting 50%

Infrastructure Investments Started, but More to be Done

Strategy Goal





Selected Outcomes

- State has funded development in cities and towns along MetroNorth and new light rail from New Haven-Springfield to develop retail, housing and other transit-oriented development
- Governor's Let'sGoCT outlines a 30-year transportation upgrade which includes bridges, design work for widening I-95 between Stamford and Bridgeport, and New Haven line improvements
- Lock box for transportation finally approved
- However, little funding has been provided and Special Transportation Fund is running out of funding
- Transportation cited as critical to many businesses.
- While high in overall access to broadband, CT must continue to invest in fast connectivity

Other Areas for Future Development/Investment

Strategy Goal





Connecticut

Selected Outcomes

- Due to exit of high profile companies and fiscal stability concerns, the state suffers from a poor reputation for business growth.
- Limited funding exists for marketing (2107 includes \$6.4 million of which 80+% is allocated to tourism, leaving \$1 million for economic development outreach).
- State has reduced regulation (over 1000 pages of regulation eliminated) and permitting processes (agencies have "leaned" their processes), but still perceived as being difficult to do business.
- Population growth has stalled (up 500 last year with over 10,000 departures in prior 3 years); misperception on where change is occurring
 - Over 5 years, the proportion of 20 somethings increased more than any other state, up from 12.5% to 13.1%
 - Percentage of families living below poverty level fell from 8% to 6.8% (nationwide is about 10%)
 - Share of households making at least \$200,000 rose from 10.3% to 11.1%
- High costs remain an issue: Higher cost of talent not always seen as higher value.



DECD's Business Support and Incentives

DECD Toolbox

Tax Abatements for: Financial support for: Growth **Targeted Cities Capital Investment** <u>Tax</u> Growth **Financing Capital Investment** Tailor-made Incentives • Loans • Credits Forgivable Loans Abatements • Grants **Technical Assistance** • Expertise Research Partnerships **Technical Assistance for:** Innovation support Introductions and partnerships R&D Mentoring Connecticut

Use of Incentives is Tied to Strategy

- For larger companies, focused on
 - Key business sectors
 - Out of state recruitment
 - Offshore Foreign Direct Investment (targeted in selected countries)
- Tailor each transaction (within statutory requirements) to meet specific business needs
- For small business: goal is to ensure companies with a focus on our "Main Street" businesses – have access to growth capital, partnering with banks
- EXP is more standardized, but still underwritten

Small Business Express Program (EXP)

Matching grants of up to \$100,000, or loans/forgivable loans in amounts up to \$300,000

- To date, 1,874 companies have been provided more than \$304 million in financial assistance to create 7,727 jobs and retain 20,558
- All industries are represented including manufacturing, healthcare and bioscience, business and financial services, construction, and main street retail
- Volume has slowed as bank activity has increased
- Emphasizing partnership with banks
- Renewed focus opportunities:
 - Minority Business Owners
 - Incorporating arts into projects
 - Leveraging EXP to attract innovative and tech companies from out of state



Manufacturing Assistance Act (MAA)

Provides milestone-driven loans and grants for mid to largesized companies growing jobs and building their business in CT

 Since 2011, MAA has assisted 156 companies with over \$413 million in assistance in exchange to retain 39,318 jobs and pledge to create 8,408 in the state's largest urban centers, suburban towns, and small rural communities.



First Five Plus

 Encourages business expansion, relocation and job creation for largescale companies that create 200 jobs within 2 years or invest \$25M and create 200 jobs within 5 years

Success to date:

- 15 projects to date
- Provided \$321M in direct state assistance, leveraging \$1.7B
- 13,526 jobs to be retained and 5,674 to
 9,280 jobs to be created







Tax Incentives

Enterprise Zones



Tax Abatements

- 5-year, up to 80% on property taxes
- 25% credit of state corporate taxes attributable to participation in a certified project

Tax Credits

- Urban and Industrial Sites Reinvestment Tax Credit
- Angel Investor Tax Credit

Tax Exemptions

- Sales and Use Tax
- Manufacturing Property
- Corporate Sales

Stewards of Taxpayer Funds

- DECD assistance packages require an ROI analysis as we view ourselves as stewards of taxpayer funds
- We evaluate both the direct and indirect cost and benefits of the programs on a deal by deal basis
- The primary industry model, REMI, uses experience from over 40 years of economic outcomes to model expected future results of investments and growth in specific industries
 - Inputs: state assistance; company's investment; new employment; industry sector impacted
 - Outputs: expected impact on state revenue, GDP, annual loss/gain
- Overall our portfolio is creating value:
 - 1,816 companies are growing 18,012 jobs with 72,799 jobs retained
 - Creating 107% of the expected jobs
 - Leveraging \$2.7 billion
 - Delivering on commitments

DECD Investment Analysis

- DECD requires a positive ROI on direct company returns
- Our ROI is generated on new income, sales and use taxes and interest payments; minimum acceptable return is the principle plus our cost of capital



Why Provide Financial Incentives? Why "pick winners"?

- We compete everyday with other states for company retention, expansion and job growth
 - Connecticut companies are approached regularly by states who commission reps to lure businesses to their state; we must compete and use incentives to retain and support company growth in Connecticut
 - Site Finders set up competitive bidding processes between states for new company expansions
- Investing with companies makes sense if it keeps them growing in the state AND if we can get a positive ROI
- We are focused on international recruitment (foreign direct investment) and incentives can help defray the cost of their move
- Disciplined approach is required i.e. walk away from transactions that don't pencil

McKinsey's Preliminary Data for Incentives Deals for 2017

New Jobs

Safe-guarded Jobs

Overview of Incentives Deals

Data for incentives deals from 2017¹

	Total deals No.	Total incentives USD m	Sum of Capex USD m	Total Jobs No.
New York	226	1,011	8,338	133,724
Massachusetts	225	76	854	13,189
North Carolina	126	257	4,062	16,135 83% of jobs under CT
Connecticut	114	101	505	6,149 deals were new, high
New Jersey	68	1,115	1,418	compared to 17,661 MA (45%) and NJ (42%)
Florida	36	31	355	4,987
Texas	30	1,296	10,345	17,935
South Carolina	24	18	1,649	7,191

1 Different types of incentives include: tax, grant subsidy, loan/credit, non-financial, other/not-specified SOURCE: IncentivesMonitor – WAVETEQ (www.IncetivesMonitor.com)



Other Selected Metrics we Track









Connecticut

Data from CT DOL & Bureau of Economic Analysis

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