SECTION II. MOUNT WASHINGTON HISTORY AND ENVIRONMENT

Industrial History of Pittsburgh and the Role of Mount Washington

Geological Origins of "Coal Hill"

The unusual exposed coal deposits of Pittsburgh's Coal Hill were the result of tremendous shifts in the earth's crust beginning more than 435 million years ago. During the Taconic Orogeny (episode of mountain building), North America was crashed into by a chain of volcanic islands and the land folded, buckled and lifted to form new mountains in the eastern part of the state while depressing a basin in the central part of the Pennsylvania plateau.

Over the next 30 million years the Taconic mountains were eroded, and vast quantities of sediment were carried into the central and western part of Pennsylvania. These sediments were deposited in the huge Catskill Delta, where sedimentary rocks were formed to a depth of 4,000 feet. Deposits 1,500 feet thick were made in Erie. This delta covered an area from New York through central Pennsylvania.

A second mountain building period called the Acadian Orogeny formed more mountains to the east, providing even more sediment to enlarge the delta. Finally, the Alleghenian Orogeny occurred some 300 to 220 million years ago, during the collision of North America and Africa. The sediments washed from this set of mountains created the sedimentary rocks that can now be seen on the surface of much of the land in western Pennsylvania today. Pittsburgh sits on over 16,000 feet (more than 3 miles) of sedimentary rock.

During the Pennsylvanian Period (during this same time 300 to 220 million years ago) Pittsburgh was under swamps with a hot equatorial climate that supported lush plant growth. These plants provided the raw materials later transformed by bacteria, pressure and heat into the bituminous coal that underlies Mount Washington and much of the rest of western Pennsylvania.

http://www.geology.pitt.edu/

By the latter part of the 1700's the south side of the Monongahela River had become known for its supply of coal. The first mining of bituminous coal in the nation began on "Coal Hill" in 1762 as the early residents of the region gathered the coal to heat their homes and to supply the soldiers at Fort Pitt. Coal was delivered to the Fort in canoes. This early use of coal was unusual in the colonies, since wood was the fuel of choice elsewhere (Geitner, 1991).

The Penn family began selling mining rights on Mount Washington as early as 1784—by then Pittsburgh had already been dubbed "The Smoky City" because of the heavy use of coal, long before the steel mills came to dominance.

The coal of Coal Hill was unusually accessible—one source describes people simply loosening coal at the surface and tossing it down the hillside to be caught in waiting boats—all for a penny a bushel (Morrison, p.208).

Early industrial uses of coal included salt extraction (by 1825 over 200,000 tons of coal per year were being used in Pittsburgh to produce salt for domestic use) and glass making (the first factory was established in the area in the 1830's and by 1870 Pittsburgh was producing more than half the nation's total glass). By the 1870s canals and then railroads helped spur the use of coal for iron and steel production. By the late 1800s coal production was at an annual 13 million tons (one fifth of the country's total). The rich Pittsburgh seam, which was found to extend the length of the Monongahela and Ohio, has been deemed the most commercially valuable mineral deposit in North America (http://www.geology.pitt.edu/Pageo/coal.html).

As the steel industry became one of the coal industry's largest customers, many of the most famous names in Pittsburgh 19th century industrial history became linked. Entrepreneurs and financiers

like Seward Hays, Henry Clay Frick, Andrew Carnegie, Henry Phipps, and Thomas Mellon all were part of the industrial engine that made Pittsburgh an economic powerhouse for the nation.

"Coal Hill" Becomes the Community of Mount Washington

While Mount Washington may have been first noticed for its coal deposits, its location made it a natural area for settlement after the first expansion of industry in Pittsburgh, as the community came to be known in 1758.

By the 1860s Pittsburgh experienced a large expansion of its industries ranging from glass to the beginnings of the steel industry. New industry required new workers, and the workers needed housing. Since the flat lands on the Point were quickly utilized for the industrial facilities, the nearby hillsides were an attractive option. Slowly the farmlands at the top of Mount Washington were being converted to housing. Unfortunately the steep terrain was difficult to traverse.

The mile long switchback of "Indian Steps" that ran the entire length of the mountain's face to the area of the current Station Square was a major transportation route for the weary factory workers on foot (See Photo from University of Pittsburgh Historical collection).

Using the model of "steel roads" (*steilbahns*) on the steep hillsides of their native Germany, the new residents of Mount Washington proposed inclines. Long before "High Street" (later Grandview Avenue) was paved in 1890, the inclines began to operate in 1870 and carry not only people but also goods and horses and wagons.

Saving the Duquesne Incline

Following the tracks of a very early coal hoist, the Duquesne Incline was put into operation in 1877. As many as 17 inclines were established in the Pittsburgh area by 1895. Six thousand passengers were carried by the Duquesne Incline on summer Sundays in 1880 according to a magazine article at the time ("Early History of the Duquesne Incline, Pittsburgh PA," incline.pghfree.net/historyone.htm). For decades the inclines substituted for roads on the steep hillsides (McArdle Roadway was not paved until 1928 --Pittsburgh Press, July 8, 1928).
In 1962, in need of extensive repairs, the Duquesne Incline was suddenly halted as the owners decided that the repairs were too costly to make. The residents of Mount Washington, however, felt so passionately about the value of the Incline that they began a community wide campaign to raise the funds needed for repairs. Selling souvenir tickets for $1 door to door, and shares of stock for $100 each, the community held bake sales, card parties and other events to raise $15,000 during the winter in a matter of months.
(http://www.incline.pghfree.net/historyone.htm)

This extraordinary outpouring of community support led to the creation of a non-profit organization that operates the Incline to this day. Although the Incline was officially sold to the newly expanded Port Authority in 1964, it is leased each year to the Society for the Preservation of the Duquesne Heights Incline. The Society manages the day to day operation of the Incline with the help of employees and volunteers. Over half of the Incline's passengers each year are visitors to Pittsburgh ascending Mount Washington to take in the spectacular view of the city.

Above:
Indian Trail Steps
March 25, 1911
-- Pittsburgh City Photographer (ASC)

Right:
Monongahela Incline
December 13, 1926
-- Pittsburgh City Photographer (ASC)

Environmental History of Mount Washington

Views of the Mountain

The earliest descriptions of the Mount Washington area by travelers provide a testament to its original beauty and the riches of its landscape. The dramatic landscape sculpted by the three rivers was lushly wooded, both productive and scenic. Numerous accounts describe the verdant and diverse tree cover of the hills, as well as the clear water, abundant fish and the first prosperous farmlands and orchards.

Young George Washington, sent as an emissary from Governor Dinwiddie of Virginia to the French encamped at Fort LeBoeuf on French Creek, noted in 1754 that the land at the conjunction of the Allegheny and Monongahela Rivers was "Extremely well situated for a Fort; as it has the absolute command of both Rivers. The land at the Point is …a considerable Bottom of flat, well timbered Land all around it very convenient for Building (Killikelly, p. 8-9)."

In the late 1780s Justice Hugh Henry Brackenridge wrote lyrically of his experience of "Pittsburg" and compared it favorably with many other locations. Clearly the land has been converted toward agriculture in many places:

> The bank of the Allegheny on the northwest side of the town of Pittsburg is planted with an orchard of apple and pear trees brought and planted it is said, by a British officer who commanded at this place. The fruit is excellent and the trees bear in abundance every year.

Describing the confluence of the rivers, he states,

> Here we have the breezes of the river, the gales that fan the woods and are sent from the refreshing northern lakes; the extensive hills and dales whence the fragrant air brings odors of a thousand flowers and plants or of corn and grain upon its balmy wings. Here we have town and country together. The winter season is equally enjoyable, the buildings are warm, the fuel abundant, consisting of coal from the neighboring hills, or ash, hickory or oak firewood.
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> -- Boucher, p. 344-346

In 1806 Irish visitor Thomas Ash also formed a favorable impression of the area. On a boat ride down the Allegheny he writes:

> …I found the scene instantaneously changed and become peculiarly grand. In ten minutes I got into the confluence of the Allegheny and Monongahela waters. For half an hour I steered my boat in this confluence being able to dip up whitish water on one side and perfect green on the other. The hills on the right hand were nearly 1,200 feet high, those on the left something less lofty, each clothed with sumptuous and increasing timber from the base to the summit, the garb of many thousands of years….
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> -- Boucher, p. 347

Mrs. Ann Royall visited Pittsburgh in 1828 after it had recovered from the depression caused by the War of 1812 and had become a center of commerce and manufacture for the region. In her two volumes of Pennsylvania travel notes she wrote expansively of the splendors of Pittsburgh, mentioning the 465 foot high Coal Hill, Castleman's Hill and Hogback Hill as landmarks. Among her notes are these remarks:

> Of all towns in our country, Pittsburg (sic) excites most astonishment. Everything pursued in other towns is thrown into the shade in Pittsburg; even in the building of steamboats it excels, by a long way, our great city, New York….
>
> …The scenery around Pittsburg is very beautiful, highly delightful in summer and when viewed from some points presents the most interesting associations of nature and art. The view from Castleman's Hill is not surpassed in any country—earth, air, rocks, water, wood, town and sky break upon the vision informs the most picturesque and delightful. Coal Hill is another point of interesting observation where the eye at a single glance takes in a hundred beauties that might view with the purest and brightest of other hemispheres.
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> -- Boucher, p.351

By 1832, however, when Mr. James Stuart visited, the tension between exploitation of the riches of the land and the condition of the environment was evident in his comments:

> Pittsburg (sic) is well known as the great manufacturing city of Western America, and would be a very delightful place of residence but for the clouds of coal smoke which cover it and give a gloomy cast to the beautiful hills which surround it and all the neighboring country.
>
> -- Boucher, p. 325

Fourteen years later, in 1846, the Pittsburgh Chronicle had this to say on the subject of environmental degradation in the pursuit of coal and industry:

> Coal mines, stone quarries and railroads have sadly marred the beauties of this noble barrier to our view towards the West. In the days of its glory, which covered with trees from summit down to the edge of the water, it was the fairest portion of our surrounding scenery. But, now how changed! At its base vast furnaces belch forth dense clouds of flame and smoke, its steep side has been cut down by large quarries, and all along near its top a dozen yawning throats pour down a dozen railroads its rich treasures. Tree and shrub have been reft from their fast hold, and the old hill now sands before us with scarred sides and almost shaven crown.

In 1866, Pittsburgh with its roaring blast furnaces working round the clock was described by James Parton as "hell with the lid taken off." But in an even truer sense, Mount Washington itself was literally aflame underfoot. A fire was started accidentally in the underground coal fields and burned uncontained for years. One visitor, the Reverend Charles Beatty, described his experience on the hill in 1765 or 1766:

> The earth in some places is so warm, that we could hardly bear to stand upon it; as one place where the smoke came up we opened a hole in the earth till it was so hot as to burn paper thrown into it; the steam that came out was so strong of sulpher that we could scarce bear it.
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> -- Craig, p. 81-83

By some accounts this fire burned for sixteen years.

By the time the inclines were built, there are photos showing much of Mount Washington's north face completely bare of greenery. Some sources suggest that the fumes and byproducts of industrialization had poisoned the hillside flora. The forested hillsides of George Washington's first visits were long gone and the "practical" use of the mountainsides prevailed.

In the 1950s, according to an article in the Pittsburgh Post Gazette (9/10/75, p. 5) the Mount Washington and Duquesne Heights area was characterized as "…one of the ugliest industrial cities in the world. Honeycombed with mines, fronted by smoke-belching steel mills at its base and virtually isolated with only a few poor roads servicing it, Mount Washington was hardly a prestigious address."

Goats and Advertising on the Hillside
January 1, 1920
-- Pittsburgh City Photographer (ASC)

Forest Types

Early forest types in Western Pennsylvania were documented by early travelers and others, but only in the most general terms. However, there are a few specific surveys of plants on Mount Washington. Land sold by the Penn family in the 1780s was surveyed using trees as property markers, and this area included portions of Mount Washington or adjacent lands. Mentioned in the survey were the following trees: hickory, white oak, white walnut, Spanish oak, sugar tree, and red oak (Killikelly, p. 79).

A study by Griswold, Winters and Swain for the City Department of Parks and Recreation in 1970 cited a USDA survey from 1967 that cataloged the following trees on Mount Washington:

> Maples and locust, with a few Red Oak, Ash and Sumac scattered throughout the entire area. The locust trees were mainly distributed along the upper one-third of the Westmoreland and Weikert soils. The undergrowth—weeds and small trees—was found to be adequate for the purpose of controlling erosion, throughout most of the area.
>
> -- Pittsburgh Parks and Recreation, p. 13

In the area of Grandview Park several other species of trees were noted—probably introduced to the site—Mulberry, Dogwood, and Walnut.

Additional survey work at the time of the 1970 report by Griswold, Winters and Swain confirmed the USDA list and added Ailanthus, Malus, Honeysuckle, Box Elder, Hawthorn, Virginia Creeper, Sumac and poison ivy. The report specifically noted the absence of evergreens on the hillside.

Fisheries

Early descriptions of fisheries are also very general, but remain interesting as an indicator of the quality of water in the rivers.

> In this well-watered region fish were naturally abundant: trout were found in the tributaries of the Allegheny, perch and pike in the streams flowering into the Monongahela, and in these two great rivers and the Ohio were the latter fish as well as catfish, sturgeon, bass, and "buffalo fish"—probably bullheads. Turtle, eel and the "Allegheny alligator fish" are also recorded by early travelers.
>
> -- Buck, p. 10

Stories of the abundance abounded and included reference in 1788 to a legendary fish that "weighed 120 pounds and drowned the man who caught him (Buck, p. 10)."

Edward K. Muller indicates that, "The earliest scientific observations of riverine fauna recorded diverse and abundant fisheries and mussels in the region's waters." However, development of the flats nearest the rivers, including dredging and filling, and polluted runoff from mining and other industrial operations led to large fishkills and other signs of degraded water quality in the 1950s. The impact of decades of industrial exploitation in the surrounding hills could be seen downstream in the waters of the three rivers.

Soils

The 1970 Griswold, Winters and Swain study for the Department of Parks and Recreation describes the soils in the Mount Washington-Duquesne Heights area as "variable" over relatively short distances due to the steepness of the slope.

The 1971 Grandview Study by the City Planning Department provides some general insight into soil conditions on Mount Washington:

> LANDSLIDES The steep slope areas of Mount Washington have been formed by erosion and are in the process of erosive change at the present time. These areas can be considered as generally unstable and subject to landslides, rock falls, and other types of geologic movement. The Indian name, "Monongahela," meaning "mountain of sliding banks," makes reference to this condition.
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> GEOLOGIC FISSURES The horizontal strata exposed on the steep hillsides in the Mount Washington area are dissected by a series of parallel and near vertical fissures. The fissures occur throughout the steep hillsides facing both the Monongahela River and Saw Mill Run Creek. These fissures are a result of removal of lateral support by the erosion which formed the hillside and adjacent valleys. Removal of this support has caused immense slabs of bedrock to move toward the center of the valleys. These fissures are largest and most frequent near the faces of the hillsides and gradually diminish in both size and number away from the slope. They are visible in the hillsides, especially where some recent movement has occurred. They become natural channels and carry large volumes of water draining through the hill. This water can exert hydrostatic pressure, which aggravates an already serious stability condition. These fissures are the planes of weakness along which landslides and rockfalls have usually occurred in the past and will continue to occur in the future.
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> WEATHERING AND EROSION The on-going, natural weathering processes of the area are generally very gradual and there are elements that work to control erosion. The plants on the steep slope area have a stabilizing influence, tending to retard erosion, in addition to presenting a green façade to the hill. Any intervention into the harmony of this ecology should be done with due consideration or an undesirable situation may be created. Thirty years ago the local air was so polluted that much of the plant life on the north façade of Mount Washington was poisoned. The sparse plant growth presented an unnatural condition in which erosion was accelerated. This condition presented a much less desirable façade as well. Fortunately, nature was able to restore much of the plant growth. Periodic excavations in connection with railroad or highway construction have also scarred the hillsides in such a way that nature has not been able to restore vegetation. The most recent excavation for the portals of the Fort Pitt Tunnel has removed plants and top soil and has exceeded, to a critical degree, the natural slope of the hill. This presents a serious problem with regard to planting and erosion control.
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> -- Pittsburgh Planning Department, p. 12

The report also has a strongly worded assessment of the land conditions on the north side: "The north slope of Mount Washington is one of the most unstable hillside areas in the city. Numerous landslides have been recorded in the area. The vertical fissures along the length of the hill have created an additional concern. The fissures are so positioned that a substantial piece of the face of the hill could shear off and slide down to Carson Street. This could occur as the result of natural stresses alone. If additional weight is placed on top, as in the case of new development, the

probability of occurrence would be increased. …To repeat," goes on the study, "the north side of Grandview Avenue is the worst location within the study area to undertake new development…."

A newspaper article from May, 1971, quoted Dr. Richard Lund of the University of Pittsburgh as saying that the frequency of landslides along parts of Grandview Avenue is "higher than any comparable area in the country; and included comment from Dr. Dana Kelley, a geologist for the PA Geological Survey, stating that the area is "landslide or rockfall hazardous with 12 such failures in the last 30 years (Post Gazette, May 5, 1971, p. 1). "

Hillsides, Green Space and Parks

In the early part of the 20th Century, there was considerable activity focused on the livability of Pittsburgh. Among the reports and commissions of this time period there were:

- "A Report on Main Thoroughfares and the Down Town District" by Frederick Law Olmstead, commissioned by the Pittsburgh Civic Commission in 1910;
- "An Economic Survey of Pittsburgh in 1912," by J.T. Holdsworth, commissioned by the City Council and the Mayor; and
- "The Pittsburgh Plan," a seven year effort begun in 1918 and completed in 1923, to review six different features of Pittsburgh including playgrounds, streets, transit, parks, railroads and waterways.

A theme running through all these efforts is summed up in the 1912 economic survey report which states, "…a good city in which to live makes a good city in which to do business, and that industrial and commercial progress is largely dependent upon social and civic conditions (Holdsworth p. 6)."

Facilities such as parks and recreational areas were considered primarily from the standpoint of their importance to economic conditions, but there were social and design or aesthetic considerations at work in these reports too.

Here is how J.T. Holdsworth, PhD, introduces the topic of recreation facilities in his economic survey of Pittsburgh in 1912:

> In the social life of a great industrial city like Pittsburgh no problem bulks larger, and none requires for its solution more wise judgment and intelligent planning than that of adequate recreation facilities. A city is judged largely and not improperly as to its desirability as a place of residence by its educational and recreational advantages. It is in the hours of his recreation that a man whether he toils with his hands or with his brain really lives. It has been well said that "one-half of efficiency and happiness depends on vitality, and vitality depends largely upon recreation." Public provision of rational recreation opportunities has come to be recognized as a necessity by everyone interested in the social and civic welfare of individuals and communities.
>
> -- Holdsworth, p. 171

He goes on to plea for a careful planning process:

> Such a plan should make provision not alone for the present, but at least a generation to come….
>
> …Industrial and commercial growth alone will not make a city great. The proudest boast a city can make is that it is a good place in which to live. Good standards of living, a happy and contented working class, permanency of employment, and opportunities for culture and recreation are indispensable to permanent growth. …The location of parks and playgrounds is a fundamental factor in any comprehensive city plan.
>
> -- Holdsworth, p. 171-172

The basic standards set forth by Olmstead for distribution and accessibility of parks were generally accepted and used as a basis for the discussion of desirable parks planning during this period of time. Olmsted proposed that all families should live within no more than a quarter of a mile or at most half a mile from playgrounds or local parks that provide for "exercise or rest."

Olmstead pointed out, however, that Pittsburgh's topography creates a special challenge. Of the city's step hillsides in general, Olmstead goes on to say, "…The problem of making use of the excessively steep hillsides in the Pittsburgh District is a troublesome one. There is a great deal of such land in the district, to as much as 30 to 35 percent of the total area (Olmstead, 1910, p. 109)."

"Generally speaking," Olmstead states, "these steeper and more irregular pieces will be of greater use to the public than they could be to private occupants. It must be noted, however, that their value for recreation is distinctly limited. They cannot adequately or economically supply the local needs for playfields, out-door gymnasiums and the like; and as isolated fragments they cannot, of course, fulfill the functions of large rural parks. It is possible, however, to lay out sidehill walks on easy gradients and to furnish seats and terraces, especially near the upper edge of such declivities, where the people of the neighborhood can stroll and rest and enjoy interesting and extensive views over the city, the river or the adjacent valley; always with the steep natural hillside below as a foreground (Olmstead, 1910, p. 111-112)."

> *Especially is it desirable that the precipitous hillside rising to Mount Washington, now largely an unfruitful waste, a place of raw gulleys and slides mingled with some painful advertising signs, should be treated with respect as a vital part of the great landscape of the city. It should be protected from defacement and its earthy portions should be reclothed with the beauty of foliage.*
>
> -- *Olmstead, 1910,* p. 23

In flatter landscapes fewer and larger parks can serve a large number of people. In a hilly terrain in which the hills themselves present physical barriers to travel, a park on one hillside may not be accessible to someone living nearby. "The conditions in Pittsburgh are peculiar," wrote Mr. Olmstead: "Here each isolated community, no matter how small, needs its local park; every portion of the long, narrow valley settlement should be near a park; and hillside settlements at district levels should have separate opportunities for recreation (Olmstead, 1910, p. 175)." In other words, more and likely smaller parks are needed to provide ample greenspace for local populations.

"But of greater importance than mere size," Olmstead goes on to say, "especially in Pittsburgh, is the topographical situation. Hilltop lands though not in the least secluded frequently offer vantage points from which to look upon vast stretches of

landscape, thus giving the greatest possible sense of spaciousness and lack of confinement. On the other hand, the valleys, with their wooded banks, are unrivaled in the natural opportunities they afford for almost complete seclusion from urban surroundings. Fortunately the Pittsburgh District is well endowed with available sites of both kinds."

-- Olmstead, 1910, p. 117

In an eloquent plea for Pittsburgh to take advantage of its visually remarkable location between rivers, Frederick Law Olmstead specifically included this comment about Mount Washington:

> Immediately across the Monongahela are the high and rugged hillsides of Mount Washington and Duquesne Heights, and below these are the lesser but still striking hills along the Ohio River from the West End to McKees Rocks. The outlook along the river with its varied activities to these hills immediately beyond would be notable in any part of the world. Furthermore, the rivers and the hills are the two big fundamental natural elements characteristic of the Pittsburgh District. Thus any provision close to the heart of the city, whereby the people can have the enjoyment of these mighty landscapes, is of peculiar importance.
>
> -- Olmstead, 1910, p. 22-24

The dramatic impact of the landscape is not at all diminished by the busy industrial facilities along the rivers, Olmstead argues, but he does state that "the people" need a "locally agreeable place… from which the scene can be enjoyed."

Olmstead identifies the face of Mount Washington as one of his seventeen recommended "Special Park Opportunities:"

> *Mount Washington Hillside:* Another feature of the same sort (as Bluff Street hillside along Second Avenue), only much larger, more conspicuous and therefore more important, is the precipitous hillside south of the Monongahela River from the West End to the Castle Shannon incline. …there is no doubt that the area in question should be preserved intact for all time as a monumental example of the Pittsburgh landscape.
>
> -- Olmstead, 1910, p. 122

Economic Benefits of Parks and Recreation

Why were parks being discussed in a report on the economics of the city? The author of the "Economic Survey of Pittsburgh in 1912" records an example of a comment received on a survey sent to manufacturing companies in which the business noted it was "impossible to import skilled workers into the city on account of the lack of suitable amusements or recreation….We have had quite a number of men from Cleveland and from eastern cities in our employ at various times. These men would not stay for the above reason."

The Pittsburgh Plan, crafted between 1918 and 1923, titled section II of its report on parks and recreation "The Social and Economic Value of Recreation" and started the section with these entries:

Why Recreation

Recreation is an essential human need. It is vital to both the individual and to the community as a whole.

> Human beings as well as plants, thrive out of doors. Open spaces are the city's lungs. They are breathing places. They may be used as playgrounds for the children or as athletic centers for both children and adults. They may consist of large parks and boulevards, form or informal city "squares" and neighborhood parks, or water recreation areas. As the city grows, the need to provide such open spaces becomes more frequent and urgent. This is a fundamental issue…
>
> -- The Pittsburgh Plan, p. 15

Many social purposes were ascribed to recreation and open space in this report, including the successful assimilation of immigrants into the city population, and development of moral fiber and citizenship. On the economic value of quality recreational opportunities, the report says:

> In the past, Pittsburgh employers have been handicapped because workers were attracted to other cities which offered more and better recreation facilities than this city could offer. If the aggregate time annually available in this city for recreation were expended wholesomely and healthfully, even if very great expenditures were required to provide facilities for that purpose, there would be an incalculable economic return. The investment would be an investment; in public health, contentment and efficiency, and in better citizenship.
>
> -- The Pittsburgh Plan, p. 15

Like Olmstead's report, the Economic Survey suggests future action to increase the availability of locally accessible green spaces to "meet the needs of the masses" (Holdsworth, p. 176) including the following idea:

> No general park extension plan can afford to overlook the utilization of the barren slopes on both sides of the Monongahela. At comparatively little expense these bleak banks can be converted into neighborhood parks accessible to the working community where the ever-changing panorama of river and city life may be enjoyed. By appropriate landscape treatment these eyesores can be made at once beautiful and useful in contributing to our recreation needs.
>
> -- Holdsworth, p. 178

> City planners now recognize that provision for the recreation of the citizens is as fundamental in the modern city as provision for any other basic human need. Chambers of Commerce more and more realize that the existence of a comprehensive recreation plan is one of the best advertisements of a city and adds to real estate values.
>
> --Holdsworth, 1913, p. 180

Park and Greenway History

Grandview Park was acquired in 1897 and originally contained some 18 acres of hillside land. The land included two large water towers acquired by the city in 1909 that still stand. The park was developed with a picnic shelter and a merry-go-round, built in 1913, which operated until 1946. A music pavilion was used for concerts in the summer. Grandview Park was used as a base for the

topographical survey of the city. At 1255 feet above sea level, the park is one of the city's highest points. An overlook was constructed in 1958; it has been used as a platform for band concerts and for theatre performances. A local elementary school is also located within the park.

Olympia Park, once farmland, is a compact 9.3 acres on the southern slope of Mount Washington to the west of Chatham Village. It was acquired in 1908, after residents of the area made known their keen desire to have a local neighborhood park. Many other neighborhoods had seen such parks developed and the residents of the 19th Ward (at that time) did not want to be left out. It was named Olympia Park in a reference to the site of all public games in ancient Greece. The local residents intended the park to serve as a center for public games. True to its name, it is focused on athletic uses, and contains a ball field, a sizeable brick recreation center and a playground for young children. In past times, the park also contained a swimming pool and a bath house. The ball field was flooded in the winter to provide skating for children of the neighborhood.

Immediately adjacent to the park to the east is Chatham Village, an historic planned community that includes 46 acres, 30 acres of which are managed open space under a state "Clean and Green" forestry designation.

Mount Washington Park was established in 1908, again at the demand of local citizens, even over the protest of staff of the Bureau of Parks. Once productive farmland, the park was established with about 15 acres. It is now just under 21 acres of land, making it the seventh of the city's parks in size. Much of the land is so steep that the park was nicknamed "goat park" by some. The park has also gone by the name of Wilbert's Grove and Dilworth Park. No development of the park was done until 1921 when some path and road work was done. In a listing of city parkland compiled in 1916, this "track" was deemed "not worth visiting" because it was not "improved." Ironically, that condition now makes it one of the ecologically more interesting of Mount Washington's green resources (Fleming, p. 182). The park does include a playing field (Dilworth Field) and a children's playground.

Duquesne Heights Greenway: The current Duquesne Heights Greenway is a product of a decades-long evolution of the concept of protecting Pittsburgh's steep hillsides and keeping these areas predominantly green and in city ownership. In 1939 the City's Planning Commission took action to preserve steep slopes by refusing to put tax-delinquent properties with slopes of more than 25% into the public sale process. In other words the land was left in city ownership as an indirect strategy to reduce the likelihood of future development on those sensitive lands. Nearly another twenty years later, in 1958, the City Council added a new zoning classification— "S" for special areas including steep slopes. A Riverfront and Hillside Master Plan was completed the following year and identified future uses for the hillside areas, including overlooks, scenic drives and conservation and recreation areas. In 1966 then-Mayor Richard Joseph Barr and the city council supported the City Planning Commission and the Department of Parks and Recreation to create a program to acquire the remaining private properties on steep slopes. In tandem with a state program dubbed "Project 70" that provided matching funds for land purchases, the City greenway plan identified seven top priority areas, including portions of Mount Washington. One hundred sixty-six acres of tax delinquent and private properties were identified for purchase, though most do not seem to have been purchased.

This thinking was carried into the early 1980's during the term of Mayor Caliguiri. Outlining a strategy that still holds promise, the city planned to consolidate public land, seek gifts of other private properties in sensitive hillside areas, and hold the clusters of land as undeveloped open space for passive use. Neighborhood groups were invited to request a greenway project and the Duquesne

Greenway was identified and placed in this category. Fifty-six acres made up of 242 parcels were designated as the Greenway, a title that does not offer actual protection or prevent encroachment on the area. Another 63 acres, also primarily undeveloped green areas, both privately and publicly owned, are included in the study.

Grandview Overlook Park includes approximately 50 acres that stretch along the northern face of Mount Washington, providing the tree-covered green backdrop to Pittsburgh's "Golden Triangle". The view from Grandview Overlook Park is a famous urban vista that has earned, along with McArdle Roadway and East Sycamore Street, a Pennsylvania Scenic Byway designation. This park was established in the 1950's when the Railroad donated the land to the City of Pittsburgh with a deed restriction for its creation.

In the 1970's federal highway funds were used to enhance the public space at the eastern end of Grandview Avenue from the Monongahela Incline to Ulysses Street. At that time the four observation platforms that cantilever over the hillside from the Grandview Avenue sidewalk were constructed and new lighting, fencing, park benches and street trees were also installed. However, the park extends beyond Ulysses Street to the western end where Grandview Avenue meets Republic Street. At the western end of Grandview a small section of relatively level land within the park area has recently been improved with a new sidewalk and a platform for the placement of a statue of George Washington and Indian guide Guyasuta.

Due to the steep slopes that make up this section of the study area, there is no access to this greenspace, except from the sidewalk, overlook and small park areas along Grandview Avenue.

The Saddle is comprised of properties south of Carson Street, north of William and Neff Streets, west of the Fort Pitt Tunnel, and east of E. Sycamore Street. The city or the three taxing bodies own 34 lots and there are three undeveloped parcels owned by private parties. The currently undeveloped area is about thirteen acres, zoned Parks and Open Space (PO).

Originally the site of the former Castle Shannon Incline, the land was at one time owned by Pittsburgh Railways. During the heyday of coal and steel production, the base of the Saddle was utilized by several coke ovens and the face of the hillside was nearly bare of vegetation. Now, trees and other vegetation have filled in, giving the appearance of a green space that is primarily undeveloped.

> There is no doubt that [the Mount Washington Hillside] should be preserved intact for all time as a monumental example of the Pittsburgh landscape.
> -- Olmstead, 1910

The Saddle is transected by roads, and residential development encircles the central green space. There is also a major sewer line in place. The existence of this infrastructure and other utilities has long made the Saddle the subject of discussion about future development.

History of Hillside Restoration Attempts

For nearly 100 years various attempts have been made to improve the physical condition of the hillsides of Mount Washington. Ideas about what would be appropriate aesthetically or ecologically have changed over time.

In his 1910 Study of Pittsburgh, Frederic Law Olmstead urged the city to pay attention to its hillsides as an integral and defining part of the local environmental and recreational resources of the region. Olmstead called the Mount Washington hillside "a monumental example of the Pittsburgh landscape" and he urged that it should be "preserved intact for all time." He specifically urged that the unsightly billboards and damaged areas of the mountainside be cleared and restored.

In a 1912 report on economic development for Pittsburgh prepared for the city council and mayor, Dr. J.T. Holdsworth considered recreation, parkland and a pleasing physical landscape to be integral to economic advancement. He supported Olmstead's recommendations, and added that the "barren slopes on both sides of the Monongahela" should be viewed as opportunities for park expansion. "At comparatively little expense these bleak banks can be converted into neighborhood parks accessible to the working community where the ever-changing panorama of river and city life may be enjoyed. By appropriate landscape treatment these eyesores can be made at once beautiful and useful in contributing to our recreation needs (Holdsworth, p. 178)."

A number of program and policy decisions were made over the next two decades to reinforce the concept of hillsides as a crucial resource needing care and improvement. In 1928 the City Planning Commission adopted a Mount Washington beautification plan that would cost $75,000 over three years. The plan called for 8,000 trees to be planted in one year. The first $25,000 was appropriated, but the Great Depression ended the follow up efforts.

In 1939, however, the Pittsburgh Planning Commission made the decision to prevent public sale of tax delinquent properties on slopes greater than 25%. In 1958 this decision was followed by a new designation of "S" for steep slopes, to constrain new development.

Interest in "improving" the hillside remained alive, if somewhat dormant in the next decade or so. In 1945 Gilbert Love, a columnist for the Pittsburgh Press, proposed a "hanging garden" on the hillside, dramatic enough to become a world class attraction. He envisioned a wall of forsythia blooming in the spring. In 1946 he suggested all 73 garden clubs at the time could each take a segment to plant and care for, and he recorded the suggestions of experts for potential plantings: creeping bittersweet, honeysuckle, flowering cherry or crabtrees, and thrift.

Partial List of Plants Added to Mount Washington Hillsides since 1928

Sunflower, cosmos, poppy and cornflower seeds
"Easter plants"
hawthorn seeds
black locust
honey locust trees
maple sugar
sassafras
arrowwoods
mountain laurels
azaleas
multiflora roses
rye grass
crown vetch
yellow buckeye shagbark hickory American beech
tulip poplar
red oak
chestnut oak
hackberry
white pine
basswood
Canada hemlocks
white ash
sassafras
basswood,
red pine
hackberries
scarlet oak
Virginia creeper
trumpet vine
virgin's bower
trumpet honeysuckle
kudzu vine
fox grape
bittersweet

In 1949 a group of citizens led by the local Chamber of Commerce involved school children in an attempt to plant sunflowers, cosmos, poppy and cornflower seeds as well as "Easter plants." A resident of Mount Washington wrote to all states and territories and requested seeds or plants to start a "Garden of the States." "Much of this material died," Love wrote, "but some is still there" (as of 1955).

In 1953 the Women's Club of Mount Washington asked the City to get involved and City Council allocated some funding to clear weed trees along the Mount Washington Roadway. Mrs. Verna Dibble undertook the first of a decade of Arbor Day events to help coordinate efforts to beautify the hillsides. In the fall of 1953, Mr. Love noted, "a large number of maple sugar seeds were collected by people all over the district and scattered on the hillside to eventually make it colorful in autumn."

In the spring of 1954, the City Parks Department was noted to have planted "over 100 crab apple trees from one to five feet tall, three bushels of hawthorn seeds, some black locust and honey locust trees." In the fall of that same year, the City planted multiflora roses "donated by the Dormont-Mt. Lebanon Sportsman's Club." The Mount Washington Hillside Planting Committee, a spin off of the Women's Club, collected funds for additional plantings. In the spring of 1955 this group purchased another 100 trees and shrubs including sassafras, arrowwoods, mountain laurels and azaleas. To some extent the choice of plants appears to have been driven by what was offered or donated from various sources.

A 1959 study for the Department of Parks and Recreation and the Department of City Planning outlined a master plan for the city's riverfront and hillsides. In 1969, the city's Planning Commission and Parks and Recreation Department worked together to utilize the new state program dubbed "Project 70" that provided matching funds for the purchase of active or passive recreation areas for historic and scenic purposes. The city's plan recommended seven priority areas including portions of Mount Washington where the purchase of steep land could be protected. Key reasons for selecting the sites included their high visibility, their scenic vistas, their potential use for hiking or walking, and their value as "a belt of open space offering recreation or respite within fifteen minutes' walk of City neighborhoods." From this effort eventually grew the designation of the Duquesne Heights Greenway.

In 1980, the site of a trial planting in the early 70's to cover the scars above Ft. Pitt Tunnel was inspected to assess the extent to which plants had become well established.

--Photo WPC, 1980

In 1965 an article in the Post Gazette featured a test planting on the hillside side near

the Fort Pitt Tunnel. A lawn care company offered to test a new method of spreading seed and tested a mix of rye grass and what the article called "a weed seed known as Crown Vetch (sic) which has a reputation of growing under adverse conditions."

In 1970 the City Parks and Recreation Department commissioned studies by landscape architects Griswold, Winters and Swain to assess the potential for restoring Mount Washington, an area the study called "The largest single element of Pittsburgh's magnificent topographic personality." Their detailed recommendations led to an experimental test planting commissioned by the Mount Washington Hillside Planting Association. Also involved were the Western Pennsylvania Conservancy and the Hillman Foundation.

Newspaper coverage at the time explained the following plans: In five areas, encompassing vertical cliff, level areas, 45-degree slopes, bare rock, open field, light cover and dense forest, the plan was to plant both "introduced" and native plants. In a level spot, the following were to be planted: 36 trees, including sugar maple, yellow buckeye, shagbark hickory, American beech, tulip poplar, red oak, chestnut oak, hackberry, white pine, basswood and Canada hemlocks. On a steep slope, 50 seedlings of beech, buckeye, pine, hemlock, red oak and sugar maple were to be planted. In a clearing, shrubs including mountain laurel, pinxterbloom, fragrant sumac, mapleleaf viburnum, spice bush and arrowwood were to be tested, with crown vetch. On downward slopes, seedlings of white ash, tulip, sassafras, basswood, red pine, hackberries, white ash, scarlet oak and ground cover including vetch and Virginia creeper were to be tried. On other slopes, red maples, sugar maples, white ash, red oaks, scarlet oaks and chestnut oaks were to be planted. Finally, beside the incline, 96 cover plantings were planned including trumpet vine, virgin's bower, trumpet honeysuckle, Virginia creeper, kudzu vine, fox grape, and bittersweet. (Pittsburgh Press, 1972)

In 1980 a follow-up survey by Griswold, Winters and Swain, the effort to hide the Fort Pitt Tunnel scar was evaluated. It was found that the most vigorous growth and screening were provided by the following species:

Evergreens: Austrian Pine, Colorado Spruce
Deciduous trees: Sycamore Maple, Red Oak, Norway Maple, Littleleaf Linden, and Green Ash
Shrubs: Red Oiser Dogwood, Yellow Twig Dogwood, Gray Dogwood, Winged Euonymus, Doublefile Viburnum, Arrowwood Viburnum, Tartarian Honeysuckle
Vines: Boston Ivy

In a similar pilot planting effort along McArdle Road, Griswold, Winters and Swain found that the following plants were doing well:

Deciduous trees: Yellow Buckeye, Sugar Maple, Chestnut Oak, American Linden (Basswood), White Ash, Red Maple, Scarlet Oak
Shrubs: Mapleleaf Viburnum, Fragrant Sumac

One city planning study envisioned "Special planting" along Grandview, suggesting "The repair of the scarred surfaces particularly above the north portal of the Fort Pitt Tunnel, may involve more ingenious designs, such as the hanging of special gardens that would function to stabilize the crumbling slopes (Pittsburgh Planning Department, June 1971)."

Not all the efforts to manage the hillsides plant cover were well received, however. A later press story features complaints by residents about the city's use of defoliant to clear the view around the visitor's pods along Grandview Avenue. The city was apparently responding to requests to keep the view clear, and used the defoliant as well as topping to cut back trees and bushes along the

viewline, in the very same area where so many efforts had been made to decorate the hillside with an array of plants (Pittsburgh Post Gazette, p. A-11).

Over some eight decades, the vision of a green and imposing Mount Washington has been sustained. The Emerald Link Study and Master Implementation Plan is only the most recent in a long progression of efforts to make this vision possible. With new scientific information about ecological management and new technology available, the current Master Implementation Plan offers an updated strategy for Mount Washington's green spaces.