

EXISTING CLIMATE

GENERAL DEFINITION OF CLIMATE

"Climate" pertains to the general weather pattern, interactively characterized by TEMPERATURE, PRECIPITATION, (snow, rain, humidity, cloud, thunderstorms, dew, fog), WIND (direction, velocity), and LIGHT (intensity, diffusion, color, angle, shadow; w sun, moon, stars). The pattern occurs spatially from "macroclimate" to "site-specific microclimate" scale, and temporally by seasonal/monthly/daily rhythms (and apparant 'randomness' that chaos theorists have newley addressed). Climate is to be understood as an ubiquitous natural physical resource, interactive with (ie determining and determined by) other natural factors (landform/soils, water, vegetation) and the manmade environment, with profound long and short term effect on human experience and behavior. Its quantifiable elements dynamically translate to qualitative environmental characteristics with tremendous human value, including quality-comfort/time (i.e sensual, emotive, cognitive-poetic), the types of activites, and construction (of town layout/structures/spaces/walks/roads/parking with orientation and modification of hot/cold & wet/dry and wind extremes; construction technique-- eg of roofs, windows, footings, drainage snow accomoation etc). It is important in this analysis that designers understand climatic factors, and grasp their physical-functional relevancies and psychological gestalt character-- so proposals can take full advantage of and enhance the positive, while mitigating the negative: to increase experiential comfort/time, encourage favorable activities, create proper construction, and ultimately even improve economic quality. ((We shall see the major role of designers is to moderate the uncomforable extremes within the very differnt seasons-- eg the cold winter winds and disrupting snow as well as scorching summer days and rain. Good design can climatically extend the fall and spring into winter, and check the summer extremes-- extending useable outdoor time well beyond the statistics. Successful moderation of undesirable seasonal extremes at places for walking, sitting, recreating, driving, parking, business/church/municipal activity-- is most signifigant for urban revitalization)).

CONTINENTAL MACROCLIMATE

Lee is nationally located in the "TEMPERATE (HUMID-CONTINENTAL) ZONE ", which has the invalueable unique attribute of "**distinct/changing New England seasons**". (This is one of ten world climates and one of five national climates). It is classified as having moist warm summers and moderate cold winters, with fall and spring transitions of their own powerful character. Despite the Atlantic proximity of this entire zone, it generally has a continental and not a marine climate, because of the 'western wind belt' transferring the west and central American weather. ((Massachusetts in general has three air masses to effect it: (sub)arctic cold, damp North Atlantic, and moist Gulf-- each have temperature/moisture/speed/direction/cloud characteristics, and each interact. The Massachusetts average temperatures are: January 20-30, April 40-50, July 70-80, October 40-50; Mean-year 40-50. See plant analysis for tremedous vegetative changes)). Few people fail to appreciate the seasonal affects upon personal experience (positively or negatively). However many take seasons for granted in assuming they are much more geographically widespread than they are. Designers must consider programatic aspects and physical modifications of climate, as we shall describe.

SEASONAL IMPRESSIONS

Climatic attributes are experienced inseparably from the natural and human events that they trigger and sustain. A yearlong survey expresses to the reader a flavor of how wonderful and rich the Berkshire climate is-- yet also how problematic within Lee's downtown. We here convey a personal sense of validity for creating a favorable range of microclimates in Lee-- comfortable outdoor and interior spaces that take advantage of the potential activities and the aesthetic values (from summer 'beauty' to winter 'sublime') of the different seasons, adding "comfort/use-time" to downtown. (Note: Winter and summer are conceived as 'dichotomous plateaus', while spring and fall are 'transitory events'— but all seasons have daily climatic variations within— compounded further by microclimatic site specifics that may be controlled).

SPRING-- (April, May, Mid June)-- Spring unfolds slowly in the Berkshires, with exceptional warm late-winter days eventually becoming spring's rule, sharing an occasional delightful spring shower or shifting winds from both northwest (winterlike) and southwest (summerlike) directions. The quality of human feeling from the sensual/emotional stimulation of a springtime pattern of weather and its renaissance vegetation is supreme in the Berkshires. The irregular, but overall accelerating pace of warming climate is protracted over several months to make spring not a static occurrence, but a dynamic "protracted awkenING" (which is reciprocal to autumn's "prolonged closure") in a very experientially real, biologically-attuned sense of a transitory process or evolving event. During that spring people anxiously wish to get outside more and more, and enjoy good weather and longer days, as they use the downtown and greater region. But, due to raw microclimates in Lee, outdoor activity and comfort now begin much later there in the spring than in Stockbridge, Lenox and the regional landscape. For Lee, therefore, it would be important to employ the described sunpocket-shelter strategy, particularly at busier buildings, parking areas, and recreational land-- to SPEED the end of winter's lingering undesirable effects, bring earlier comfort-days into Lee's calendar, and accelerate the outdoor functioning of town. (* See downtown map and list for the most welcomed and sure to be useful sunpocket areas). Meanwhile, natural systems come to life with sequential certainty... with melting snow, rain, and thawing-land water flowing to the river, the first glimpse of awakening plants in hotspot areas adjacent to buildings & open ground, with the swelling of new growth-- sequences of buds, flowers, unfurling leaves-- birds and other wildlife-- saturating the Residential Hill, the surrounding river area and distant landscape-- phenomena that is thoroughly integrated with and indistinguished from the literal abstract climatic properties. The first lawn raking, fertilizing, garden activity by residents is seen in the Residential Hill and Oval Park areas, depicting Lee's domestic and municipal civility; limited hiking happens on the fringes of downtown. These anticipated spring changes eventually reach the climatic plateau of summer.

SUMMER-- (Mid June- July, August) in the Berkshires means the warmest, wonderful bright sunlight, clean welcome breezes from the southwest, and occasionally... a sudden cool shift, pressure drop, & dramatic thundershower in dark-blue violet sky, or heat-lightning against the night stars. For many in the Berkshires, summer seems an eternally pleasant stretch of sweet quality time, where generous temperature equates with the pure goodness & freedom of human life and a sense of prolific, virgin nature. (This recalls the anecdote about "Berkshire Summertime Saturday Afternoon" being the most genuine, beautiful, happy phrase in the English language). The accumulation of climatically rich and wonderful summer days becomes sensually and emotively intoxicating throughout many Berkshire places, both built and wild-- certainly for season-long visitors. However, sadly, in downtown Lee it also means domination of very unpleasant heat, extreme radiation, harsh light and glaring "hotspots" in the busier built locations, especially in open asphalt areas, walkways along facades, and abandoned burned grass or dusty gravel areas. By midsummer afternoons, much of downtown becomes a "glowing furnace" that begs for relief: surfaces of walks, walls, streets, and reflective vehicles become almost untouchable; the air seems either 'thick with hot humidity' or 'stingingly dry', and one must squint to see. (Paradoxically, the open sunpocket areas so important in winter, spring and fall, would most need to have shade provided by trees or structures). The inside of buildings too, through window glare and heat buildup are often oppressive and need an adjacent or attached comfortable/useful outdoor space. At these unpleasant times, the potential leisural and business oriented life for locals or visitors is most severely hampered in downtown-- and is "tolerated" only by those who must go about daily business, or the very few outside drivers who need to stop. Moreover, the negative momentum of this kills inclination for outsiders to visit Lee, or for locals to quickly respond to any good weather when it randomly does occur, until a longer good pattern is obvious. One can see though, with the ebb and flow of climate, a suppressed correlative tendency between weather comfort and human activity motivation that is capable of being tapped. Hard and soft (eg river, common) outdoor spaces are desired that give people OPTION of full open sun or a refugeal shade-- allowing people to move symbiotically back and forth according to preference, activities, or responding to weather variations. The cooling of heat even a few degrees-- or even just reducing glare-- in key spots would be significant, and quickly appreciated by locals and any visitors directed there. While heat and glare is the main summer weather constraint, rain is frequently discomforting too. Therefore a strategic occurrence throughout downtown of rain-shelter (awning, overhang, trellis canopy, glass structure) would be desirable-- be it to duck an unexpected shower, walk between destinations, or deliberately sit to enjoy the warmth and refreshing 'visual/audible/air feeling' of a rainy Berkshire day while protected. When August's end approaches and nights are much cooler than days, 'flexible' sunpockets would be needed: to have direct warming sun at morning and evening (with low angled light possibly filtered for eyes), but then full shade might be desired for the hot midday hours. In late August, the environment begins to show first hints of autumnal weather and leaf, signaling that soon there will be the great draining away of green and the revealing of prolific rush of fall color-- that the eternal summer days have finally run out.

FALL (September, October, November): is a monumental season in the Berkshires, perhaps more affective upon human experience than any time, and the least capturable in text. By the end of August, the diminished "sublime slanted" daylight hours, each night-chill and morning-frost together beckon of the fast approaching winter— a fact that is momentarily forgotten when "indian-summer's" next day warmth lingers, until later in the season one realizes how different the Berkshires are from hot "last July so long ago". (Berkshire's fall comes later than upper New England, and sooner than inland Massachusetts). It is the season of harvest and thanksgiving, a time to recognize the summer's passing and winter's imminence. Fall's descending temperatures and day-length, and sights of bird migration, at once intersect with the certain ascension of dramatic foliage and tourism activity that is genuinely meaningful to Berkshire residents, and singularly important for many visitors. And in final culmination, in a two week magic October moment, when deep golden sunlight pours from soft blue sky and intermingles with crisp autumn breeze, the climate christians the hills and towns of which Lee belongs with it's cherished definitive peak of fall foliage— which is one of the most profound and moving phenomena in natural existence— with the emerging and disappearance of combinational textures, and tints of scarlet, orange, yellow, and light green... that soon fade away in a beautiful gentle temporal descent... as falling leaves swirl about to then cover the ground in a pastel mat... and one suddenly realizes that spring, summer, and autumn of that given year has come and gone forever, and "closure" is complete— revealing standing the once familiar lines and points of distant deep-green conifers & bare trees, so one can soberly see and feel that the great shift to New England wintertime has finally happened... and cold still air awaits the harsher winds and first of many snows to come. The sequence of grasses by late fall have been a litmus of the years changing climate too: from light green in spring, deep green summer, now are green-golden and will stay golden-brown through winter. Some fall fruit, needles, and conifer cones have formed and dropped, while others shall hold on along side hardened buds. In fall landscape then, through the medium of climate, "the beautiful" has slipped to "an alluring sublime". Such a magic Berkshire season gives Lee great meaning— but it is much lost to downtown Lee due to the pattern of unfavorable microclimates that distract from downtown uses, and disassociates the downtown from the rest of the autumnal Berkshires. There is formally no town space that really allows one to enjoy the good side of fall weather. Fortunately, the same sunpocket strategies that can end winter early to capture and extend the spring, can also serve to capture and extend the best of fall weather and delay the winter. (Winter shortened at both ends).

WINTER (Mid November–March): is the longest Berkshire period, but subordinate to the time of the other seasons in combination. Winter is basically conceptuable as a low temperature "plateau", in opposition to the hot summer plateau— and both are linked by the spring and fall transitions. But within it's plateau winter has tremendous variations for designers to address: an incredible temperature range from sub-zero to room-feeling, wet/dry air, rain drizzle or downpour, snow flurry or blizzard, stillness or howling wind. In general: half the winter time is distinctly moderate-cold, sunny, perhaps with some flurries, that people easily adapt to and basically appreciate. (Winter clothing, driving, parking proximity, and a stoic attitude are cultural "weather-mitigating" elements). And, a fourth of the time is enjoyed as quite mild— sometimes so suprisingly warm by early afternoon that it gives an idyllic, enchanting sensation. And, another fourth of the time is very winterish: extremely cold, occasionally a severe "arctic freeze", relentless wind or blizzard making it intolerable or unsafe walking and driving, especially for many elderly or the less hardy. (The latter weather is the biggest problem, though it sometimes passes quickly and is an invigorating temporary change more many; also the very cold outdoor weather contributes proportinately positively in making the "winter coziness" of all interiors-- eg. being inside a Lee home, a restaurant/diner, library, bar or potential new glass enclosures). The first design concerns are for dealing with this most extreme weather so the necessary movement, town business, local life functions: plowing and de-icing requirements of roads, lots & walks- for safe driving, parking, walking and providing sunny buffered refuge space in coldest or precipitious times. The most difficult and fundamental aim of good microclimatic sunpocket strategy is to simply take the "edge" off the extreme winter weather in the most useful exposed places as possible— to defend against the worst. It is impossible to modify the extreme weather in most of town's open areas— but designers can effectively create a strategic infill of culmulative (sub)places proximate to buildings and busy areas, refugeal paths and nodes always at hand— to more comfortably facilitate necessary pedestrian connections about the most important specific or cluster of buildings especially in denser CBD: buffering edges of lots, sheltering walkways against facades, use of nooks, alleys, enclaves (the church area, building a sunpocket against a south wall (eg courthouse, Lee hardware), creating greenhouse extentions in several important buildings (where winterviews and "haptic travels" can be enjoyed from interiors— perhaps toward the oval park common, or river-- with opportunity to move into outside courtyards during any exceptional warm hours). This extreme-defense strategy would make the severest winter weather tolerable in places that count most, and in turn enhance the warm winter days to feel more springlike, and in some pockets like early summer. In winter presently, an increased density of local-oriented local life subtly ozzes in downtown with general rise of temperature; otherwise life retracts— not fully, but to a threshold level that endures no matter how cold or snowey things get— expressing need for microclimatic consolation. Also, people driving through the region, if sensed a more favorable outside microclimate, might be inclined stop and get further comfort inside. Downtown Lee therefore has opportunity to become climatically "winter-friendly" for daily living, recreation, and business, and possibly translate into economic benifits.