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Map of the University of Maine from 1865 to 1965. In its first century, the University of Maine replaced the logging and pulp and paper industries as the primary driver of both civics and the economy in Orono.

ORONO: GROWING AS A UNIVERSITY TOWN, 1965-2015

EVAN D. RICHERT, *Town Planner*, and SOPHIA L. WILSON, *Town Manager*

By 1965, the Town of Orono's long history as a lumber town had faded and it had grown into a small university town. Demographically and socially, Orono today demonstrates many of the markers of a university town—from its occupational profile and residency of university employees and students to its growing knowledge-based economy and its evolving downtown of “third places.” But there are differences, too, from a typical university town—for example, in the relative physical isolation of the University of Maine from the rest of the town, and in Orono's small population compared with the university's enrollment. Opinions on the quality of Orono as a university town vary, and the Town-Gown relationship cuts across several dimensions—economic, civic, public services and fiscal, social, and educational. These relationships are fluid, and both Town and University continue to work on balancing their respective interests and needs. For example, as of 2015 they continued to consider how best to accommodate student homes in neighborhoods; and how to expand the University of Maine's role as the source of new industry for Orono and the state. Evan Richert, AICP, is the Town Planner for Orono and Sophia L. Wilson is the Town Manager of Orono.

The End of One Economic Era

BY 1965, vestiges of Orono's industrial economy remained, but the forest products industries upon which the town was founded had largely disappeared. As recounted by C. Stewart Doty in his brief history of Orono, long before Europeans arrived on the shores of the Penobscot River and its Stillwater branch, successive Native Americans had inhabited those river banks since the end of the last ice age.¹ The transition from the home of Native Americans to a lumbering and agricultural town began in 1774 with the arrival of the first pioneers of Eu-

ropean descent. By the 1830's the Town of Orono had become a full-fledged lumbering town, with dams on the Stillwater branch of the Penobscot River and at the Ayres Rips to create Basin Mills. Doty cited a contemporary report by civil engineer A. C. Morton of Bangor that counted sixty-eight single saws and nine gang saws powered by the falling water of the Stillwater and Basin Mills dams. "The Orono Boom was part of the largest lumbering operation in eastern North America in the nineteenth century."²

The lumbering era barely survived into the twentieth century. By 1880, "lumbering was in decline all along the Penobscot River Valley . . . [and] by 1912 only one saw mill was left on the Stillwater Dam."³ However, two economic anchors were increasingly replacing lumbering: paper making and higher education. Higher education came first. Planning for the future, the University of Maine on Marsh Island began in 1865, land was acquired in 1866, and the Maine State College of Agriculture and Mechanic Arts opened its doors to students in 1868. Paper making emerged twenty-five years later. The town's first paper mill was built in 1889 on Ayers Island, and a second one was built on the Webster Park side of the falls of the Stillwater River in 1892. Paper making in Orono had a relatively brief life, and, by World War II, its smaller mills were overtaken by much larger mills elsewhere in Maine and beyond. The two Orono mills were purchased by Striar Textile Company and put back into production recycling woolen textiles. The mills were closed for good in 1996 after Striar went into bankruptcy.

Few businesses remain from Orono's industrial period, most notably Shaw & Tenney, which has been manufacturing wooden oars, paddles, spars, and boat hooks since 1858 and still is going strong today, and Byer of Maine, founded in 1880 as a maker of slippers and textile products and later expanding into a range of cots, traditional wood frame camp furniture, and now an assortment of outdoor products as well. Byer no longer manufactures in Orono but maintains its headquarters, sales, and much of its distribution here. As of 2010, only 2.2 percent of jobs in Orono were manufacturing jobs compared with nearly sixty-three percent of jobs in the sectors of education, health care, and social assistance.

The Emergence of Another Economic Era

By 1965, the University of Maine was firmly planted as Orono's primary economic and civic driver. Clarence Day, in his historic sketch of

the town on the occasion of Orono's sesquicentennial in 1956, observed: "Orono's fame as a lumber manufacturing town is fading into the past. Education is now the leading industry."⁴ It was also the town's primary demographic and civic force. According to Day, the university's faculty numbered over four hundred as of 1956, and most of them and their families were residents of Orono. The student body had leaped from 1,485 in 1941 to 5,338 in 1950. The university continued to enjoy robust growth for the next quarter century. As of 1976, employment at the university had increased to 1,788, including 576 faculty members and 1,212 full-time classified employees. Student enrollment had grown to 9,202.⁵

The Town's population tracked the growth of the university. From the 1950s to the 1970s it increased by thirty percent, from approximately 7,923 in 1955 to 10,284 in 1975. Although a breakdown of this data is not available, it is evident that much of this population consisted of faculty and other employees living in town and a student population living on campus in twenty-two dormitories as well as off-campus neighborhood rentals. Entirely new residential neighborhoods—including the Sailor Development off Main Street in the 1950s and 1960s and the Noyes and Mahaney developments off Forest Avenue in the 1960s and 1970s—were built in part to satisfy demand from the burgeoning university employment.⁶

The faculty and staff who called Orono home were core contributors to the Town's civic life as well, serving on town boards, helping to plan and build recreational trails and bike paths, and promoting the conservation of natural resource areas, including the Orono Bog. From the mid-1970s to the mid-1990s, the town's population leveled off at about 10,500. It briefly dropped to 9,100 in 2000 as enrollment at the university declined during the 1990s, but the population recovered to more than 10,000 in 2000. Today, total student enrollment hovers around 11,000, employment at the university around 2,500 (including, as of the 2014-2015 academic year, 678 faculty full-time employees), and the town population is an estimated 10,670. Today, as it was fifty years ago, a high percentage of students—probably close to half of total enrollment—live in Orono, either on campus or in off-campus rentals in neighborhoods and several large, private student apartment complexes.

Part of the increase in university staff over the last decade was driven by an expansion of the university's research and development laboratories and institutes. Notably, however, Orono's position as the primary home of university faculty and staff has diminished during the last fifty years. As of the 2012-2013 academic year, only about eighteen percent of

university employees lived in the town. Several factors appear to have contributed to the dispersal of employees around the region. During the 1960s, Interstate 95 was extended through Orono, with two local exits (at Kelly Road in 1962 and at Stillwater Avenue in 1964). One no longer had to live in Orono to have convenient access to the university. Other economic factors, such as the higher cost of housing in Orono compared with outlying towns, lower tax rates, “school choice” in surrounding rural towns, and the conversion of owner-occupied homes into student rentals, have also contributed to declining shares of university employees choosing to live in Orono. As of 2012, with an eighteen percent share, more university employees lived in Orono than in any other one municipality, but the distribution was wide: sixteen percent lived in Bangor, twelve percent in Old Town, and fifty-four percent in many smaller towns in the Bangor region and beyond. None of these smaller towns accounted for more than a three percent share, and most accounted for much less.⁷ Nevertheless, the university employees and retirees who do live in Orono, whether in their longtime homes or in newer developments such as the Dirigo Pines retirement community, combined with the student population, still represent a clear majority of the town’s total population.

But What Kind of University Town is Orono?

In his landmark study of the American college town, Blake Gumprecht lists eight differences that distinguish a college town from other American towns and cities. For one, they are youthful places due to the age range of most college students. Their populations are also highly educated, with the adults being more than twice as likely as the national population to have a college degree and seven times more likely to hold a doctorate. Their residents are half as likely as the national population to work in manufacturing and four times as likely to work in education, and they enjoy low unemployment and high family incomes. College towns are also transient places, with residents twice as likely as the national population to have lived in a different state five years before. Likely by extension, college-town residents are much more likely to rent their homes, with fewer than fifty percent living in owner-occupied housing. Another way that college towns differ is that they tend to be unconventional places, with “unusually high concentrations of people

who listen to National Public Radio, vote Green, or belong to a food co-op.” They also are four times more likely to walk to work and seven times more likely to commute by bicycle than the United States population as a whole. Finally, college towns are cosmopolitan places, with residents from many states and countries and a population that is ethnically diverse compared with other towns.⁸

Orono’s population fits Gumprecht’s profile. Orono is youthful, with fifty-three percent of the town’s population from 2009 to 2013 being between eighteen and twenty-four years old. Orono’s population is also highly educated. Fifty-four percent of adults have at least four-year college degrees, compared with twenty-six percent in the Bangor metropolitan region as a whole. Few residents work in manufacturing (2.2 percent), and a majority work in the education sector. Family incomes are high, and unemployment is comparatively low. Orono’s median family income was about \$72,000 from 2005 to 2009 versus about \$53,000 in the Bangor metropolitan region as a whole. Unemployment in Orono in 2014 was 5.1 percent compared to 6.2 percent for the region and 5.7 percent statewide. In 2011, when the nation still was feeling the effects of a deep recession, its unemployment was 6.2 percent compared with 7.2 percent in the region as a whole. Similarly aligning Orono with the qualities listed by Gumprecht are its transient and perhaps unconventional population. A majority of dwellings in town are rentals, encompassing fifty-seven percent of residences. The Orono electorate is also more likely to vote for progressive or liberal candidates and positions than in Penobscot County as a whole. For example, in 2009, seventy-three percent of Orono voters favored legalizing same-sex marriage versus fifty-nine percent of county voters. In the 2012 presidential election, seventy-three percent of Orono voters voted for Democrat Barack Obama versus fifty-two percent of county voters. In the 2014 referendum on whether to ban the use of certain bear hunting techniques, Orono voters were nearly split with forty-nine percent in favor of the ban, versus only thirty-seven percent of county voters. Similarly, consistent with Gumprecht’s analysis, about twenty-eight percent of Orono’s resident workforce walk or bicycle to work compared with about five percent for the metropolitan area’s resident workforce as a whole. Additionally, as Gumprecht notes, local foods have long been important to Orono residents. Its farmers’ market was established in 1994 and continues to operate throughout the year. That same year, University of Maine students established the Black Bear Food Guild, a community-supported agriculture initiative. Finally, though neither Orono nor the Ban-

gor metropolitan area is very ethnically diverse, seven percent of its population is non-white, whereas less than four percent of the population of the region as a whole is non-white.

Despite this statistical profile, there are significant differences between Orono and Gumprecht's prototypical college town. First, it is an unusually small college town, especially considering it is the home of the flagship institution of a state university system. Few such host communities have a total population that is smaller than the student enrollment of the university itself. Indeed, many, if not most, such communities are the economic centers of their regions with more diverse local economies. Orono, by contrast, lies in the shadow of the central city of its metropolitan region. As a result, its local population, in spite of the boost it receives from the university, cannot support the array of retail and other commercial services that might otherwise be available within the host community. Most stores and services are located in and are identified with the central city of Bangor a few miles away.

Second, the physical distance between the civic and commercial core of Orono and the university campus is greater than in many other college or university towns. For example, among peer college towns in New England (or among the small college towns ranked highest by one frequently-cited web site), the campus is either physically integrated into the community, or the road distance between campuses and downtowns or other key commercial districts tends to be between 0.25 and 0.8 miles.⁹ This is a traditionally walkable distance. The shortest road distance from the activity center of UMaine's campus to Downtown Orono is 1.3 miles. A one-mile pedestrian route is available, but it stretches what many consider conveniently walkable, especially in winter weather. This distance creates an isolation of campus that is atypical of many college towns.

Downtown Orono stores and restaurants depend on university students, faculty, and staff for their patronage. Overall, about one third of their customers (and nearly half of restaurant patrons) are associated with the university. Most, however, are not coming directly from work, but rather from home or another location. The distance between downtown and campus appears to limit the spontaneous visits and routine meetings with friends and colleagues one might expect in a college town. Similarly, visitors to campus—parents, conferees, research associates, and others—constitute a very small proportion (under five percent) of visitors to downtown Orono.¹⁰

Third, the University of Maine is relatively self-contained on its



The University Credit Union at the corner of Main Street and Bennoch Road in Downtown Orono was built in 2014 at the site of the Katahdin Block – a nineteenth-century building at the heart of downtown that was lost to fire in 2009. The University Credit Union headquarters building and plaza are part of the evolving face of Orono. Photograph by Evan Richert, 8/25/2014.

Marsh Island campus. It has virtually no presence—physically, visually, or programmatically—within Orono proper. Nor are there proxies for the university in town. There are no university-oriented book stores, university or alumni clothing shops, or university-associated performing arts, for example. The closest “proxy” is the University Credit Union (UCU), which moved its headquarters off campus to downtown Orono in 2014. The UCU is an independent financial institution that serves University of Maine System employees and students, as well as Orono residents, as core constituencies.

Whether for these or other reasons, perceptions of Orono as a “good” college town vary by association with the university and residence in the town. A Spring 2013 survey of more than eight hundred students, faculty, staff, and town residents unaffiliated with the university found students to be neutral-to-satisfied with Orono as a college town. Faculty tend to be split depending on whether they are residents (satisfied-to-very satisfied) or not (dissatisfied). Staff tend to be neutral-

to-satisfied, and residents who are not affiliated with the university tend to be satisfied-to-very satisfied. The survey was conducted by a year-long “engaged policy studies” class at the university in cooperation with the town. See Table 1.

Table 1. Level of Satisfaction with Orono as a College Town

	Satisfied or Very Satisfied	Neutral	Dissatisfied or Very Dissatisfied	Did Not Respond
Students	39%	30%	28%	3%
Faculty— not living in Orono	21%	27%	50%	2%
Faculty— living in Orono	72%	14%	7%	7%
Other university employees	48%	30%	17%	1%
Orono residents, unaffiliated with university	78%	10%	9%	3%

Source: Algeo, B., Brenner, S., Jesiolowski, A., Morse, J., Schuyler, V., Sinclair, B. 2013. “Building a Better Orono Together: Cultivating Organic Community Connection with University and Orono Stakeholders,” University of Maine POS 364-365 and Prof. Robert Glover.

Among the most important elements of a “good” college town, according to the survey, are dining opportunities, entertainment and nightlife, outdoor recreation, the availability of public transportation, events and festivals, and artistic and creative expression. The university community as a whole expressed most satisfaction with Orono’s outdoor recreation, dining opportunities, and overall appearance. But the survey revealed gaps between what respondents consider important for a college town and how satisfied they are with those items in Orono. For students, the largest gaps were the availability of events and festivals and entertainment and nightlife. Faculty were looking especially for more entertainment and nightlife, artistic and creative expression, and dining opportunities. The biggest gap for other university employees was in shopping opportunities.

Importantly, a “good” college town might be expected to have a number of “third places” for spontaneous or casual meetings of friends and colleagues. Sociologist Ray Oldenburg defined “third places” as the public places on neutral ground where people can gather and interact. In contrast to “first places” (home) and “second places” (work or school), third places allow people to put aside their concerns and simply enjoy the company and conversation around them. Third places “host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work.” Oldenburg considers main streets, pubs, cafes, coffeehouses, post offices, and other third places to be the heart of a community’s social vitality.¹¹ Orono, as of 2015, has a number of popular third places—cafes, pubs, coffee shops, and restaurants (as well as a post office)—used by students and residents. Indeed, downtown Orono is increasingly becoming a district of third places. This is a natural role for a college town downtown and a necessary one in the face of a retail environment that has changed dramatically since 1965. In 1965, it was possible for a resident of Orono to meet most of his or her daily needs downtown. The stores included grocers; banks; hardware, drug, and appliance shops; shoe repair facilities, and most of the elements of a neighborhood shopping district as well as Pat’s Pizza, which has been a “third place” in downtown since the 1950s (when pizza was added to the menu and the business got its current name). By 1965, however, the handwriting was already on the wall: the suburban shopping center would become the dominant retail player throughout the United States, Maine, and the Bangor region. Downtown Orono persisted in its traditional role longer than many small downtowns, but of the three mainstays of any neighborhood shopping district—a grocery store, a pharmacy, and a hardware store—today only a pharmacy remains. (Parks Hardware, established in 1892, closed in 2013. It was finally unable to persist in the face of “big box” competition in the suburban centers). Downtown also still hosts hair salons and other personal services, financial institutions, a convenience store, a bike shop, and professional services, but its new “anchor” is a collection of restaurants, pubs, and specialty foods stores, many of which also are “third places.” This collection adds significantly to the perception of Orono as a college town.

The Evolving Town-Gown Relationships

There is not one single “town-gown” relationship; it is multi-dimensional and the connections between town and university have many

strands. Here we examine five dimensions: service and fiscal; education and learning; neighborhoods and student housing; civic; and economic development:

Service and fiscal:

The University of Maine is, in many ways, a town within a town, with more than one hundred buildings on its 660-acre campus, miles of roads and infrastructure, energy plants, open spaces and trails, historic districts, and several thousand residents. It maintains all this with departments that resemble municipal departments e.g. Public Safety, Facilities, Auxiliary Services, Finance and Administration, and Recreation.

At the same time, the university relies on Town-of-Orono services for the health, safety and welfare of its community. For example, its wastewater flows to the town's treatment plant; the town's seventeen-person fire department provides the university with all of its fire protection services; the town's public works department maintains all of the public roads leading to the university, including College Avenue and Park Street, along which the university is located; and, while the university's own public safety department polices the campus, the town's police department handles all law enforcement matters off campus. The town's police department, with fourteen full-time officers, is sized to serve the student population that lives off campus. In addition, the town, through its regional school unit, supports the public schools that educate the children of university employees who live in Orono.

The university is exempt from the property taxes that would otherwise pay for its share of municipal services. In fact, as of fiscal year 2014, about forty-six percent of all property value in Orono—by far the largest component of which is the university—is exempt from taxation. As a result, Orono has one of the lowest levels of taxable property value per capita among all municipalities in Maine. The statewide average in 2012 was about \$115,000 of taxable property value per capita, while Penobscot County's average was about \$67,000. Orono's was about \$40,000. This is a driving factor behind Orono's comparatively high property tax rate.¹²

The university's impact on municipal finances is softened in two ways. First, certain services—most notably wastewater treatment—are paid through fees rather than taxes, and the university pays on the same basis as all other customers. Second, the university has consistently made a payment in lieu of taxes (PILOT) to the town. In the last fiscal year, the

payment was \$655,000. For a short period during the early 2000s the town and university operated under a formal service agreement. Under the agreement, the town provided fire prevention and suppression services, back-up emergency medical services, response services for incidents involving hazardous materials, code enforcement inspection services, traffic control services at university events, and certain solid waste and utility maintenance services. (The agreement did not cover off-campus services, such as police and public works, which also benefit or are required by the university.) The university agreed to pay specified fair-share costs of these services, including, for example, one-half of the cost of the town's fire department. Today, that alone would amount to \$700,000. This short-term agreement was not renewed when it expired, but the university has maintained a voluntary commitment to its PILOT. While less than it would be under a fair-share services agreement, it helps defray the cost of some of the direct services to the university.

Importantly, the town and university cooperate in the delivery of other services. For example, in 2009, they jointly launched and now equally share the cost of a shuttle bus service—the Black Bear Orono Express—between downtown Orono and campus. They have also cooperated on a variety of recreational programs. It is notable that the directors of the university's and the town's respective operating departments are on a first-name basis and frequently respond to each other's requests for assistance. It is a strong point in the town-gown relationship.

Education and learning:

Orono and the lower Penobscot valley region as a whole are used by students and faculty as a laboratory for applied learning. This likely has always been the case during the modern era of the university, and certainly over the last fifty years. With Orono's variety of natural resource settings (rivers, lake, woodlands, forested wetlands, and a peat bog considered a unique natural environment within the state), plus an urban core with infrastructure, engineering demands, and the social and land use issues that arise within an urban environment, the town is a convenient and interesting place for faculty research and student projects. At times, these projects are jointly designed and executed with town staff. The university's strengths in natural resource studies and civil engineering make faculty and students in those fields especially able to help the town tackle issues while meeting educational needs.

In recent years, the university has also given greater emphasis to

“community engagement.” In 2008, it received the Carnegie Foundation’s Community Engagement classification, signifying its commitment to make knowledge and resources available to Maine citizens. Orono works with community engagement faculty to create opportunities for their students to design and execute projects of importance to the town. These have included the surveying and analysis of perceptions of Orono as a college town, as described earlier in this article. A few other examples drawn from the last twenty-five years have included conceptual engineering of a business park near one of the Interstate-95 interchanges; market analysis for downtown; analysis of bus ridership; and a multi-year effort to identify and field verify vernal pools throughout the town. The latter evolved into part of a statewide (and New-England-wide) collaborative effort to reform vernal pool regulation.¹³

Neighborhoods and student housing:

Endemic to college towns is the ongoing challenge of balancing the needs of traditional, especially single- and two-family neighborhoods against the housing needs of students. Until the early 2000s, off-campus student housing in Orono was concentrated in older one-to-four-unit structures in neighborhoods that once were home to mill and factory workers or in small-to-medium-scale (twenty-to-eighty unit) apartment complexes built between the 1970s and 1990s and owned and managed by local developers. By the 1990s two other trends took hold. First, it had become economical for an increasing number of parents to buy single-family homes in single-family neighborhoods for student children and their roommates while at the university, with the expectation of selling these homes when no longer needed. Second, real-estate-investment ventures that specialize nationally in developing and managing large student apartment complexes came into Orono.

The first such proposal, a 153-unit multifamily development, came in the early 2000s from Rhode-Island-based Peregrine Developers. The town denied the application, contending that it essentially constituted a “dormitory,” which would be allowed under the local zoning ordinance only in the University Zoning District on campus. The State Supreme Court in 2004 overturned the denial, finding that the development was an allowable multifamily project. Ultimately, Peregrine’s development was not built. Since then, however, three other complexes have been built or were under construction as of 2015: Orchard Trails Apartments, The Grove at Orono, and The Avenue at Orono. These new develop-

ments dwarf the older complexes, with 144 to 280 units each and 550 to nearly 900 bedrooms each. The market for these is driven in part by a shortage of dormitory rooms on campus. (As of 2015, the university was accommodating primarily freshmen on campus.) Backed by the marketing power of national companies, the complexes also are designed to appeal to students who want newer units close to campus with amenities such as recreational facilities on site. All three complexes are located off Park Street close to one of the main entrances to campus as well as the bicycle-pedestrian paths into campus.

While there is no single brush with which to paint off-campus student housing, it is a fair assessment that the older forms brought with them into older neighborhoods both an important youthful element characteristic of college towns and, at times, the predictable nuisances and demands on police and public safety officials, from disorderliness to serious disinvestment in housing stock by absentee landlords. The small-to-medium, locally owned and managed complexes generally have been of little concern and are a backbone of the town's property tax base, while absentee landlord properties have presented more than their share of difficulties. The two more recent trends, however, have brought new sets of challenges. Single-family homeowners in primarily owner-occupied neighborhoods, impacted by the conversion by parents or others of homes to student housing, have become increasingly alarmed about the built-in—if often innocent—conflicts in the lifestyles of young transient adults in their neighborhoods, as well as by the more overt disorderliness that sometimes occurs. Meanwhile, the new, large complexes have periodically placed new and sometimes overwhelming demands on code enforcement and police and fire departments. They, like any large land users in a fairly compact area, also place new demands on streets and other local infrastructure that are only partly mitigated through impact fees and required off-site improvements.

During the first decade of the 2000s, the town adopted measures aimed at maintaining a balance between neighborhoods and the need for student housing in a college town. These included a disruptive property ordinance to hold landlords and tenants more accountable for actions that lead to repeated, legitimate complaints; a rental registration ordinance to better track trends in rental housing; and a stricter limit on the number of unrelated persons per dwelling unit in single-family zoning districts. As of 2015, it was not clear whether these measures were sufficient. Possible additional measures for consideration, as outlined in the town's 2014 comprehensive plan, include the following: a joint effort

with the university to educate young adults about the responsibilities of adults living in neighborhoods and to encourage them to forge personal connections with homeowners in the neighborhoods; stronger health and safety property maintenance measures and assistance in financing health and safety improvements in older housing; and, potentially, limits on the number of single-family conversions in any given neighborhood. Beyond the question of how best to integrate off-campus student housing into the community, there is the undeniable importance of private, rental housing to the town's tax base and economy. Eleven of the town's twenty-five largest taxpayers as of Fiscal Year 2015 were rental housing developments, primarily for students.

Civic:

As an institution, the University of Maine is relatively uninvolved in the town's governance or civic affairs. It is, after all, a statewide, public institution, and, within its campus, it operates under the state and the University of Maine System's governance structure. But faculty and staff and, at times, students who live in the town often become formally or informally involved in the community. Among members of the Town Council or appointed boards, such as the Planning Board and the Trails Committee, or as members of associated civic groups, such as the Orono Land Trust, university employees have a presence simply as citizens of the town, not as representatives of the university. The level of involvement likely has declined compared with the post-World-War-II era to the 1980s and 1990s, when higher proportions of faculty and staff lived in Orono and formed close, natural associations and friendships. As faculty and staff have spread across the region, they have become less likely to identify or express allegiance to any one community. But the 450 to 500 university employees who do call Orono home, as well as some graduate and undergraduate students who have interest in local affairs, continue to be one of the pillars of civic involvement.

Economic development:

If, as of 1965, the university was firmly planted as the economic driver of Orono, over the ensuing fifty years its presence has not yet spawned the economic diversity or strength that might be expected from and often is associated with a flagship research and development univer-

sity. However, this may be simply a matter of time. UMaine's research and development (R&D) enterprise—outside of the land-grant university mainstays of agriculture, forestry, and pulp and paper—did not begin to achieve a critical mass until the late 1990's. In 1998 the State established the Maine Economic Improvement Fund to support university-based research and development, primarily at the University of Maine. In 1999, it also established the Maine Technology Institute (MTI) to stimulate the commercialization of R&D. Companies funded by MTI frequently partner with UMaine to develop their products. These programs have helped UMaine leverage much larger sums from the federal government and other agencies to expand its research labs and institutes.

An early byproduct of this effort was the development in 2001 of the Target Technology Center, a joint project of the Bangor Target Area Development Corporation and UMaine on land in the Maine Technology Park on Godfrey Drive donated by the Town of Orono. Target is an incubator for a variety of technology companies. The development corporation, an independent nonprofit, owns and manages the facility, while the university's Incubator Program provides the incubating companies with technical services, such as coaching, access to prototype manufacturing, and connection to a network of mentors and funders. At any one time, between six and nine start-ups are in the incubator and several others have an affiliate relationship, using some of the common facilities and the university's services. The Target Technology Center is an important element of the knowledge-based economy that is evolving in Orono, supported in part by an ongoing university-town relationship.

There are other elements, too. The groundwork for the Maine Technology Park itself (a part of which also was formerly known as the Stillwater Exchange Park) was laid in the mid-1980s, and the infrastructure for the park, including Godfrey Drive, was built between 1984 and 1986. While the first buildings—a hotel (Black Bear Inn) and an office building—were built in the early years of the park, the technology-based businesses for which many hoped did not materialize until the period between the mid-1990s (when a call center facility was built) and the early 2000s (when Target Technology Center, a second call center, and a laboratory building for a sensor technology company came on line).

Thus, as of 2015, a knowledge-based economy anchored by the presence of the university and its growing research and development enterprise, has been slowly taking shape in Orono. Today, in addition to the incubating companies at Target Technology Center and other activities

in the Maine Technology Park, a number of small entrepreneurial ventures have taken root in the community, including, by way of example, craft beer breweries, a medical device company, a website and application development company, a software development company specializing in cyber security and occupation-related applications, a technology repair services company, and a company that employs soil science for the testing of race tracks around the world. Some of these companies will grow, some will disappear, and some will be replaced by others, but a knowledge-based economy is today's successor to the industrial-based economy that had nearly disappeared by 1965. That makes the University of Maine, in its 150th year, a more necessary foundation for the local economy than ever before.

NOTES

1. Charles Stewart Doty, *Orono, 1806-2006* (Orono, ME: C. Stewart Doty, 2006); See also Clarence A. Day, "Historical Sketch of Orono, 1806-1956," in *Town of Orono Sesquicentennial Program* (Orono, ME: Town of Orono, 1956), 23-27 and 43-49.
2. Doty, *Orono*, 4.
3. Doty, *Orono*, 11.
4. Day, *Orono*, 61.
5. Muriel Sanford, "UMO—Orono's Largest Employer," in *Orono, Maine: A Bicentennial View*, ed. Orono Bicentennial Committee (Orono, ME: Town of Orono, 1976), 49-52.
6. Doty, *Orono*, 18.
7. University of Maine Office of Human Resources, personal communication from John Young, June 11, 2012.
8. Blake Gumprecht, "The American College Town," *The Geographical Review*, 93 (January 2003), 51-80.
9. ePodunk College Town Index, <http://www.epodunk.com/top10/colleges/index.html>, n.d., accessed November 18, 2015 .
10. Orono Planning Office, *Market Area Analysis, Downtown Orono* (Orono, ME: Town of Orono), March 2011.
11. Project for Public Spaces, <http://www.pps.org/reference/roldenber>, citing Ray Oldenburg, *The Great Good Place*, 1989, n.d., accessed November 18, 2015.
12. *Town of Orono Comprehensive Plan: 2014 Update* (Orono, ME: Town of Orono, 2015), 11-1 to 11-6.
13. See Aram Calhoun, Jessica Jansujwicz, Kathleen Bell, and Malcolm Hunter, "Improving Management of Small Natural Features on Private Lands by Negotiating the Science-Policy Boundary for Maine Vernal Pools," *Proceedings of the National Academy of Sciences* (July 29, 2014), 5.