"There was a time in this fair land when the witd, nuajectici muountain stant alone geinst the sun. "o rong betore the intion, the White men and tria Whizel..." (r. Gorown
 between the 2nd Contury B.C. and the 3ed Ceniory A.D., with the Grece novtimematicienand miventor, Aeron of Alexandri, who made contrivans:s run by wofter,
 "snpines"were no more than conftivencer until 1767 , when (Iames wott, a Soottish inventor and enqineer was asked to repair Thonass Necrcomen's steom empanx and mode the first practical solution to the harnessing of steampower. in $12 \%$ The firist US, Rathoart'was a f wi. iles, of weedy tock out of W. Quincy, Mlest, it locamotives being horses and oxen" (Mrex Guther, NYTTmes). Then a seff taught man ( only 52 Dats af schooling), vested with niony tatents and named Fefer Copper, built the fiust locomantive in the $U$. S. in 1827 -en upright boiler on of thet Cor known as "Tom Thumb". Other enqines and other namer followed:" Too kette" and "ron Horse"- the latter reasly caughto on. By 1837 the baimuruene horizontel. (Ny TTmes + Life Map.) By then stories, of the wersch und feaden, of living in the "for West" were firing nisn's hearts: "Some men look ed in the e"ture and wanted to see an fron Road rumaimition Seato Sea, Over the mountainsand over the plains..." (Lightfoot) There were viery tew who could occeet sucho treas but they cam? anyway. by sthonaner tound the Norn or bo "Pertiries shbouner" over the mount oins and plains. Bof Conpress war sold on the Raitpad Diciom ind pronted awide right- of-wiy acrass the Continent to provide tor vitable of nment of the Roils: the toute went goulh to sacrumente from Ombina-tha leist figle diviven in $186 \%$









 apoin- this time at the resh Rentor mines- Got the road become a financiol sucesess and 6 cyen the process of tying the P Poget sund binteriord to seathle y wit and fabrication focilities (t, Roger Sole).

A farenty. six yeor old hawer arrived in seaffle in 1875 - two yeurs older than the town it seif - his name was THOMAS BURKE. He was a bushess proneer - -peculator, "boomer" (of Seatfés notures Dthibutes + stirit), Aromoter and, most importuth solicitor of and spokermentor fostern capital. Thomos wasthosm -tantish hat miquant, born in : New York farmhoure, the efdest of Five intiron. Affictect vinh a partially crippled arm, farm aren was diffruit: his alert intellevence and tove of learning turned him fowards a professional carece. Affer the death of his mathor the family moved to verrour form sitos in lowa where he situled and did ast ibs
 beth clessiceland modernstudies- where he develaped hif tolent for or atory.
 but finances farcus him to drop out. By reading law with a practicmingtorney ho qained admitfance to the bar. Served vary triefiy asifty attornen of Morshall. Mich., becaue the town was "dead": boarded the new transcontinentul train to San Franciseo, then a stezmer to Seatfle. (Fi. Rost C. Nast')

Thrawh e series of deals the NP acquired the Seatic and "Wallw whan" Is

focilifies.
At this time ancher lawyer arrived in tioun: DANIEL HUNT GILMAN. Born in Maine (1845), he qriduoted from Columbia Law School in 1877 and went utio law prictise in New York City, Here he gained considersibte commercial experience and ecquaintence in Wall street and other financial centers. He quicily, became a clore associate of Thomas Burke. Gilman was aninvicterate optimist and a"shoestring" operator with a telent for keepping up appearonces ameng manayed people.

The Northers Pacific drove the last spike in the completion of the nortism trenscontinental triltroad in 1883. Ht western ferminus was in Taroma and the spur lines to Seattle and Portlond were intended to drain the northwest throunh Tacema- a plan that seattle found to be inturiating. Besides, the service to Suattia was poor and yhe eassenher and freight rofer wree exorbifant, paneration even
 in the right-of-way and the NP restored seruice in fear of losing their Federal Franchise due to"e 6andonment"of the line (Gorcion Newell).

In 1885, a group of twelve Sesttle people, led bo Thonas Burke and Dasmel Gilman decicled to have another try for a Sestfie-6ased risirusd- - this the northward to Spokane and eannecting to the Cinadion Transcontinemtal 1 lira at Sumas. Judqe Burke sent Daniel Giiman "back cast" to secure fimenciar support for their venture while he sought tocat suptort in the form of money, commercial ond lepal fecilities ettractive to Eastem raitroad mem. One valcable coneession qrantec by Council was the crestion of a man-made Raifroad Avenve, on pillias all along the weterfont (Alskken Way) to be used by all frisis coming into
 Burke ind Gilmon for their new Rood- the Seaffle, Leke Share end Esestern. They boilt a depot here, at Westem and' Columbia, "ned beton reying trakes northuwerd ithou

 Their future campus: Wudqe Burke was a tustee. Diminy 1 ta/" wasn " "moved" from its dountown locetion untir 1845.) The rists continved srowed thion Bay with a spur to the lopting toun of 'Yesler. (west shore of Laurethest'), then north elong Lake Xesshimpton wirth o stofion of Pontioc (Where the oriqina/ Catecre Pork was developed in 1718 : teken 6y the Feds in 1926 aspurf of the Sond Point Airf facility-itself abandoned and 176 acres quantect to the city -ar a park in 1975.) Contimuing slong the shoreline pest other waumil/s along the woy. (Puact Sound Mill, Maple Mill beturein Mattricus Beathind "Lavilla stration), a stofion


 Road (*101) from Rovenna to Pontioc: the Roal croscretanion of (NETOES) - site of the Ponfric Station. At Woocimuille (tromded oy a former Seetflifite, M.D. Woodin, parfiner with Seymaur Wiefonore in the tonning ind shoe making
 and nowi /ssaquah) and on to Snaque(mie falls; the sther sour want norfinus.red to meet the Consdion focific, but tunds and creceit "ran out" "ot גrimpon, jout north of Evercif-: a lonq way fom Sumis on the borsire, Right-of cusp property
 -however, most of them condifined the deeds wath provisions or hauk op or reverting ta them if the foiltoas wore not bult weth ina year. A portion list indudes G. M. Halle, U.H.M:Graw, M. V. Corkeek. Estote of lowes O:Sim, Pu piet Mill Co, ett. (Estelle Berteiq, Roger Sile + R.C. Nesbit) The Surveyor for the
railroad was Reginald Thompson, who later become City Engineer to Undertakes the Regrading of Seattle streets and hills, a major series of crine 60 p, were creating considerable tame tor Thompson and' Seattle. (E. Berteiq)
 Canfield of Fairhaven (now Rofthinghom) wing himself was busiding a railroad Eton

 Seattle was about to bridge the river at the town of gnomish. Carfinit's attorney,
 Judge Burke hoped on the locomotive, unirithed it fran the passenger sos and "went full 6 ore" all the way to Snonumish. There the jude asked ing irish, the Sheriff if he and his deputes didn't have to hunt for cut hows in the com north port of the county. The engine returned to Nestle, hitchect up the cars vat went bat k to Snohomin, but the attorney found the sheriff ind deputies out on g lowithe
 headed no th but was stopped at the Borer ( (comas) by the cinaclon fiction.

During this time another railroad war crossing the li, S. but it war making it way from town to town - wither thanmeefing wider, with potienssike. James kill began building his Grot Northern Ry From St. Paul in 1856. than
 or exine ones stabilized and mmmerunts brought in th and. She dit not neat
 offer looking for the best possible deal. The west for ferment in conwitted: through Gaiman he hired whole burke as his Gurney. Alone the va be



 city thill. The best the the Judge could to wens to secure the ont in ript.an way for the GNA and a shabby frminat of the foot of 510.66 :t

Obviously vanes fill was nat chassis with the chan or its location bot ha was serifed in the pome of "play of". Ais refusal to accept Federal Land Grunts.





 St. The fist GM 4, in arrived in 1843.


 from beng dominated and doomed by ta ens. A further potumbl tor the $5 \frac{1}{6}$. S. IE. RR was its anticipated commuter service to vestfle-but ellice applistions of the engine, the electric trolley car and the pasoine pouerid vetumodle- evert this "dream" to burst. This sieamwas revived in 1974 but Metro transit enipineers felt it was unteasabia.
 Thompson proposed s roifsoad tunnel under the city then hon treat to the of d



 Five years tater the Oregon-W ashington RRtNowigatrinn cia and the Chicago, Milwaviep

revenue by pulling a freight car to or from or between business/farm communities. By 1894 this concept was developed into electric locomotives power fol enough to pull a train of freight/passenger carr. By 1917 the Chicago, Milwaukee, st. Raw + Pacific RR had completed the electrification of its entree route: 3,000 miles of trolley wire -a world's record at the time. By the 1930's diesel powered mines: were replacing steam power and by 1974 had replaced the trolley system of the Milwaukee Rood.

Having earned the title of "Empire Buider"by developing Fauns and trade centers as part of his Railroad system, Names Hill did not step when he "arrived" at Seattle. Ne toked across the Pacific: in 1896 the Nopnewe Fighter Milike Mary docked at Pier S8, inaupursting international trade for seattle. He developed Pier 88 and built two massive freighters for tracie with the Orient. The "era of silk "was developed: a 135-16. Gale war arm 71000 . But the market was speculative and insurance rates were high. Vanes till was able to "high $63 / 1$ " his silk trains from Seatfie to the New York mills with right. cewory over every trein-seffing a transcontinental/ record of 73 now s cosst-to-coest.

The Engine soon developed truck ind airplane capabilities and boson to. eclipse the Pron Rad: rails and track beds deere a constant and costly maintrenance especially for high speed trains. To compete with trucks, the rritreatir developed "piggyback" cars for hauling ituck-trailers: as early as the late 1880's had hauled farmers' wagons on flat cars to New York' City markets. Then came morfintevel racks for hauling new passeniper ears. Transcontinental toes and planes put passenger trains-and passenger steamers-imtos a deep decline. Mergers of railroads beyen in the 1950 : the largest U. 5 . Rail network rolled into action in 1970 -the GN, NP (inflecting the "Burke- Gilman pood"), Chicago-Burlington \& Quincy and the Spokone-Portlond \& Sente RRs-a 24,489 mile system of rails to be known as the Burlimptiontorthem. By not opposing the never, the Milwaukee obtained rights tow BN rails. E ut these mergers were for freight: in 1970 more than 100 of the nations too pascomper rail lines had filed petitions for disuntinconce of passenger service. So another system was born, chartered by the federal Government to gorrife virtually all intercity passenger railroad routes in the U.S., known as Amiturk.

Having never become a part of the mainline trimscontimentar roilroudinto Seattle because Ail chase to come by way of Fiverct, the early-day importance of the "Burke-Gilmen Road" begun to decline with the conversion of the area from manufecturing-commercis/plants to residential plus the increase of trucks bending most of the commarcielaccounts. This decrease in the use of the frocks topetherwith the increased interest in Bicycle totaled the league of America Wheelman (Harry Hoe of Sestfen), the Park + Recreation and the Engineering Departments to discuss the possibility of a bikeway olomp in ce these tracks from the U.W. to the citylinits in 1968. But the NP was nowemmittol, concerned with insurance liability of suchaptenas well os the proposed merger. The lake City Journal wrote a story suggesting the wonderful potentials of the rigit-of-way es safe route to bikers and hikers, The ilea kindled community, interest. Estelle Berteig repeated the sugpestion in a community mae ting. In 1970 the Fremont /Wallin ford Communities stayed a "wal kin" alow the toasts, followed by a rally at Matthews Beach the foriowing spring.

At this time the new BN system applied to the Interstate Commerce Corimision for the abandonment (and sole of rightiof ency) of the "So mes Line". Ti. City
4.
history: BURKE-GILMIAA TRALL wo
immediately countered with e petition to toy the proceedings to permit nomen
 reflection of the strong public spirit which erected the railwost. But the Et's determination -and legal right -to sell the property brought strong protest from many groups: the Sierra Club's Puget Sound Group, the Federation of Western Outdoor Clubs. Mountaineers Inc., Seattle Audubon Society,
 setting off e lengthy and complicated series of negotritions and leys maneuverimps between the City, ICC and BN. ICC placed anindeffite hold on the approval repast. The result, in 1973, wat an exchange ri property, mearmb: Port of Seattle brim Elevator" (Transferred to the City by BN in 968 ) for the nine mile right-of-wesy which, being of greater value than the submerged land, resuftedina significant piftiby BN to the City.

In the meantime, other interest groups had become involved in the pro: and use of the right-ef-woy. The Prat Sound Boilwey fistoricel Association,
 riocating ifs whole oproíon, wing rte "historic"trectage from University Villeqe to Kenmore. This propose met both approves and disdiein by avenyme concerned. The dispute was irrevoce bly solved when the city condition the agreement with BN for the City to buy the ties fou $\$ 3,000$ and BN th meme
 bikeway. Removal of the rails and ties was aceunplishen so quick in that it. created a problem for the surveyors, who fund the rome property devin trons were referenced to the centerfine of the tracks. During removal of the flies, some overe stolen before they wold be secured in stones for wee in the development of parks andpharoromis as retaining ansi, skips and wolkuris". Some ties were donated to the Wedpwood Elementary Shool; more thin 17 bundles of 25 ties each were sold to 72 different individusts, ornonizutions and companies.

The approved abandonment was from Latona Avenue: to Kenmore - The of
 between Park and Recreation + Sestfe tor. Departments, University of whinimen and The State of Washington; north tom the City Lint is (IE 145 th St) to Kenmore ownership was acquired by King County for development as pat of tile Trail-the County was given permission to contrive the Trail tran kenmore onto the City owned Toff River pipe line right-of way. On ib. $\therefore$ ll. camphor the in it connects with the Bike Route from Corkeek Park to Green Life to the imps and thence south to Washington Perm (Arborctem), south in lake llasmiton Bud and the "Natl. Recreational Trait" from Mt. Baker to Sewage Dates.
Phase One of the Pt r Dept development, conpitted in 1976 , used it the the Forward Thrust funding allocated to this project. Additional funding will be supt to complete the project of path paving and plontrip plus other reg ied improvements.

Originally identified as the "Burlinglon-Nomkon trail" the Fig Frail Pork Commiffee urged that the move historic the signifies nome be offer e adopted: it was in 1974 .

Some interesting footnotes:

 Volunteer Perk at 814 E. Nightend Or.

Daniel Gilmanis Grafter, L.C., was also weer + promoter of railroads. A G. P. Gilman was Nu travel 2qent for the Union Pacific in 1869, the ywerthansontimentalservicespenot. GN Stem Locomotive \& Tender" $1246\left(1907-19 s^{2}\right)$ ipletim Woodland Eek in 182.

5. \# history: BURKE -GILMAN TRAM L

The major determinant of the geomorphology and topography of the area has been advancing and retreating glaciers that have inundated the Puget Lowland over the last two to three million years and have left the area basically as a series of north-south running troughs (ie. Lake Washington, Lake Samamish, etc.) and ridges (ie. Capitol Hill, etc.). The soils have developed almost entirely from unconsolidated materials that were deposited over local rock formations during the glaciations. Since depostion, weathering, biological processes, and other agents have acted on these materials to develop the soils as they now exist.

Different soil types have differing degrees of suitability for structural development, and there are certain characteristics which indicate whether or not a particular form of development will be structurally successful. Such factors as bearing capacity, drainage characteristics, shrinkswell characteristics, depth to bedrock, acidity or alkalinity, topography, etc., all are important in determining the developmental capacity of a particular soil type.

The Burke-Gilman Trail is primarily located within two major geological zones, except for a short portion immediately west of 25 th Avenue N.E., where it crosses post-glacial alluvial deposits laid down by what was once Ravenna Creek. The two major zones are of Vashon Till and a formation designated as 01 der Clay Till and Gravel. ${ }^{2}$

Vashon Till, which extends from the intersection at 25 th Avenue N.E. to immediately south of N.E. 70 th Street, is a mixture of clay to gravel sizes and is the "hardpan" of common usage. It may contain occassional lenses of sand or gravel; is very difficult to excavate by hand; is of very low permeability; an excellent foundation material; and is stable both seismically and in terms of slide susceptibility. All of these characteristics are essentially favorable in terms of bikeway development, the only exception perhaps being the low permeability factor. Drainage is a problem along a major portion of the trail (see p.18), and a suitable drainage system which will carry run-aff away from the trail development rather that allow it to pond along the edges will be necessary.

The Older Clay Till and Gravel has within it large, identifiable lenses of sand and gravel which have properties distinct enough to warrant designation as a separate but related sub-category (relatively stable, well-drained material). The larger category occurs in two major areas, from immediately south of N.E, 70 th Street to Thorton Creek, and from approximately N.E. 110th Street to the end of the trail, and is basically similar to the Vashon Till except that it usually contains water and is highly susceptable to slides where it occurs on steep slopes. Groundwater
that has percolated down through the ground until it reaches an impermeable layer, usually clay or clay silt, has a tendency to saturate and "lubricate" the seam between the layers, which results in the top layer sliding. Within the first area mentioned above, actual slides have been recorded only in those areas of steepest slope, roughly between N.E. 75th Street and N.E. 90th street. The primary factors 3 (in addition to the general instability of the material) in causing slides in the area have been the excavation at the toe of the slope along Sand Point Way, addition of fills to properties within or adjacent to the slide area, and surface/subsurface water conditions. Slides in the area are relatively minor in nature and generally take the form of gradual down-hill creep as evidenced by curved tree trunks on the slopes and leaning retaining walls at the toe of the slope. The primary implications in terms of bikeway design are in the form of providing for infrequent removal of slide debris from the trail.

The second area of the 01der Clay Till and Gravel classification begins at approximately N.E. 110 th Street, as mentioned above, and continues north to N.E. 145 th Street. From N.E. 110 th to approximately N.E. 123 rd Street, the threat of sliding is relatively minimal, primarily because the bluff paralleling the trail on the west is generally less steep and is set back from the roadbed. North of N.E. 123rd Street, the bluff is steeper, closer to the roadbed, and thus the slide potential is a greater threat to trail development. There have been several slides onto the roadbed, both large and small, in this area.

The large lenses of sand and gravel mentioned previously (occurring within larger areas of 0lder Clay Till and Gravel) have essentially the same characteristics ${ }^{4}$ as the larger classification with the exception that they are relatively stable on steep slopes and not subject to sliding. This material occurs primarily in a section from Thornton Creek north to approxmiately N.E. 110th Street.

For the most part, the existing surface of the roadbed, laid as a foundation for the railroad, is composed of sand and gravel, with a small amount of clay-silt binder. This surface averages 10 inches thick and 11-12 feet wide, and is "excellent, firm, dry, and stable," over 95\% of the trail. 5 The remaining $5 \%$ is either poorly drained or has been muddied or obstructed by recent sliding.

DRAINAGE
There are some drainage problems along a major portion of the trail, as mentioned earlier, which result primarily from inadelpate maintenance of the existing drainage system. The existing ditches are generally either poorly defined physically or have been clogged by debris or vegetation. Groundwater seeping out from the bluffs above and running downhill is a major source of water on the trail (see p 18).

The Seattle area lies within the northern coniferous biome, part of what was once a vast evergreen forest region. Almost all of that original vegetation has been removed for various reasons, and vegetation today along the Burke-Gilman Trail is that which has been retained or planted by adjacent property owners. Some small to medium-sized trees have grown up along the roadbed itself since the railroad discontinued use of the line, and large trees remain on steep slopes where deveiopment of any sort has not yet occurred (the large majority of which are deciduous native types).

A great deal of that portion of the right-of-way which lies between the existing roadbed and adjacent properties is overgrown with thick weeds and vines, primarily blackberry (Rubus species) In some cases these are encroaching on the roadbed and require maintenance or removal, while in other areas they do not conflict with proposed trail use and in fact provide a barrier and a source of fruit for adjacent property owners.
by EDwaED MacLEOD \& Kssocates
Landscepe Architects/Land Plannees
November 1975






## RR Bridge \#14: 1928 by NPR <br> (Replaced Grade Crossing e $94 \frac{16}{1}$ )

## RR Culvent:1905

Sindpoint Scuti,eft 1928: Cowaty



$\underset{\text { Sheet } 10}{\text { BURKE-GILMAN }} \underset{032476}{\text { TRAIL }}$







## H.





(Enar. Dept, juristiction)
BURKE-GILMAN to GAS WOEKSPK. TRAI $\underset{\substack{\text { She } \\ 06575}}{ } 20$



