### MAINE STRATEGIC PLANNING: ECONOMIC AND DEMOGRAPHIC TRENDS

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# WHAT TRENDS DID THE WORKING GROUP CONSIDER?

### **HUMAN CAPITAL TRENDS**

Flag	Data
Demographics	Maine's slow-growing and aging population is hurting our economy.
	Maine's population grew just 0.6% since 2010, 45 <sup>th</sup> lowest in the country, and Maine's median age is the oldest in the country (44.7 years).
	The percentage of Maine's population who are children has fallen faster, and the percentage over age 65 has increased faster, than the US.
	Since 2010, Maine has attracted 18,000 people (32nd lowest), of which 10,000 were international migrants (47th lowest).
	Androscoggin County is a bright spot as Maine's youngest county and the one with the slowest growing percentage of population over 65.
Labor Force	Maine's anemic labor force growth is holding back business and economic growth.
	Maine's labor force is roughly the same size today as it was ten years ago, primarily a result of slow population growth.
	Labor force participation rates for Maine adults are higher today compared to 2010, largely because there is more economic opportunity today.
Degree	Maine people are becoming more educated.
Attainment	Since 2010, the percentage of Maine's adults with a college degree has increased 5 percentage points, catching up with the US and closing the gap to New
	England. Degree attainment for men, women, and those age 25-44 has increased faster than NE and the US (but still trails NE).
	Maine's population age 45-54 with a college degree increased slower and remains lower than both New England and the US.
Higher Ed	Maine's colleges and universities have become more affordable.
Affordability	Maine's colleges and universities are the most affordable in New England. Adjusted for inflation, in-state tuition at UMS is \$400 per year less compared to 2010; MCCS tuition is \$100 less.
Higher Ed	Investment in our public higher education institutions has been flat.
Investment	State investment in public higher education institutions has been roughly 3.5% of total expenditures since 2010. Expenditures per student were \$8,500 in 2017, just below the national average, up from \$7,500 in 2010, and about the same aspre-recession levels (about \$8,600 per year).
College Success	Long neglected, Maine is beginning to address college success from several angles.
Success	Retention and graduation rates at Maine's community college and university systems have increased somewhat in recent years. Three-year success rates for
	community college students was 55% for the 2015 cohort (graduated, enrolled, or transferred) compared to 51% in 2010.
	There is significant energy and resources being devoted to college success, from UMS and MCCS, individual campuses, and third-party organizations like Jobs for Maine's Graduates.
Workforce	Maine's colleges and universities are responding to in-demand skills.
Skills	Since 2010, the number of graduates from Maines universities has increased by over 40% in computer and math fields, 29% in engineering fields (despite slow growth in more recent years and over 21% in nursing.
	Graduate degrees for healthcare practitioners have more than doubled since 2010, although advanced degrees in other STEM fields have been flat and decreasing marginally (-
	2%).
	In 2018, the FocusMaine internship program supported 418 internships with 29 companies. Over 500 internships are slated for Summer of 2019.
Tomorrow's	Maine continues to be challenged in meeting goals of higher student proficiency in reading, math, and technical skills.
Workforce	The number of students scoring proficient for Grade 3 reading and Grade 8 math has been flat and below New England over the past decade.
	Enrollment in Maine's 27 Career Technical Education schools has been flat since 2013, declining in 16schools.
Remote	Maine has been attracting an educated remote workforce.
Workforce	50% of Maine's current remote workforce (40,000 people) have moved to Maine since 2010, 80% of which have a bachelor's degree and 39% have a master's
	degree. 85% had previous connections to the state (family, vacations, college).

#### **MACROECONOMIC TRENDS**

Flag	Data
Slowing	Maine's economic growth is falling further behind the rest of New England and the US, likely due to our industry mix and demographics.
Growth	Since 2010, average annual GDP growth in Maine has been 2.6%, compared to 3.1% and 3.8% for New England and the US, respectively.
Industry Mix	Maine lacks a critical mass of high-growth industries that are propelling growth elsewhere in the US.
	Prior to the 1990s, Maine was unique for its high percentage of manufacturers; now the percentage of manufacturing jobs is similar to the rest of the US.
	Maine's output is relatively greater than the US in forest products, fishing, retail, health care, social assistance, accomodation, food services, apparel and leather
	products manufacturing.
	Maine's output is relatively less than the US in transportation, information, and professional and business services (all of which are growth areas for the US economy), and manufacturing.
Productivity	Worker productivity is improving but still much lower than the rest of country.
	Maine's worker productivity (value added per worker) has improved in the past decade but still trailed the U.S. by about 25% in 2016.
	Compared to other states, value added in 2016 was particularly low in construction (49th), information (50th), manufacturing (47th), professional, scientific, and technical
	services (41st), and transportation (43rd).
	Compared to other states, value added in 2016 was high in accomodation and food services (17th), utilities (19th), and real estate, rental, and leasing (22nd).
Low Incomes	Incomes and wages are lower in Maine than elsewhere in the US.
	Maine's median household income is lower than the US, but the gap has closed slightly from 9% in 2008-2012 to 8% in 2013-2017.
	Across all industries, average weekly wages are about 20% lower in Maine than the US. This gap is unchanged since 2010.
	Transfer payments accounted for 22% of personal income in 2018, compared to 17% nationally and 15% in New England. The difference is likely due in part to Maine's
	higher percentage of older residents.
(	About 1 in 5 Maine households (21%) earn over \$100,000, compared to 1 in 4 (26%) nationally, and 1 in 3 (34%) in New England.
	Maine's income inequality is lower than other states, likely due to having fewer high-income earners. In 2017, it ranked 36th of the 50 states and DC.
Poverty	Maine's overall poverty rate is falling, and lower than the US, but poverty is high among children and in Maine's "rim" counties.
	In 2017, Maine's poverty rate of 11% was lower than the US rate of 13%, but fifth highest in New England (after Rhode Island).
	In Northern and outlying counties, poverty exceeds the national average, while in Southern and coastal counties, it is lower.
	Childhood poverty in Maine is high, although some statistics suggest it may be falling. Estimates for 2013-2017 show 20% of Maine children under age 5 living in poverty,
	compared to 9% of people age 65+. During the same years, nearly half of single mothers with children under age 5 were living in poverty.
Seasonal	Maine's economy and tax revenue are highly dependent on tourism and retail, which are cyclical.
Economy	From August to January, the number of employed Mainers generally falls by 6%, or 36,000 (2014-2018 five-year average).
	Taxable retail sales for the month of January are generally 69% lower than August (2014-2018 five-year average).
Rural/Urban	Economic growth is increasingly concentrated around Portland and, to a lesser extent, Maine's other urban areas.
Divide	The Portland region generated 52% of Maine's GDP in 2017, with Bangor and Lewiston-Auburn contibuting 17%. The rest of Maine generated 31%, down from 34% in the
	early 2000s.  The economic divide between Maine's urban and rural areas is steadily growing. Since 2010, the annual growth of jobs, wages, and per capita income has been more than
•	20% higher in urban areas, on average.
	The rural/urban divide fades somewhat for poverty. Poverty is lower in the Portland region than the rest of the state (10% versus 15%, respectively), but in Augusta, Bangor,
	and Lewiston-Auburn, it is about equal. Research suggests poor residents seek access to transportation, affordable housing, jobs, and public services found in urban areas.
Exports	After growing strongly in the 2000s, Maine's export growth has stalled.
	From 2002 to 2010, Maine's exports grew 7.5% annually on average, just below the US rate of 8.6%. Since 2010, exports have fallen by 1.1% each year on average, while US

exports have grown continued growing around 3.6%.

### **ECONOMIC SECTOR AND CLUSTER TRENDS**

Flag	Data
Tourism	Maine's healthy tourism industry provides employment and income for thousands of people, but needs more well-paying, year-round jobs.  Maine's tourism industry has enjoyed steady year-over-year growth, attracting 37 million visitors in 2017.
	<ul> <li>Since 2010, jobs in accomodation, food services, arts, entertainment, and recreation have grown twice as fast as the job market overall (1.7% compared to 0.8%). However, these jobs are often seasonal and pay significantly less than jobs in other industries.</li> <li>Maine is well positioned to meet growing national demand for experiential tourism that draws on an area's unique natural, cultural, and adventure assets.</li> </ul>
Healthcare	Health care continues to be one of Maine's largest employers, but the industry is maturing and the pace of growth is slowing.  In 2017, health care accounted for more than 1 in 7 jobs in Maine, 90,000 total, nearly as many as all goods-producing businesses in the state.
	Employment in healthcare continues to rise but the pace of growth is slowing. Since 2010, annual job growth has averaged 0.8%, equal to the growth rate for all industries.
Prof & Bus	Professional and business services is one of Maine's largest and fastest growing industries.  The percentage of Maine jobs in professional and business services grows nearly every year, reaching 11% in 2017.
	Jobs in professional and business services have grown about 3% annually since 2010, much faster than the rest of the economy. Leading sectors are administrative and support services, janitorial and land scaping services, engineering, computer systems, and management offices.
Manufacturing	After decades of decline, the manufacturing industry has stabilized and diversified, and is seeing pockets of growth.  Manufacturing employs thousands fewer people than in decades past, but 0.3% annual job growth since 2010 is positive news for this industry.
	<ul> <li>Since 2010, job losses in pulp and paper manufacturing (about 3,000) have been surpassed by gains in boat building, food and beverages, pharmaceuticals, and an assortment of other industries (about 4,000).</li> <li>After years of decline, the number of manufacturing employers has grown each year since 2012, reaching 1,860 in 2017 (from a low of about 1700).</li> </ul>
Construction	Construction employment has not returned to pre-recession levels, but those levels were likely artificially high due to the housing bubble.  Since 2010, construction jobs have increased 1.9% annually, on average, exceeding the overall growth rate of 0.8%.  The construction industry created 31,000 jobs in 2017, making it Maine's seventh largest industry, although employment has not yet returned to pre-recession levels.
Financial Activities	The composition of Maine's financial industry is shifting and overall employment has fallen slightly.  Employment in financial activities has fallen 2% (700 jobs) since 2010. The biggest losses were in commercial banking, which were only partially offset by gains in financial transaction processing and clearing, credit unions, and insurance.
Boatbuilding	After declining in the 2000s, Maine's boat building industry is growing and diversifying.  The number of boat builders has grown in recent years after declining in the 2000s. In 2017, Maine had 87 boat builders, up from a low of 70 in 2012.
	Job growth in boat building has been more than double Maine's overall job growth rate, avering 1.7% since 2010, compared to 0.8%. The industry supported 12,500 jobs in 2017.
Forest Products	After decades of challenges, Maine's forest products industry now has high potential to modernize, diversify, and grow.  Maine is well positioned to supply new markets are being developed for forest products for use in biobased chemicals and renewable plastics.
	In a unique move, the leaders and supporters of Maine's forest products industry have joined the Forest Opportunity Roadmap/Maine, a proactive group formed to plan the next phase of this industry's growth.  The University of Maine is an important R&D partner for the industry, and a "unique and advantageous asset."
Farming	Farming is enjoying a revival, propelled in part by increased demand for local, sustainable, and organic products.
	Maine's farming industry is growing and diversifying. From 2010 to 2017, the number of farm employers increased 39% and farm jobs grew 25%.
	<ul> <li>Maine ranks 2nd nationally, behind only Vermont, in an index of states' commitment to local food. The index includes farmers markets, direct-to-consumer farm sales, and other public programs.</li> <li>In 2016, there were 494 certified organic farms in Maine, totaling over \$65.6 million in sales (a 37% increase from the prior year).</li> </ul>

### **ECONOMIC SECTOR AND CLUSTER TRENDS**

Brewing	•	There is a growing cluster of locally-grown beer and breweries that is attracting tourists and contributing to exports.  In 2017, Maine craft brewers generated 1,910 jobs and paid \$54 million in wages.
		An estimated 9 million tourists visited a Maine brewery in 2017, equivalent to 1 in 5 tourists.
Energy	•	Maine is a regional leader in renewable energy but this industry needs support and stability to grow.  Maine leads New England in wind power generation and trails only Vermont in hydroelectric.
	•	Despite recent regulatory setbacks, Maine's natural environment creates unique opportunities for clean energy production, especially in on- and off-shore wind, tidal, and hydroelectric.
A		
Aquaculture		Aquaculture is a small but promising industry that leverages Maine's marine resources.
		After declining steadily in the 2000s, employment in aquaculture is now growing, reaching several hundred in 2017. The number of aquaculture employers grew from about 20
		in 2010 to about 30 in 2017.

## INNOVATION AND ENTREPRENEURSHIP TRENDS

Flag	Data
R&D	Maine lags behind other states in R&D spending, particularly in the private sector.
	In 2016, R&D spending in Maine ranked 45th of the 50 states. Maine's R&D expenditures have grown 1% annually on average since 2010, compared to 4% nationally.
	R&D spending by Maine businesses is notablly lower than elsewhere in the US, perhaps reflecting differences in Maine's industry mix.
	New patents granted to Maine business and universities grew to a new level in 2010 but have since plateaued. By contrast, Massachusetts and New Hampshire have experienced 37% and 17% growth, respectively, since 2010.
	Most of Maine's R&D activity occurs in the Portland region. From 2010 to 2015, 70% of patents were registered in Cumberland and York counties; followed by 8% in Penobscot.
	The Maine Economic Improvement Fund spurs economic development through university-based R&D by leverages state funds to attract private and federal grants and contracts.
Entrep'ship	Maine entreprenuers are succeeding at rates similar to their US peers, but more are needed to make a meaningful economic impact.
	Since 2010, the rate of entrepreneurship in Maine has been flat at around 0.3%, equal to the US average.
	Since 2010, the number of new start-ups each year in Maine has grown 0.4% on average, compared to 2.3% nationally. So while Mainers are just as likely as others in the US to become entreprenuers, our slower population growth means fewer start-ups.
	Since 2010, the number of jobs created by Maine start-ups has grown 3.6% annually on average, compared to 0.9% nationally. Maine start-ups have created 4,800 new jobs per year on average.
	Portland is a growing hub for entrepreneurship efforts. WalletHub's 2019 list of the best small cities for starting a business placed Portland 339th out of 1,200 cities nationally. It
Charat	ranked 78th in terms of access to resources (such as workers and investors).
Start-up	Support for business start-ups has been increasing, mainly in Southern Maine, but more is needed to make a meaningful economic impact.
Support	Opportunities for Maine start-ups to learn and network have blossomed in the past decade. They include conferences, pitch competitions, educational classes, technical support, and networking events. Most are located near population centers in Southern and Central Maine.
	Since 2010, the one-year survival rate of Maine start-ups is 80% on average, just above the U.S. rate of 78%.
	Maine's level of venture capital fluctuates from year to year, but appears to fall just below neighboring states. From 2010 to 2017, VC investments hovered around \$1500 per \$1 million GDP, compared to about \$1700 in NH, CT, and RI. In MA, it was over \$12,000 per \$1 million GDP.
	The Maine Technology Institute is a valuable source of funding for Maine start-ups. It has invested over \$260 million in more than 2,500 projects since 1999.

### GOVERNANCE AND BUSINESS CLIMATE TRENDS

Flag	Data
Taxes	Progress has been made on taxes, but Maine's overall tax rank is still high and reforms are needed.
(	Maine's per capita state and local tax burden was essentially flat from 2010 to 2016, and persistently higher than the New England average.
(	Maine's rank in the Tax Foundation's State Business Tax Climate Index improved from 34th best in 2010 to 30th in 2019.
(	Maine's top marginal tax rate has fallen from 8.5% to 7.15% but is still 11th highest in the country.
	Maine's per capita property tax collections are 10th highest in the country, although this rank does not account for Maine's highest-in-the-nation percentage of second homes, many of which are owned by non-residents.
•	Maine's 5.5% sales tax rate is 8th lowest in the country, partially due to our lack of a local option sales tax.
	Maine's state tax revenues are inherently volatile, and current reserves would not offset revenue losses in even a moderate recession.
Energy Costs	Maine is the most energy-intensive economy in New England, with costs and usage exceeding the national average.
(	The average cost of retail electricity has risen for the last five years and is now 11th highest in the nation.
(	The cost of industrial retail electricity has fallen from 14 cents per kilowatt hour in 2007 to 9 cents in 2017. This rate is lower than elsewhere in New England but still exceeds the US average of about 7 cents.
(	Maine has very energy-intensive industries, such as forest products and other manufacturing businesses, that account for nearly one-third of the state's energy
	use. That is more than double the share of industries in other New England states.
Cost of Doing	The cost of doing business in Maine has improved, and is lower than some other New England states, but is still high.
Business	According to Moody's Analytics, Maine's cost-of-doing-business was 8th highest in the country in 2017, up from 10th in 2010. Maine's rank was third worst in New England.
Regulatory	Perceptions of Maine's regulatory environment are persistently negative.
Perceptions	The percentage of Maine business leaders naming "state regulations" as a top issue facing the state fell 19.5% from 2010 to 2018.
(	In 2018, Forbes ranked Maine as the 48th best state in which to do business, and 50th in terms of regulatory environment.
Healthcare	Health care costs exceed the New England and US averages, and are a top concern of Maine business leaders.
Costs	In 2017, Maine's health care spending was equivalent to 18% of total personal spending, compared to 17% in the US and New England. This percentage has
	risen slowly since 2011, when it was essentially on par with the rest of New England.
(	In a 2018 survey, Maine business leaders recommended "cost of health insurance" as the top priority for Maine's next governor.
Governance	Some of Maine's government and civic institutions need updating.
(	An aging and declining population is threatening the viability of some small, rural communities.
	Maine's tradition of local governance inhibits regional policy making and economic development.
	Maine lacks a process for evaluating the potential regional and state economic impacts of proposed laws.

### PHYSICAL AND VIRTUAL ENVIRONMENT TRENDS

Flag	Data
Roads and Bridges	Maine's roads and bridges continue to require significant and sustained investment.
Bridges	Since 2012, the percentage of Maine's major roads graded "D" or "F" has remained relatively flat at about one-third. One of three Maine bridges shows significant deterioration or does not meet current design standards, about the same as in 2012.
	Maine has 23,450 miles of public roadway, more miles per person than any other New England state, and 5 1/2 times as many rural as urban road miles. It takes about \$98 million per year to maintain our roadways in the winter, a cost of \$2,000-8,000 per mile for municipalities.
	Maine's gas tax has not been raised since 2012, when inflation indexing was repealed. Adjusted for inflation, revenues are 3.5% lower today. Nationally, average fuel efficiency has increased by 4 mpg since 2010 and 9 mpg since 2000, leading to less gasoline purchased per mile ofdriving.
Housing	Buying or renting a home in Maine has become less affordable, particularly in southern and coastal Maine, and for low-income households.
	Since 2012, median house prices have increased faster than median incomes. Southern and coastal Maine are the least affordable.
	Increasing demand for rental units, a national phenomenon, is pushing vacancy rates lower and rents higher. Twice as many higher-income earners rent today than in 2010.
	Unaffordability is most acute for those earning less than \$35,000.
	Maine's housing stock is older than the rest of the country (but not New England). One quarter of Maine homes were built before 1940 and three-quarters before 1990 (vs. 68% US, 81% NE). Androscoggin and Knox counties have the oldest housing stock.
Renewable Energy	State policies have hindered investments in wind power and rooftop solar over the last eight years, but that is changing.
Energy	Maine lost a major investment in offshore windpower in 2013 (Statoil), a moratorium on land-based wind power was passed in 2018 (repealed in 2019), and the PUC replaced net metering with gross metering in 2017 (reinstated in 2019).
Heating oil	Maine has made significant progress transitioning away from oil heat, but still has a ways to go.
	62,000 fewer households heat with oil today compared to 2010. This 12 percentage point change is faster than the US and NE. Roughly ¼ switched to gas, ¼ to propone, ¼ to wood, ¼ to other sources. This dynamic cuts across geographies and income brackets.
	62% of Maine's households still heat primarily with oil, the highest rate in the country (compared to 37% in NE and 5% in the US). The highest rate is in York (69%) and the lowest is in Piscataquis (54%).
Broadband	Broadband access has increased, still with room to go, particularly in rural areas.
	The number of Maine households with broadband service increased from 72% in 2013 to 81% in 2017. Access varies regionally, with 84% of households with access in Cumberland compared to 65% in Piscataquis.
	Currently, 55,000 households (10%) are unserved by broadband access of at least 25Mbps of broadband.
	Maine's MLTI wireless network at middle and high schools is obsolete and was last refreshed in 2012. Schools with the means to do so are opting out, creating inequities and higher average costs.
Higher Ed	The capital investment needs at UMS are intensifying.
Infrastructure	The percent of UMS space over 50 years old has increased from 31% in 2010 to 47% today, far above the average for its peers, and is projected to be 55% in 2023. There is an expected \$1.15 billion in facility needs over the next 10 years.
	MCCS currently has an estimated \$40 million in facility needs.
Connections to the	Maine has increased its connections to export markets, particularly in Portland.
to the World	Maine is strategically positioned to service three major population centers by road: New York (20.3 million people), Boston (4.6 million), and Montreal (4.1 million).
	Cargo volume passing through the Port of Portland grew 244% from 2013 to 2017; vessel traffic grew 71%; and the total value traded rose to \$2.46 billion in 2018, up from \$2.21 billion in 2017.

### PHYSICAL AND VIRTUAL ENVIRONMENT TRENDS

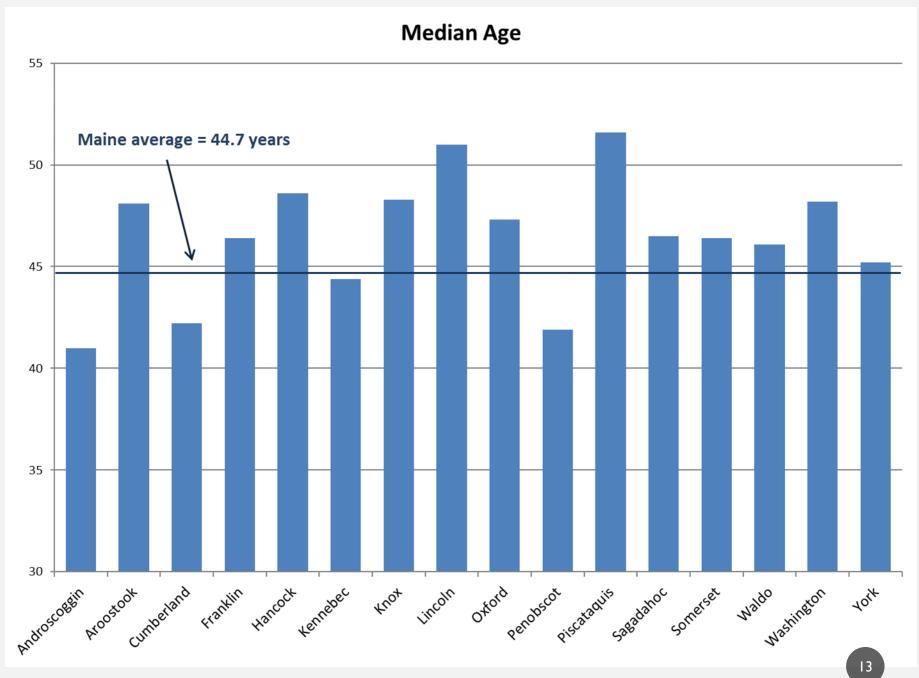
Forests	Maine's forests continue to provide significant economic value and potential.
	Maine's forestland has remained stable in the past four decades at over 17 million acres, 12 million of which are non-industrial privately-owned acres. About half is certified as sustainably managed. More trees are growing than being harvested, a trend that has been increasing since 2000.
	Some 3 million acres have been conserved in the last generation, expanding Maine's percentage of conserved land from 5 to 20% of total land area. This trend slowed in the last decade
	but the number of organizations and funding sources dedicated to conservation suggest it will not flatten. 1,200 miles of ATV trails, 1,700 miles of snowmobile trails, and 350 boat launch
	sites have been conserved for public recreation.
Climate Change	Climate change is coming, with significant implications for our economy.
	A recent academic study estimated that sea level rise has already contributed to a loss of \$70 million in property values since 2005. NRCM estimates that a one-meter rise in sea level will impact over 20,000 acres of land and 85km of roads in coastal towns.
	Ocean acidification and rising sea temperatures could shift key Gulf of Maine fisheries north, (e.g., lobster, shrimp, groundfish). GMRI found these waters are warming faster than nearly every other part of the world's oceans.
Water Quality	The water quality of Maine's lakes and rivers remains high and a competitive advantage compared to many other states.
	95% of Maine rivers and 91% of Maine lakes have good quality water (classified by DEP as category 1 or 2).
Public	Few Maine workers use public transporation to get to work.
Transportation	Just 0.6% of workers age 16 take public transportation to work, unchanged since 2010 and compared to 6.3% of workers in N.E. and 5.1% in the US.
	A lack of public transit options disproporationaly affects low-income workers; of those who took public transit to work, two-thirds earned less than \$35,000/year.
Rail	Maine's railways have not been modernized.
	Maine has no Class I railways. Many of our shorthaul lines are not able to handle the emerging standard rail car weight of 286,000 lbs and/or are in need of investment and repair.

## TODAY: HIGH LEVEL TRENDS TO SET A COMMON BASELINE

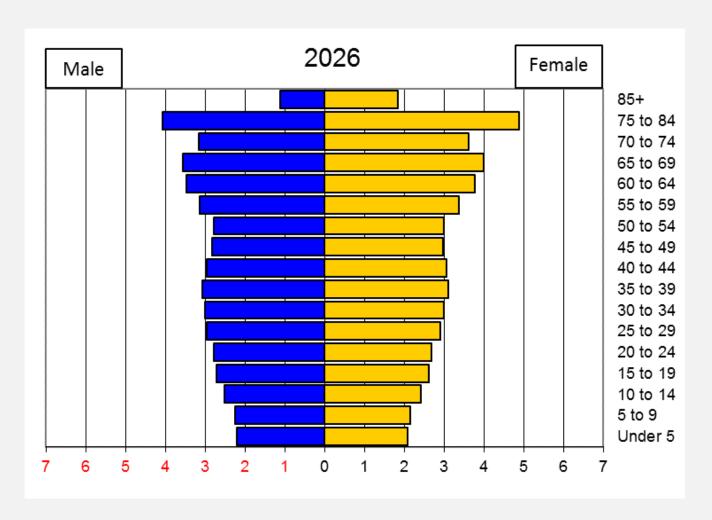
#### MAINE: A DEMOGRAPHIC SNAPSHOT

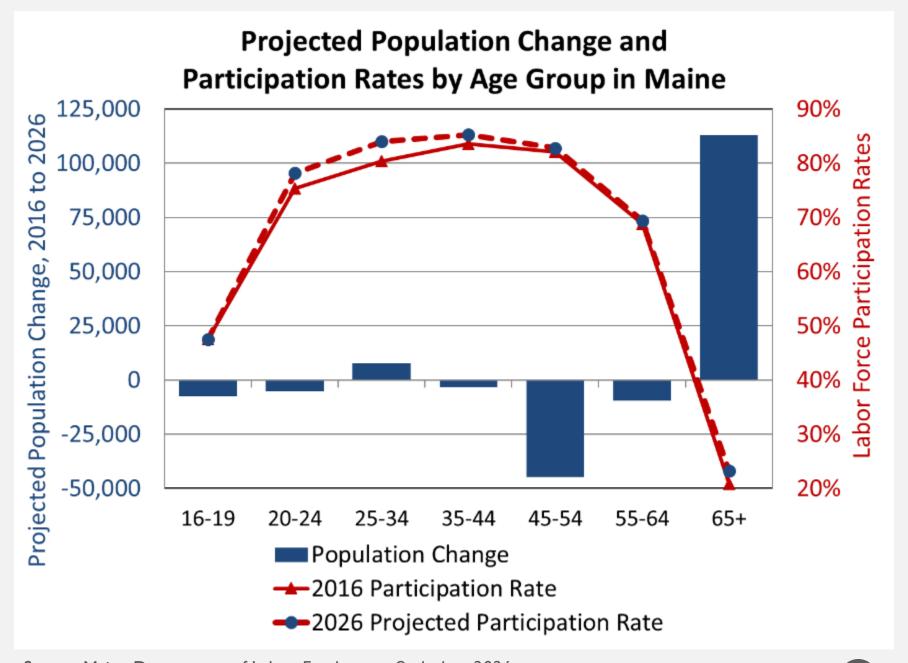
- 2018 Population Estimate: 1,338,404
  - 42<sup>nd</sup> largest in US
- 2010 2018 Population Change: +0.8%
  - 42<sup>nd</sup> in US (ahead of WV, IL, CT, VT, RI, MS, NY, PA)
- 2017 Median age: 44.7 years
  - Oldest in US
- 93.3% White, Non-Hispanic
  - Highest percentage in US

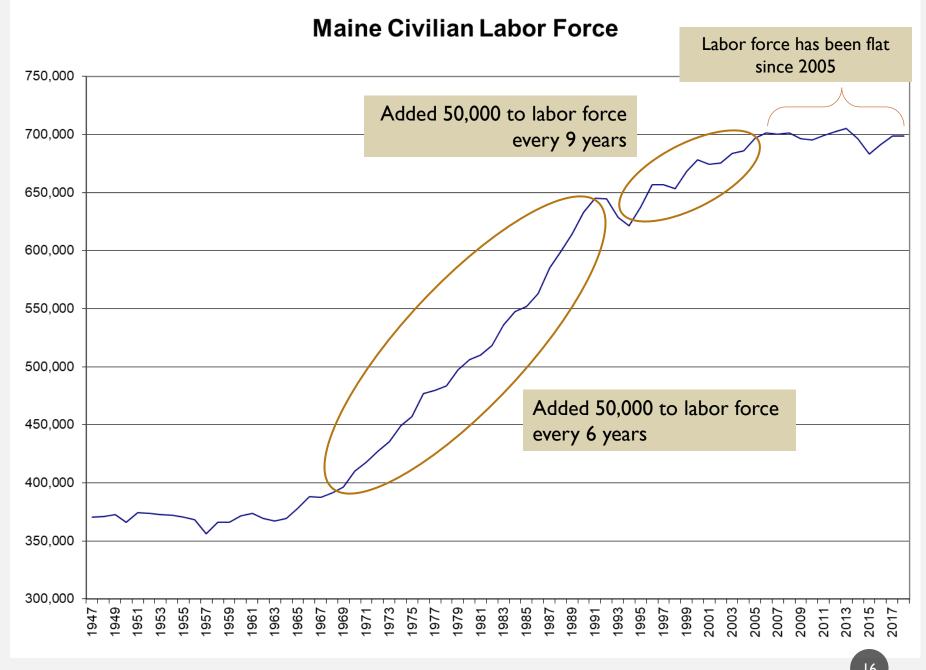




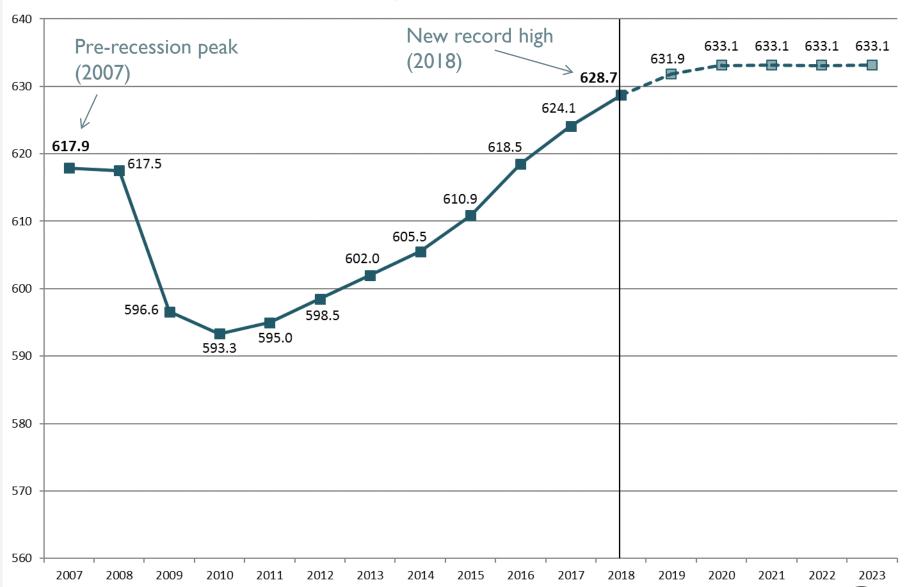
#### THE BABY BOOM WAVE



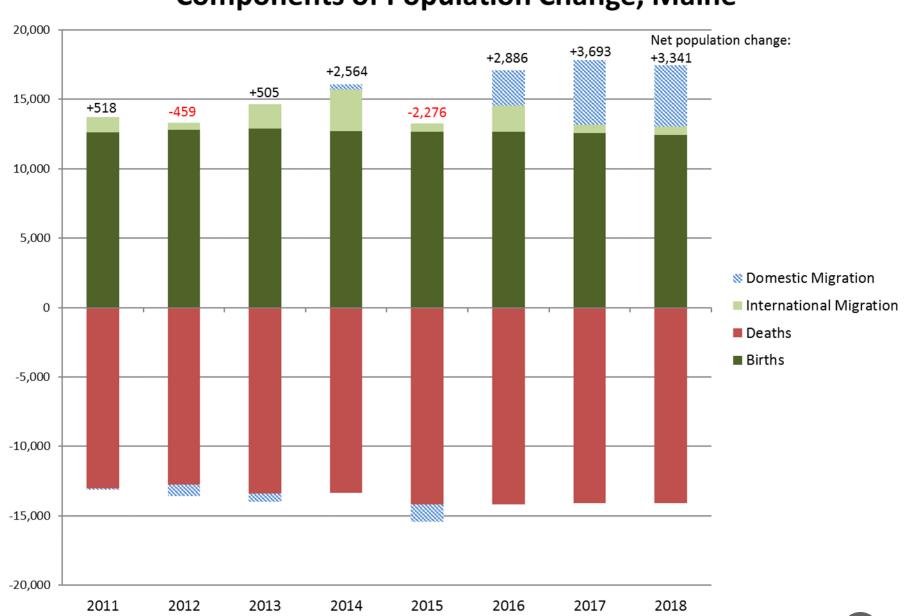


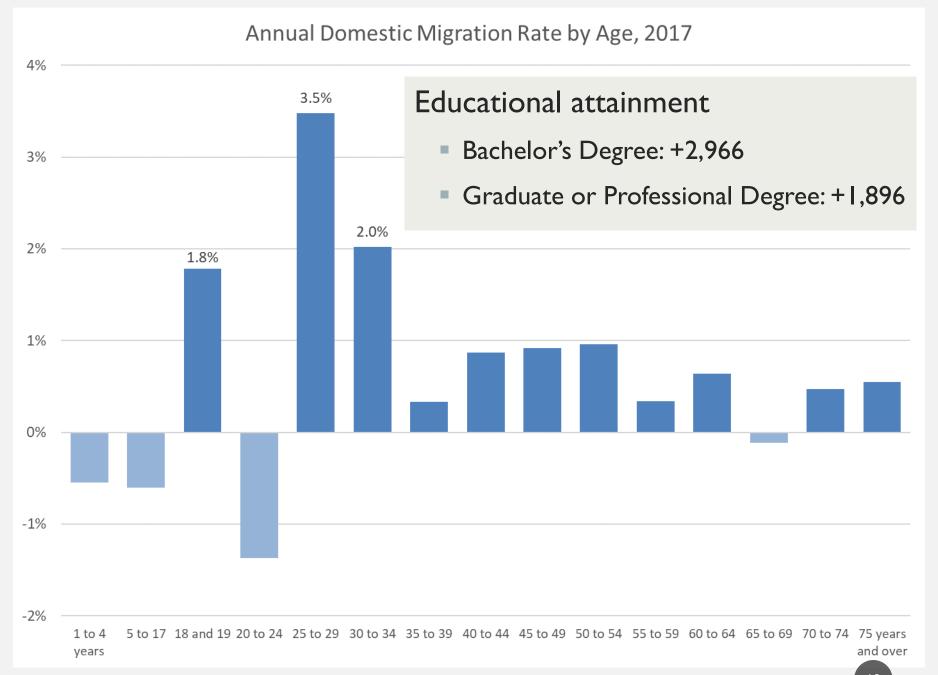


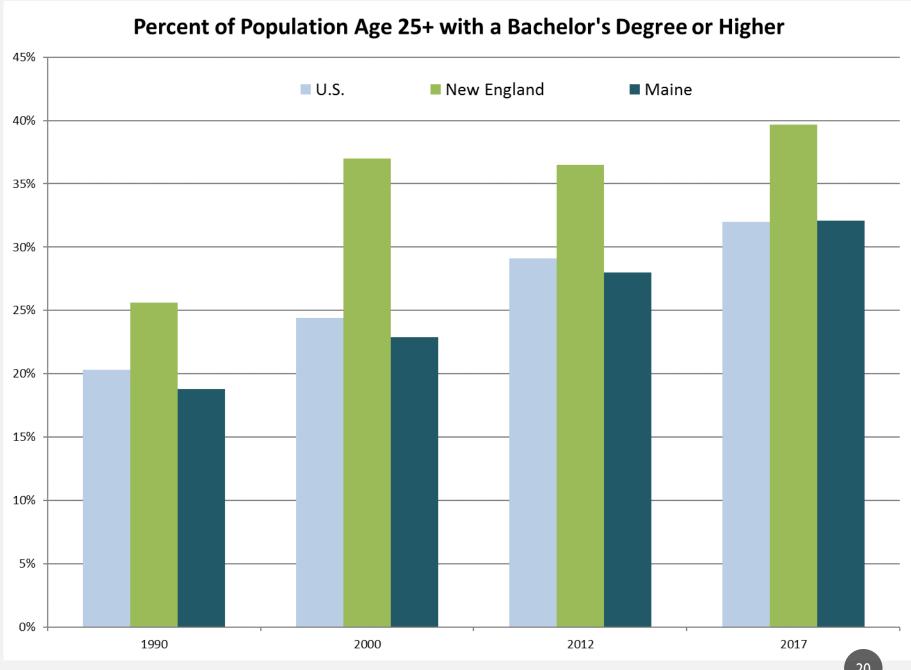
### Total Nonfarm Employment (in thousands) History and CEFC forecast

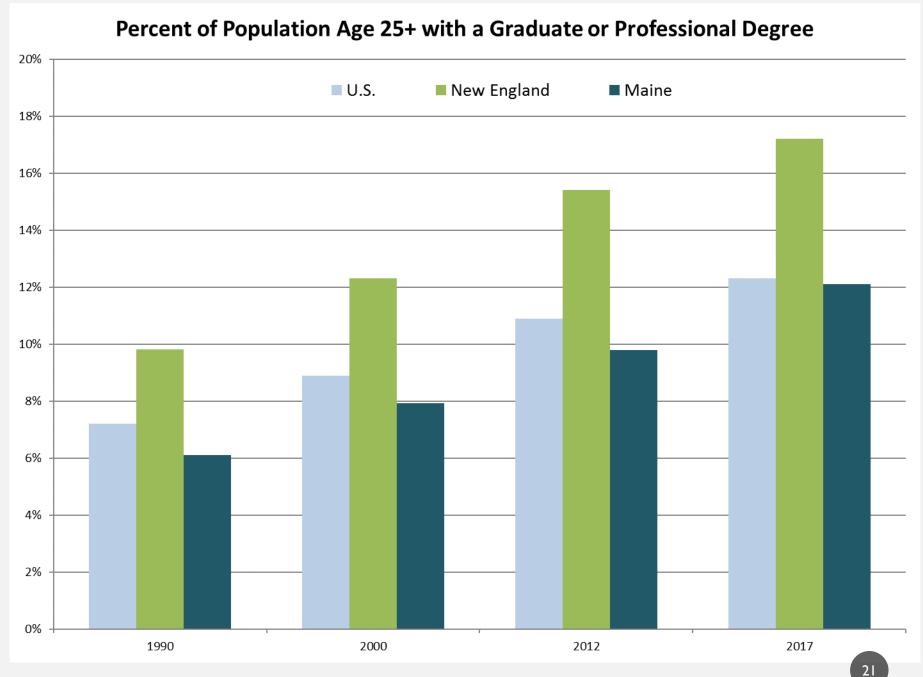


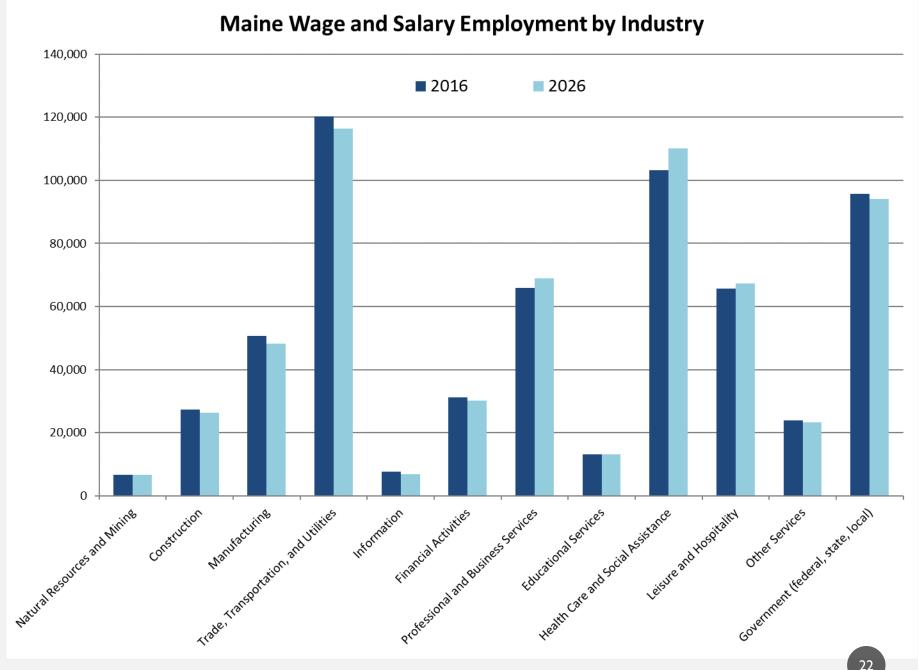
#### **Components of Population Change, Maine**

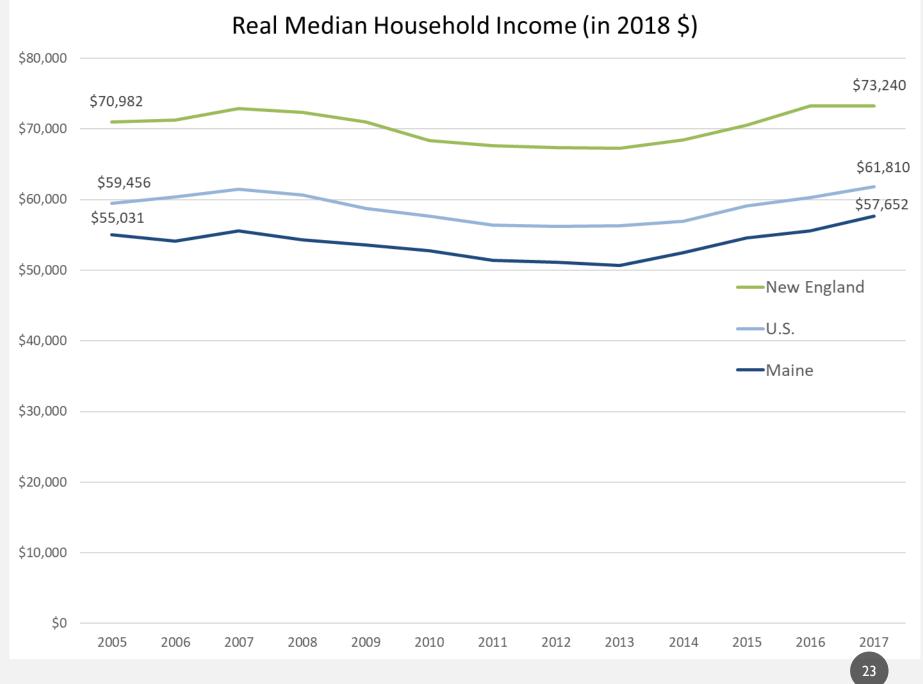


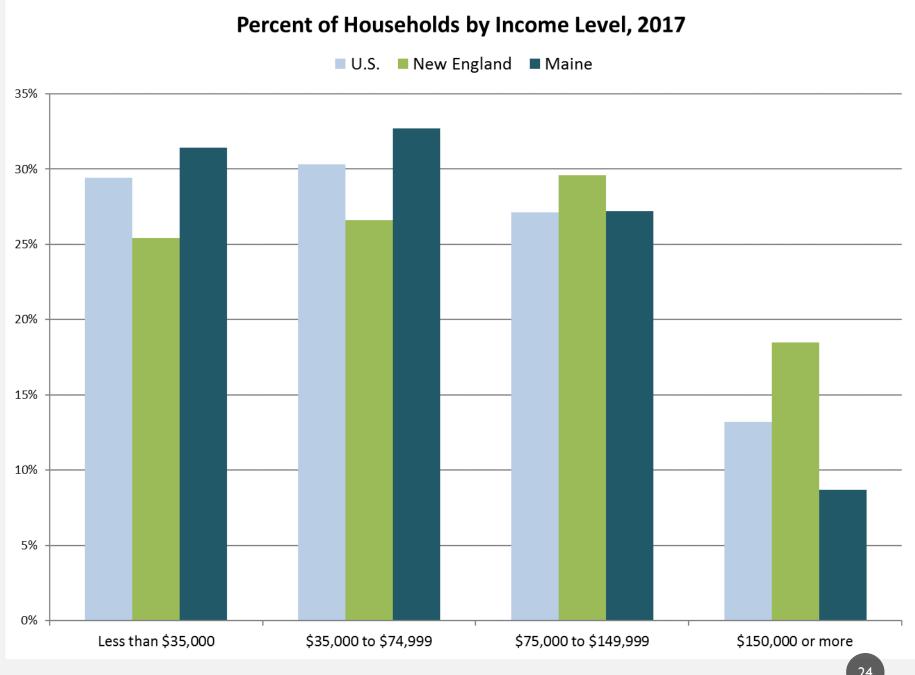


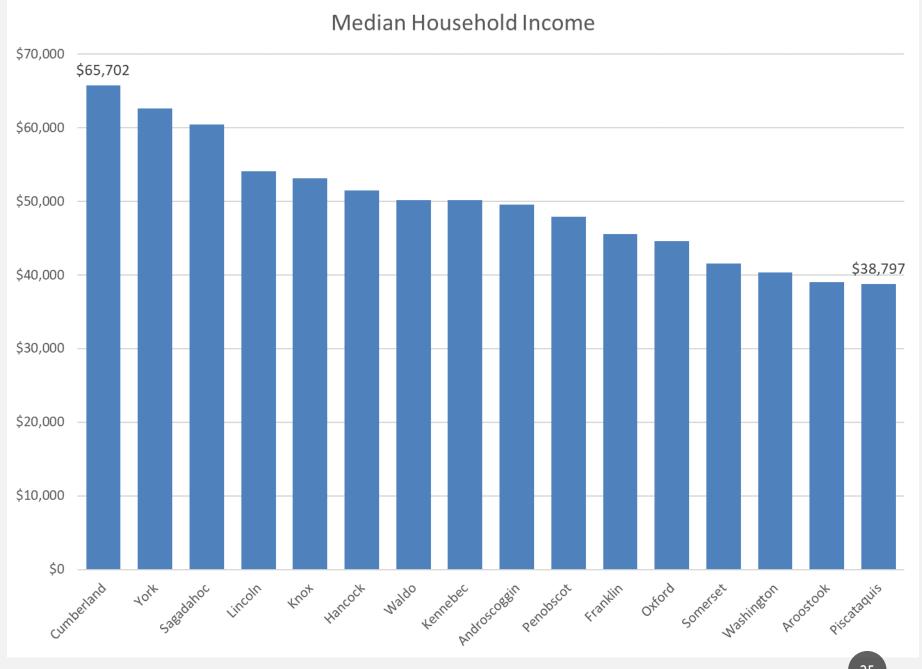


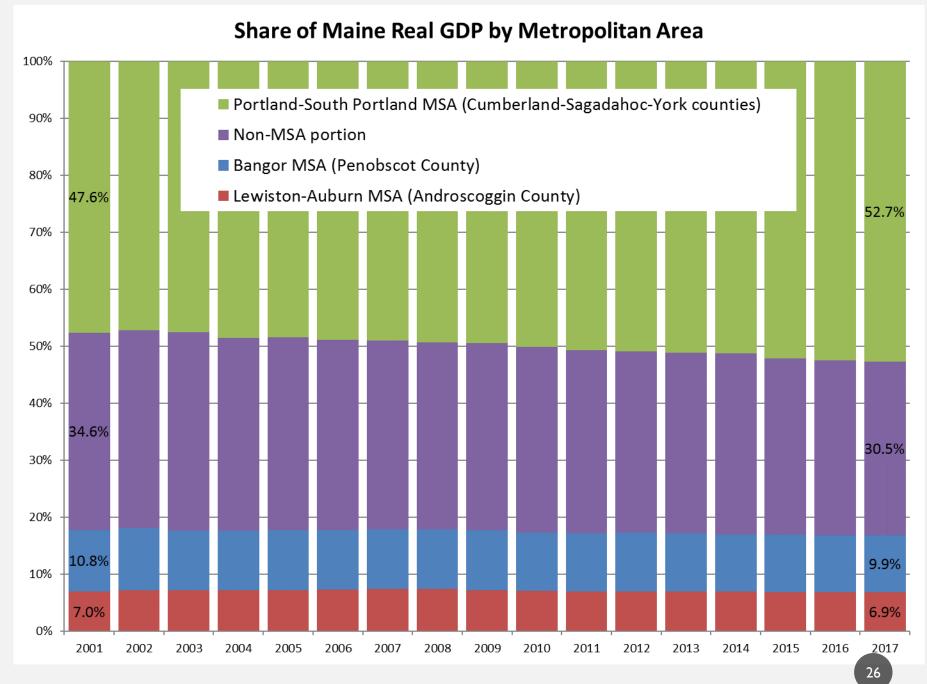




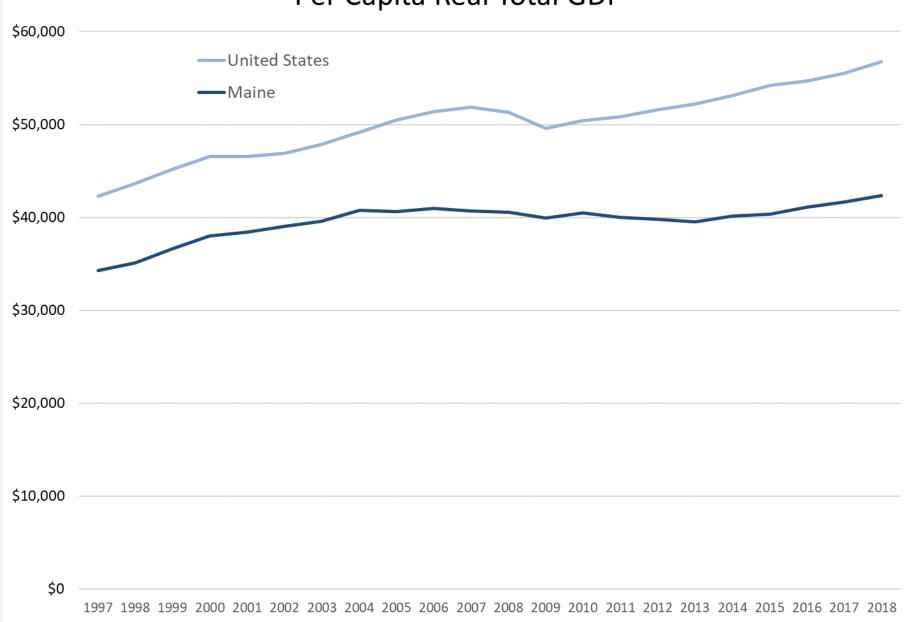




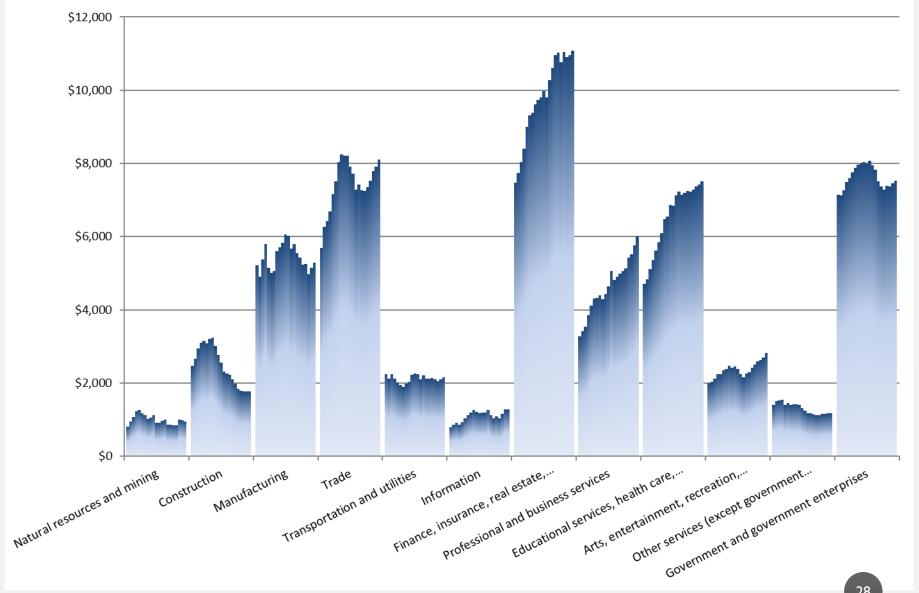












AND NOW: THE PATH FORWARD

