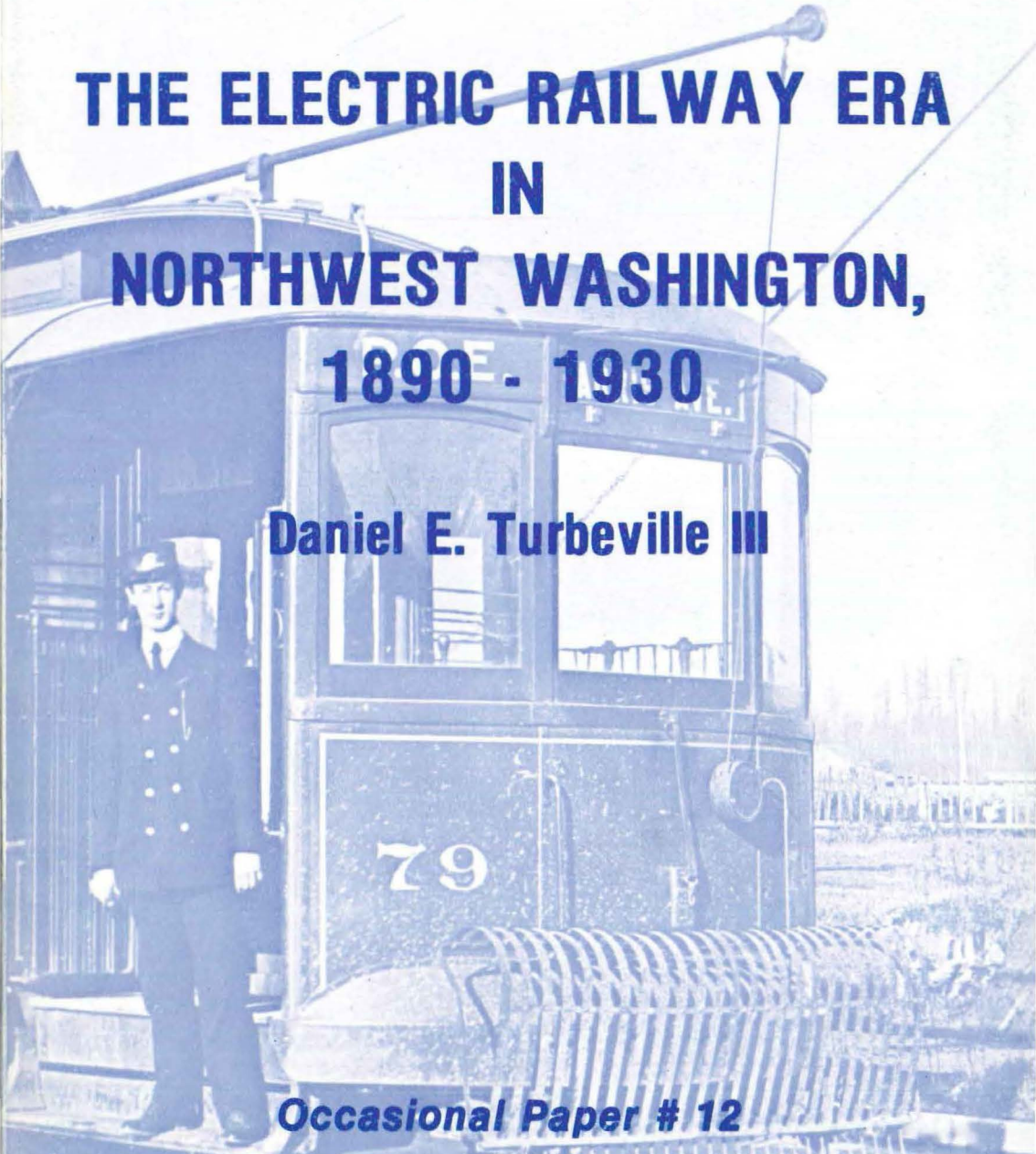
THE ELECTRIC RAILWAY ERA IN NORTHWEST WASHINGTON, 1890 - 1930



Daniel E. Turbeville III

Occasional Paper # 12

Center for Pacific Northwest Studies
Western Washington University

THE ELECTRIC RAILWAY ERA
IN NORTHWEST WASHINGTON
1890-1930

by

Daniel E. Turbeville III

Occasional Paper #12
Center for Pacific Northwest Studies
Western Washington University
1978

THE ELECTRIC RAILWAY ERA IN NORTHWEST WASHINGTON 1890-1930

by

Daniel E. Turbeville III

Occasional Paper #12
Center for Pacific Northwest Studies
Western Washington University
1978

©Copyright

Center for Pacific Northwest Studies
Printed at Western Washington University,
Bellingham, WA 98225
January 1979

To the memory of

Donald O. Bushman

Teacher, counselor, friend

PREFACE

It is difficult to argue with the historian Philip Guedalla that "the true history of the United States is the history of transportation." The "Mayflower"; the Conestoga wagon; Robert Fulton's "Clermont"; the Oregon Trail; the Union Pacific; Promotory Point; Henry Ford's Model T; the Interstate Highway System and the Boeing 747 are but a few of the outstanding markers that line the path of American history from 1607 to the present. A great deal has been written on each of these, as well as many others, while the standard histories of transportation place them in clearer perspective.

Frequently overlooked, however, or at least downplayed and little regarded, has been the electric railroad, which all too briefly attracted national attention not long before the internal combustion engine was beginning to take to the road. The latter's rapid and almost total success, and its ready adoption in virtually all parts of the country tested the electric railroads to the limit. By the 1930s most of them had folded, driven out of business by the more adaptable bus, and especially by the private automobile.

The present work, originally written as a master's thesis under my supervision, is a meticulously researched study of the electric railroad era in Northwest Washington. Its publication is noteworthy for three reasons. First, it is the only study to date that traces with any degree of precision, or in any great detail, the history and fortunes of the electric railroads of the region. Second, it is a timely addition to the growing volume of literature on the economic history of the Pacific Northwest and its historical geography. And finally, it is the first study to appear in print that makes extensive use of the voluminous collection of business records that comprise the Puget Sound Power and Light Company Collection. This collection of the records of more than forty companies--most of them engaged in the transit business--has been housed in the Center for Pacific Northwest Studies since 1972.

Although academic in its original purpose, and scholarly in its research methods and organization, I am confident that this history of the region's electric railroads will be of interest as much to the local history buff and

the high school student as it will to the professional historian and scholar.

As always, we gratefully acknowledge the immense help we have had from Jane Clark, Director of the Bureau for Faculty Research, and her staff, especially Florence Preder who has typed the final copy.

James W. Scott
Director

TABLE OF CONTENTS

LIST OF PHOTOGRAPHS

LIST OF MAPS

LIST OF TABLES

LIST OF GRAPHS

AUTHOR'S ACKNOWLEDGEMENTS

Many people have given freely of their time and knowledge in assisting me to write this book and the thesis from which it originated. Special thanks are given to Dr. James W. Scott, of Western Washington University, chairman of my thesis committee, chairman of the Department of Geography and Regional Planning, and Director of the Center for Pacific Northwest Studies. Without his interest and encouragement this task would have been infinitely more difficult. Thanks also go to Dr. Robert Monahan of the Department of Geography and Regional Planning, and Dr. James H. Hitchman of the Department of History, thesis committee members who provided numerous valuable suggestions and comments.

Other persons at Western Washington University to whom I am indebted include Eugene Hoerauf, Staff Cartographer of the Department of Geography & Regional Planning; Alice Conrad and Anita Johnson, formerly of the Department of Geography and Regional Planning; Robert J. Cross, Associate Director of the Wilson Library; Cheryl Rudert of the Center for Pacific Northwest Studies; and Rotha Miles of the School of Education.

At the University of Washington, I would like to acknowledge the assistance provided by Richard C. Berner, University Archivist, Liisa Fagerlund of the Archives and Manuscripts Division, and by the staffs of the Science Reading Room and the Northwest Collection Suzallo Library. For assistance with the Puget Power archives, I am grateful to both the Bellingham and Bellevue offices of the Puget Sound Power & Light Company.

Andy B. Loft of Mount Vernon, a former employee of the Pacific Northwest Traction Company and its successor, the Puget Sound Power & Light Company, gave many hours of his time helping clarify the operations of the street and interurban railways, and generously allowed the access to his personal files and photographs.

My most deeply felt gratitude is extended to my wife Diane, whose assistance ranged from spending most of a one-week California "vacation" in the freight room of the Oakland headquarters of the Greyhound Bus Company copying statistics, to typing versions of the original manuscript. Without her continuous help and encouragement this project would have been impossible.

D.E.T.

CHAPTER I
INTRODUCTION

Prior to 1890, white settlement on Bellingham Bay was limited to four small communities clustered near the mouth of Whatcom Creek. The local economy was based almost entirely on two highly extractive industries: lumber and fishing. Buildings were constructed of wood and were seldom more than two or three blocks from the waterfront. There were few planked streets--most were knee-deep in mud for a considerable portion of the year--and the intervening forest was so dense that it was usually easier to go from one village to another by boat rather than to walk or ride a horse.

Three decades later this rough frontier settlement had become the fourth largest city in the state of Washington. It boasted paved streets, modern brick and concrete buildings, one of the busiest deepwater ports on the West Coast, three transcontinental railroads, a first-class urban and interurban transportation system, an industrial base including not only lumber and fish but also fruit and vegetable canning, dairy products, poultry and egg processing, a major cement plant and a coal mine.

It is an accepted fact that transportation played a dominant role in the growth of the cities of the Pacific Northwest, and in this respect Bellingham and the towns of the Skagit Valley are no exception. However, one major aspect of transportation development in this area has not received its due share of attention: the electric street and interurban railways and their role in the physical, economic and social growth of Northwest Washington.

It is the purpose of this study to examine the place of these electric railways in the overall transportation geography of Whatcom and Skagit counties. There are two major matters to be considered: the influence of the early street railways on the growth of Bellingham, and the importance of the extension of the electric railway into the Skagit Valley and the influence of this extension on the economic growth of the cities and towns of both counties.

To date no geographer has attempted to examine the role of electric railways in the development of the state of Washington, and Mildred M. Walmsley's short 1965 article in The Professional Geographer[1] represents one of very few by geographers that considers the subject on a national scale. On a local level, several historians have done research on the subject, including Bruce B. Cheever,[2]

Ira L. Swett,[3] and Robert S. Wilson.[4] Leslie Blanchard's study of the Seattle electric railways[5] is similarly indispensable.

The history of Bellingham and Whatcom County has been sketched by Lottie Roeder Roth[6] and Lelah Jackson Edson,[7] but both works contain only incidental details concerning electric railways. A similar history of Skagit County[8] also barely mentions the subject. Nonetheless, all three local histories have provided invaluable background material for the present study.

Even on a national basis, the role of electric railways in American history is almost completely ignored. The standard work on the evolution of the electric streetcar is that of John Anderson Miller.[9] Interurban railways are much better served by George W. Hilton and John F. Due's[10] excellent study, while William D. Middleton's The Interurban Era[11] and Frank Rowsome's Trolley Car Treasury[12] are also worthy of note.

The zeal of numerous groups of railroad buffs (both steam and electric) across the United States has resulted in the reprinting of a number of early railroad equipment manufacturers' catalogs and other reference works. Of particular importance has been Rodney Hitt's Electric Railway Dictionary (1911).[13]

The role of the electric railway in the physical growth of the North American city has only recently begun to be explored. The primary examples of studies of this type are those done by Sam B. Warner, Jr.[14] and Robert M. Fogelson[15] for Boston and Los Angeles, respectively. Both of these studies provide a number of provocative parallels with the development of Bellingham. Other recent articles on this subject include those by David Ward,[16] George Smerk[17] and Arthur Krim.[18]

This study was begun in September, 1973, in large part as a result of the transfer by the Puget Sound Power and Light Company of a large collection of early Washington transportation and utility company records to the Center for Pacific Northwest Studies at Western Washington University.[19]

The bulk of the research undertaken for this study was in the form of archival materials--company reports, ledgers, journals, letters, etc.--from the original electric railway companies, all of which were ultimately acquired by Puget Power. Chapters III through VI, which cover the Bellingham street railways from 1890 to 1912, and the construction of the Bellingham and Skagit Interurban, are based on archival materials in the Puget Power Collection at Western's

Center for Pacific Northwest Studies. Chapters VII through IX--the electric street railways and the interurban between 1912 and 1930--utilized the Puget Power materials at the University of Washington.

The majority of the old photographs illustrating this study are from the files of the Bellingham office of Puget Power, while others have been reproduced from originals in the P. R. Jeffcott and Howard Buswell collections in the Center for Pacific Northwest Studies, the Stone and Webster Public Service Journal, and the personal files of Mr. Andy Loft of Mount Vernon, Washington.

Statistical information was primarily extracted from individual company records, but in some cases data from the Washington State Archives at Olympia and the Western Office of Greyhound Lines at Oakland, California, were utilized.

All of the maps which appear in this study are based on originals in the comprehensive collection of Bellingham, Whatcom County, and Washington maps in the Center for Pacific Northwest Studies. The unexpected discovery in October, 1975 of the complete map collection of the Bellingham Bay Improvement Company, with materials depicting the growth of the Bellingham area from 1856 to 1926, was a tremendous help, although it necessitated a number of last minute revisions. The aid of Mr. Andy Loft has been of inestimable value in interpreting the often vague descriptions of routes, facilities, equipment and operations.

Finally, the complete forty-nine volumes of the Stone and Webster Public Service Journal, which contains monthly reports from the various electric railway companies as well as articles and illustrations portraying their operation, were invaluable in interpreting the archival material. Also of importance were articles carried in the Puget Sound Electric Journal, a newsletter published by Puget Power from 1913 to 1929.

CHAPTER I NOTES

[1]Mildred M. Walmsley, "The Bygone Electric Interurban Railway System," The Professional Geographer, XVII (May, 1965), pp. 1-6.

[2]Bruce B. Cheever, "Electric Railroads in Whatcom County," Trolley Sparks, LXXXVI (September-October, 1949), pp. 11-19, hereinafter cited as Cheever, "Electric Railroads in Whatcom County." Also invaluable is Cheever's The Development of Railroads in the State of Washington, 1860 to 1948, 2 vols. (Bellingham, Washington: Western Washington College of Education, 1949), hereinafter cited as Cheever, The Development of Railroads in the State of Washington.

[3]Ira L. Swett, "Pacific Northwest Traction Company (North Coast Lines)", Interurbans, Special #7 (June, 1949), hereinafter cited as Swett, "Pacific North-West Traction Company."

[4]Robert S. Wilson, "The Rise and Fall of P.N.T." in "Pacific Northwest Traction Company (North Coast Lines)," Interurbans, Special #7 (June, 1949).

[5]Leslie Blanchard, The Street Railway Era in Seattle: A Chronicle of Six Decades (Forty Fort, Pennsylvania: Harold E. Cox, 1968), hereinafter cited as Blanchard, The Street Railway Era in Seattle.

[6]Lottie Roeder Roth, History of Whatcom County (Chicago: Pioneer Historical Publishing Company, 1926), hereinafter cited as Roth, History of Whatcom County.

[7]Lelah Jackson Edson, The Fourth Corner (Bellingham, Washington: Cox Brothers, 1951), hereinafter cited as Edson, The Fourth Corner.

[8]Interstate Publishing Company, An Illustrated History of Skagit and Snohomish Counties (Chicago: Interstate Publishing Company, 1906).

[9]John Anderson Miller, Fares, Please! From Horse-Cars to Streamliners (New York: D. Appleton-Century Company, 1941).

[10]George W. Hilton and John F. Due, The Electric Interurban Railways in America (Stanford, California: Stanford University Press, 1960), hereinafter cited as Hilton and Due, The Electric Interurban Railways in America.

[11]William D. Middleton, The Interurban Era (Milwaukee: Kalmbach Publishing Company, 1961).

[12]Frank Rowsome, Trolley Car Treasury (New York: Bonanza Books, 1956).

[13]Rodney Hitt, ed., Electric Railway Dictionary (1911) (New York: McGraw Publishing Company, 1911). [Reprinted 1972]

[14]Sam B. Warner, Jr. Streetcar Suburbs: The Process of Growth in Boston, 1870-1900 (Cambridge, Massachusetts: Harvard University Press, 1962). Also to be noted is Warner's The Urban Wilderness: A History of the American City (New York: Harper and Row, 1972).

[15]Robert M. Fogelson, The Fragmented Metropolis: Los Angeles, 1850-1930 (Cambridge, Massachusetts: Harvard University Press, 1967).

[16]David Ward, "A Comparative Historical Geography of Streetcar Suburbs in Boston, Massachusetts and Leeds, England: 1850-1920," Annals of the Association of American Geographers 54 (1964), pp. 477-491.

[17]George M. Smerk, "The Streetcar: Shaper of American Cities," Traffic Quarterly 21 (1967), pp. 569-584.

[18]Arthur J. Krim, "The Innovation and Diffusion of the Street Railway in North America," (M.A. thesis, University of Chicago, 1967).

[19]In April, 1974, the remainder of this collection was acquired by the Archives and Manuscripts Division of the University of Washington Libraries.

CHAPTER II

SETTLEMENT AND TRANSPORTATION IN NORTHWEST WASHINGTON TO 1891

The Physical Setting

The lower Nooksack Valley, more properly known as the Bellingham Lowland,[1] and the lower Skagit Valley are the two northernmost segments of the Puget Sound Lowland. They are separated by a spur of the Cascade Mountains known as the Chuckanut Range.

The Bellingham Lowland covers the western third of Whatcom County, the northwesternmost county in the forty-eight contiguous states. It is bounded on the east by the Cascade Mountains, the north by the International Boundary with Canada, the west and southwest by the Strait of Georgia and Bellingham Bay, and on the south by the Chuckanut Range. The lowland is composed chiefly of glacial deposits and alluvium[2] from the Nooksack River which bisects the region as it swings through a northerly arc on its way west to empty into Bellingham Bay.[3]

The mountainous lobe called the Chuckanut Range, which separates the Bellingham Lowland from the Skagit Lowland, is a heavily forested upland consisting basically of three north-south oriented ridges separated by deep, glacially-formed valleys. From west to east, the major features of this system are Chuckanut Mountain, Lookout Mountain and Stewart[4] and Anderson Mountains. The valley between Chuckanut and Lookout Mountains contains Lake Padden and to the south over a low ridge, Lake Samish. Considerably larger than either of these, Lake Whatcom occupies the trough between Lookout and Stewart Mountains. The latter is bounded on the east by the north-flowing South Fork of the Nooksack and south-flowing Samish River, and beyond, the Cascades proper.

The Skagit Lowland is similar in composition to the Bellingham Lowland, being mostly glacial outwash and alluvium from the Skagit and Samish Rivers. The Skagit River follows the southern margin of the Lowland from its emergence from the Cascades near Sedro Woolley to its mouth on Skagit Bay. The Samish River drains the northern portion of the Skagit Lowland, flowing south along the east flank of Stewart and Anderson Mountains, then swinging west to empty into Samish Bay. The Skagit Lowland is bounded on the east by the Cascades and to the south by another mountain spur which divides the drainages of the Skagit and the Stillaguamish Rivers.

Early Settlement

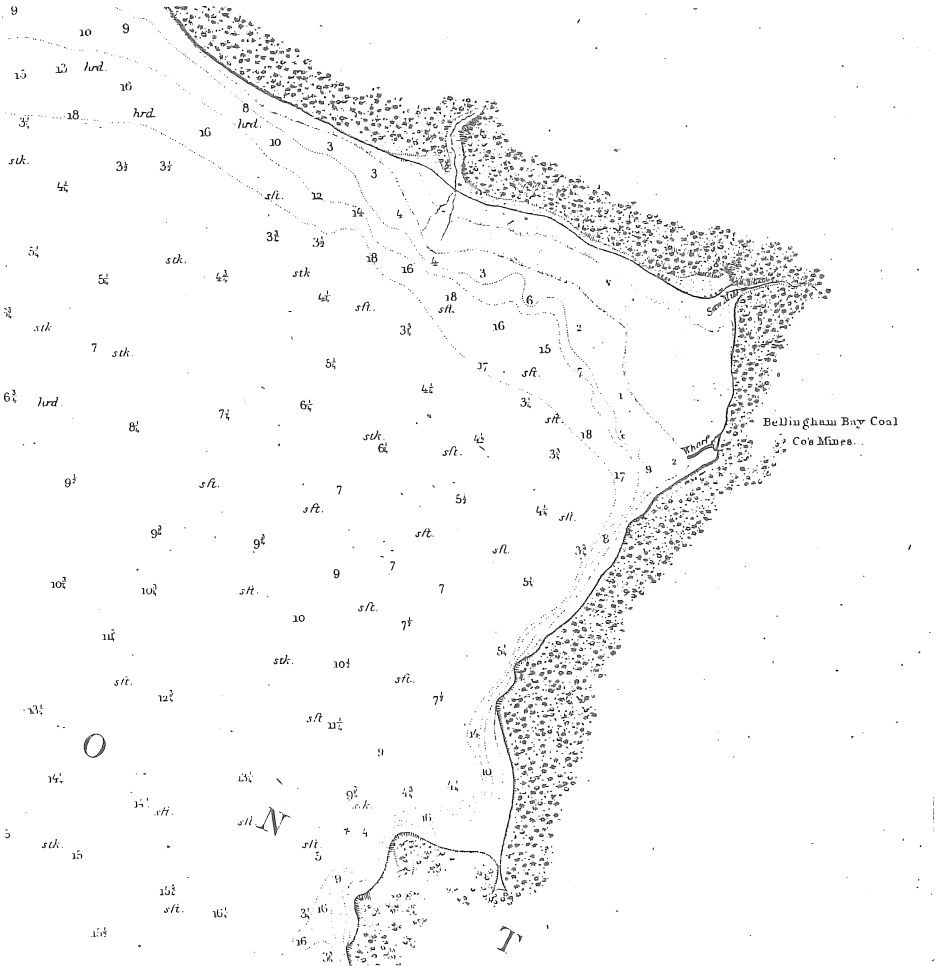
The first white settlers were attracted by the dense stands of timber which covered almost all of Northwest Washington, the Bellingham and Skagit lowlands as well as the higher slopes of the Cascades.[5] This timber boom had been triggered by the discovery of gold in California in 1849 and the subsequent need for building materials, particularly in the San Francisco Bay area. These first settlers entered a land almost "unused by human beings," since the approximately 1500 Indians of the region were sustained by a fishing and gathering economy and seldom penetrated the dense forests. Indian trails tended to either parallel the coastline or follow the larger streams, leaving these only for access to inland "prairies" where roots, nuts and berries were acquired as a supplement to their fish diet.[6]

Bellingham Bay Settlements

Henry Roeder and Russell Peabody were the first permanent settlers on Bellingham Bay. In December, 1852, while searching for a sawmill site they were led to the falls at the mouth of Whatcom Creek by local Indians.[7] They were soon joined by several other settlers, including Edward Eldridge and his wife, William Brown, William Utter and Henry Hewitt. By the fall of 1853 a small mill had been built and was providing lumber for the local Puget Sound market as well as for California. However, the California boom collapsed soon after, and the local market was incapable of absorbing the mill's output. Roeder lost a considerable portion of his investment and returned to sea for a time. Even so, the mill continued to operate until it was destroyed by fire in 1873.[8]

In addition to its timber, Bellingham Bay also proved to have important coal resources which attracted further settlement. In 1853 William Pattle, who had visited the area before Roeder and Peabody, found coal and went to file a claim in San Francisco. He returned and began a small mine one and a half miles south of the Roeder mill. William Brown also found coal on his property at the foot of Sehome Hill, and the following year sold his claim to a group of San Francisco businessmen who then formed the Bellingham Bay Coal Company and opened a mine on the site.

From the end of the California boom until 1858 the little settlement on Bellingham Bay failed to prosper, although the presence of the sawmill and coal mines had prompted the Territorial Legislature to create Whatcom County in 1854. Two years later the United States Army established Fort Bellingham three miles



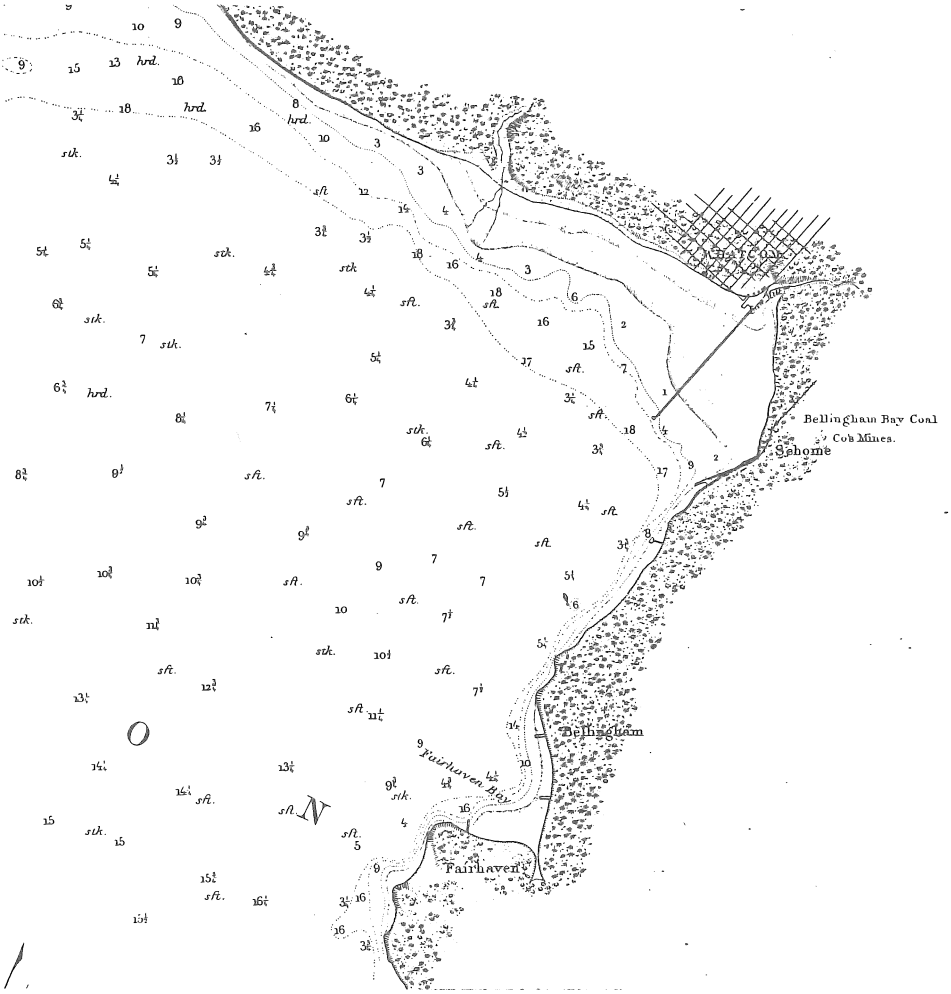
Map 1: Bellingham Bay Settlements, 1856
(Source: United States Coast Survey,
"Reconnaissance of Bellingham Bay," 1856)

west of Whatcom Falls to protect the settlers from Indians.

The discovery of gold on the Fraser River in the spring of 1858 brought the area out of its somnolent state literally overnight. Shiploads of eager miners, most from the worked-out placer mining regions of California, chose Bellingham Bay as the nearest "jumping-off point" for the Fraser goldfields. Soon a tent city was erected around the bay from Squalicum Creek to Chuckanut Bay and business was brisk as miners, waiting for a road to be cut through to the goldfields, purchased supplies that had to be brought in by sailing ship from San Francisco. The boom was short-lived, however, for the governor of British Columbia, James Douglas, decided that all American miners bound for the Fraser must stop in Victoria to get a special permit, thus causing the Whatcom settlement to be bypassed completely. By the end of the summer, the Fraser diggings were almost worked out and the boom ended as suddenly as it had begun. In the words of Lelah Jackson Edson, "Again the woods closed in on the settlement, while the primeval silence of that great forest seemed to weigh and depress the minds of the few remaining settlers as never before."[9]

Primeval silence or not, the Fraser gold rush had a profound effect upon the tiny settlement, and the events of that hectic summer of 1858 provided the basis for the future organization and growth of the region. The boom had left four small settlement nuclei on Bellingham Bay: the sawmill settlement west of the falls of Whatcom Creek, which was platted as the town of Whatcom in July, 1858; the area around the Sehome coal mine, platted as the town of Sehome in May, 1858; the Pattle mine vicinity, which was not formally platted until 1871; and a few cabins at the mouth of Padden Creek, platted as Fairhaven in 1883. The end of the Fraser stampede also witnessed the first settlement in the inland portion of Whatcom County as returning miners realized the agricultural potential of the open prairies along the Nooksack River and began to take up claims.[10]

The years from 1858 to 1873 were grim ones for the little communities. The Civil War led to the closing of Fort Bellingham, and the Whatcom Mill barely managed to remain in operation for want of a sufficient lumber market. Only the Sehome coal mine proved profitable since coal was a necessity in San Francisco and this was one of very few developed sources on the entire West Coast. A flurry of speculation that Bellingham Bay would be the terminus for the Northern Pacific Railroad caused hopes to rise in the early 1870's, but the nationwide



Map 2: Bellingham Bay Settlements, 1885
(Source: United States Coast Survey, Bellingham Bay, Washington Territory," 1885)

"Panic of 1873" dashed these plans. The same year the Roeder mill was destroyed by fire and, because of the depression, capital to rebuild it was unobtainable. The situation on Bellingham Bay worsened in 1878 when the Sehome coal mines were closed down.

The depressed economy of the Bellingham Bay towns did have an influential role in the agricultural development of the Nooksack Lowland, as many unemployed miners and mill workers were forced to begin farming to feed their families.[11] Still others were attracted to the fertile Skagit Lowland to the south. The situation on Bellingham Bay gradually deteriorated to the point where, in 1879, the only newspaper in Whatcom County, the Bellingham Bay Mail, moved its offices to LaConner. In 1883 the Territorial Legislature recognized the rapid growth of the Skagit settlements by creating Skagit County. Meanwhile, by 1880 there remained only twenty white families on Bellingham Bay although the newer towns of Ferndale and Lynden were reported to be booming.[12]

The turning point in this economic slump came in 1881 when Henry Roeder arranged for a group of emigrants from Kansas, who called themselves the Washington Colony and who were seeking a place to settle on Puget Sound, to come to the town of Whatcom. An agreement between the townsite owners and the Colony gave the latter a mill site and a one-half interest in the land. The Colony agreed to build "a mill, a wharf out to deep water, a church, fifty dwellings and to bring not less than 100 families to Whatcom."[13] By the end of 1882 the new mill was complete and the town of Whatcom stood at the threshold of rebirth.

Soon after the completion of the Colony mill, two new towns were organized on Bellingham Bay in anticipation of another boom. In January, 1883 Dan Harris platted the site of Fairhaven on the south side of the Bay. Three months later, Bellingham--originally platted in 1871 from the old Morrison and Pattle claims--were replatted by Erastus Bartlett and Edward Eldridge. Thus, by mid-1883 there were four separate settlements on Bellingham Bay: Whatcom, Sehome, Bellingham, and Fairhaven.

Skagit Settlements

The settlement of the Skagit Lowlands followed basically the same pattern as that of Bellingham Bay, although it was originally prompted more by the agricultural potential of the area than its timber resources. Although white men had been impressed by the fertile prairies of Guemes and Fidalgo islands as early as the mid-1850's, Indian troubles and the remoteness of the area delayed

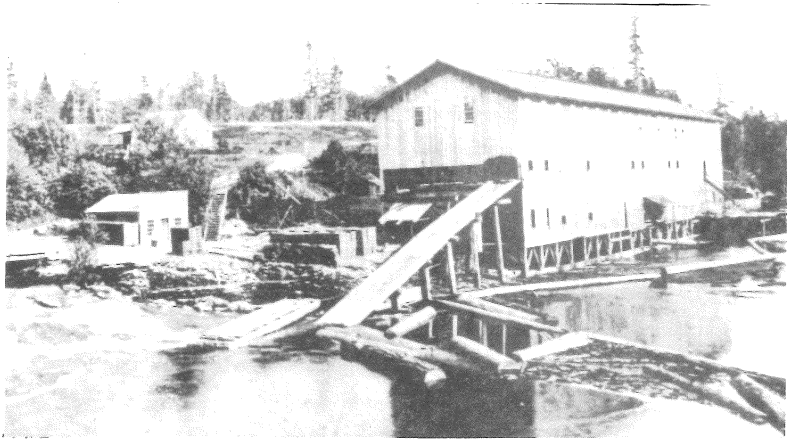


Figure 1. The Colony Mill at Whatcom in 1889. (Jeffcott Collection, CPNS)

permanent settlement until around 1860. Settlement on the mainland portion of the Skagit flats did not occur until 1869, in the vicinity of the river's mouth.

Mount Vernon, which was to become the largest of the Skagit settlements, was founded in March, 1877 by two merchants named Clothier and English who planned to cater to the material needs of the surrounding agricultural region. The little town grew steadily and in 1884 was made the county seat following the Territorial Legislature's creation of Skagit County. The 1880's also saw a drastic expansion of the lumber industry. Logging originally began as a prerequisite to agriculture since the entire lowland was heavily forested, but by 1885 the loggers had moved out to the periphery of the agricultural area to provide lumber for the numerous sawmills in the vicinity of Mount Vernon. The town's importance as a lumber center was given a great boost with the founding of the Skagit Sawmill and Manufacturing Company in 1888.[14]

Two other Skagit Valley communities which figure in this study, Burlington and Sedro Woolley, both began as logging camps on the periphery of the cleared portion of the region. Burlington was founded first, in the fall of 1882, since it was closer to the original settlement center near the Skagit Delta. As the area around Burlington was cleared and became farmland, the little town became

a commercial and transportation center for local farmers and their crops, while at the same time the logging business became progressively less important.

Sedro Woolley,[15] founded as a logging camp in 1884, has remained an important lumber center to the present time. Its location on the Skagit River at the point where the narrow valley opens into the Skagit Lowland made it an obvious center for timber from camps in the heavily forested North Cascades.

Early Transportation

No other factor played such a key role in determining the pattern of settlement in both Whatcom and Skagit counties as that of transportation. The early settlers were at first limited to water transportation since the dense timber came right down to the shoreline in all but a few places. Roeder's sawmill at the mouth of Whatcom Creek was totally dependent on its deepwater location to ship logs to market as well as to provide an avenue of contact with the outside world. Similarly, the first settlers on the Skagit Lowlands began farming at the water's edge, and only gradually moved inland, clearing timber to create primitive roads as well as fields.[16]

The Steamboat Era

Until well into the twentieth century, the steamboat was Puget Sound's primary means of transportation.[17] The first American steamboat on the Sound followed the first American settlement at Tumwater in 1845 by only eight years (although the Hudson's Bay Company steamboat Beaver had operated between Victoria and Fort Nisqually since 1835). Over the next half century, these steamboats had proliferated to the point that they were referred to as the "Mosquito Fleet."

Although the steamboat era was probably the most romantic in Washington's transportation history, these vessels left a good deal to be desired. Until the arrival of the railroads, industrial development and agriculture were limited to areas accessible by boat, either on rivers or relatively deep bays and inlets. Steamboats were vulnerable to bad weather, especially wind and fog--two staples of the Puget Sound climate--and occasionally a mechanical defect would cause the boilers to explode. The punctuality and reliability of freight and passenger movement that was to characterize the railroads was to a great extent missing during the steamboat years. This was especially true after the turn of the century when these problems were compounded by age and wear. As a waggish deckhand on one of the Black Ball Line's Bellingham Bay runs once wrote:

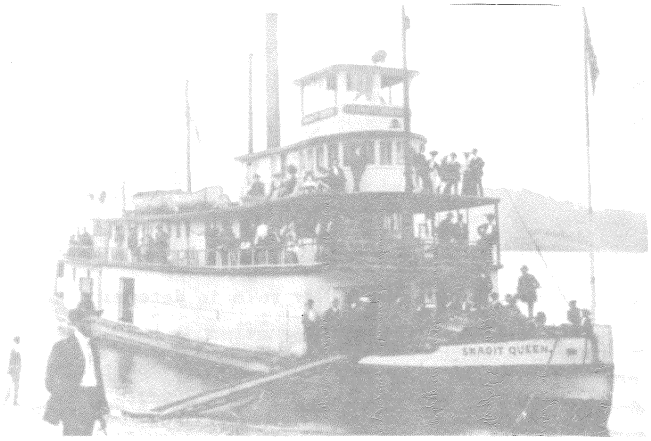


Figure 2. Steamboat "Skagit Queen" in the 1890's, which operated between Seattle and the Skagit River towns. (Jeffcott Collection, CPNS)

> Paddle, Paddle, George E. Starr,
> How we wonder where you are.
> You left Seattle at half past ten. . .
> And you'll get into Bellingham, God knows when.[18]

The arrival of the first steam railroads on Puget Sound led to a gradual decline in the use of steamboats, and the adoption of electric railways for urban and interurban service greatly accelerated the process.

Steam Railroads

Although the impending arrival of the Northern Pacific Railroad on Puget Sound had caused a flurry of activity on Bellingham Bay in 1873, the transcontinental line building north from Portland had decided to terminate at Tacoma and local hopes faded. The serious depression following the "Panic of 1873" held Bellingham Bay in its grip until the early 1880's when once again "railroad fever" helped to reactivate the hopes of the tiny towns of Western Washington.

This second great railroad boom was triggered by the arrival of the Canadian Pacific Railway, the second transcontinental line to reach the Pacific Northwest. Although the Canadian Pacific mainline was not completed until November, 1885,[19] a group of local businessmen led by Pierre B. Cornwall formed the Bellingham Bay and British Columbia Railroad in 1883. Their plan was to build north and connect with the Canadian Pacific. Work was begun in April of

the following year. Another depression and the refusal of the Canadian Pacific to connect with the Bellingham Bay and British Columbia Railroad delayed the connection further. Two steam locomotives which arrived in 1888 were used to run back and forth on a short stretch of track blowing their whistles whenever a boat entered Bellingham Bay with potential settlers in order to impress the new arrivals. The line was finally completed to Sumas in March, 1891 and the first Canadian Pacific train arrived in June of the same year.[20]

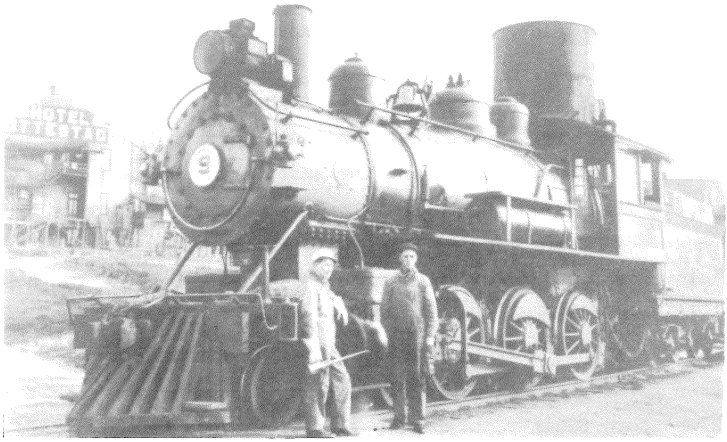


Figure 3. A steam locomotive of the Bellingham Bay and British Columbia Railroad in the early 1890's. (Biery Collection, CPNS)

Another local railroad company was formed soon after the Bellingham Bay and British Columbia--the Bellingham Bay Railroad and Navigation Company. Headed by Eugene Canfield, a former United States Senator from Illinois, who aspired to a similar office when Washington achieved statehood, Bellingham Bay Railroad and Navigation planned to build north to the border from Fairhaven--a duplication of the Cornwall road. The planned border terminus was later shifted to Blaine rather than Sumas, but inadequate financing limited this effort to surveys of possible routes rather than actual construction.

A third local railroad was born when Dan Harris, impatient with delays in the construction of the Cornwall and Canfield railroads, went to San Francisco in 1887 and offered several railroad magnates one-half of his real estate to the company that completed the first line to reach Fairhaven. The following year

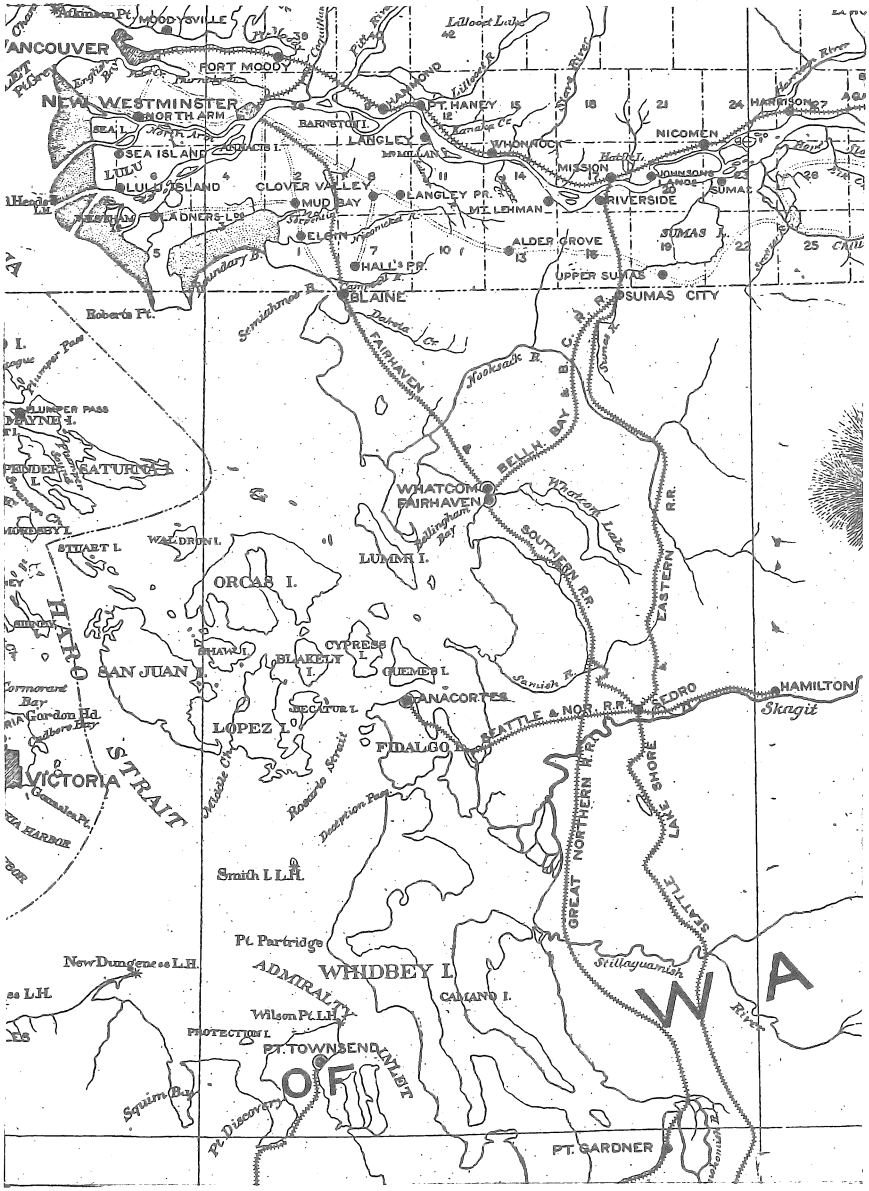
Nelson Bennett arrived, and with several local entrepreneurs formed the Fairhaven and Southern Railroad. This company planned to build a line from the Canadian border to Portland. It was rumored that James J. Hill of the Great Northern was backing Bennett, consequently land prices in Fairhaven soared as the line began building south toward Sedro in the Skagit Valley.

The Bellingham Bay land boom which occurred between 1888 and 1893 also involved numerous other small railways, but a more detailed discussion of their roles is beyond the scope of this study.[21] By the summer of 1891, the control of almost all of these smaller lines had passed to either the Northern Pacific or the Great Northern.

The Great Northern acquired the Bellingham Bay Railroad and Navigation Company, New Westminster and Southern Railway (another Canfield enterprise), Fairhaven and Southern Railroad, and the Seattle and Montana Railway, giving it a direct route from Blaine south to Ferndale, then to Bellingham Bay at the mouth of Squalicum Creek, across the bay to Fairhaven on a wooden trestle (with a drawbridge in the middle of the Whatcom Creek Waterway), through Happy Valley, along the shore of Samish Lake, then on into Burlington and Mount Vernon. At Burlington, these tracks crossed another Great Northern line--the former Seattle and Northern Railway--running from Anacortes to Hamilton.

The Northern Pacific, trying to block the Great Northern's entrance to Puget Sound, had meanwhile acquired the Seattle, Lake Shore and Eastern Railway, and the Seattle and West Coast Railway, which gave it a line from the border at Sumas south via the Nooksack River and its South Fork, through Acme, down the Samish River and then over to Sedro. Remaining several miles inland of the Great Northern, the Northern Pacific ran south from Sedro to Arlington in Snohomish County via the mountain valleys containing Clear Lake and Big Lake.

In Whatcom County, several of the smaller railroads remained in local hands. The Bellingham Bay and Eastern line, which ran out to Blue Canyon on Lake Whatcom (and was later extended to Wickersham), brought coal and lumber to the waterfront from the Lake Whatcom area for over a decade. It was finally acquired by the Northern Pacific in 1903, a merger which gave Bellingham Bay its second transcontinental railroad connection. Both the Bellingham Bay and British Columbia Railway and the Bellingham Terminals and Railway operated until 1912, when they were acquired by the Bellingham and Northern Railway, a subsidiary of the Chicago, Milwaukee and St. Paul. The Bellingham and Northern was completely absorbed by the Milwaukee Road in 1918.[22]



Map 3: Steam Railroads in Northwest Washington, 1892
(Source: British Columbia Commissioner of Lands and Works, "Map of the Southwestern Part of British Columbia," 1892.)

The hub of steam railroad activity in Skagit County in 1891 was at Sedro and Woolley where the Great Northern's east-west and north-south lines intersected with the Northern Pacific's Sumas to Seattle line in a large triangle. Mount Vernon was served by the Great Northern, having lost out to Sedro in trying to obtain the Northern Pacific route, and Burlington grew rapidly as the intersection of the Great Northern's east-west and north-south lines.

The Electric Railways

By 1890 the steam railroad had revolutionized the transportation network of the United States. For mass transit within urban areas, however, the steam locomotive had proven rather less than satisfactory. The earliest attempts at urban transit were powered by horses: first, the "omnibus"--an urban stagecoach--in the late 1820's, followed by the horse car several years later, in which the car was pulled along metal rails laid along city streets.

The horsecar dominated American urban transit for half a century. As a contemporary newspaper account stated,

> It is hardly too much to say that the modern horse-car is among the most indispensable conditions of metropolitan growth. In these days. . .the horse-car virtually fixed the ultimate limits of suburban growth.[23]

But another revolution was in the wings: in 1873 in San Francisco, where many steep grades precluded horsecar operations, a wire rope manufacturer named Andrew S. Hallidie had invented the cable car. Hallidie's cars moved by gripping a continuous strand of cable running under the street and powered by a stationary steam engine. Although the cable car was an immediate success in San Francisco, it was not until the early 1880's that the system began to spread to other large cities. By 1890, however, there were about 500 miles of cable railway track in the United States, and some 5000 cable cars. Chicago, St. Louis and Denver boasted the largest systems, although practically every major North American city had at least one cable line.[24]

The electric street railway system which would soon come to dominate the American urban scene had its beginnings at the same time the cable car was being perfected. Although the basic technical knowledge needed was available by 1880, numerous problems arose in adapting this knowledge to a workable transportation system. Small electric cars had been built and successfully operated in public

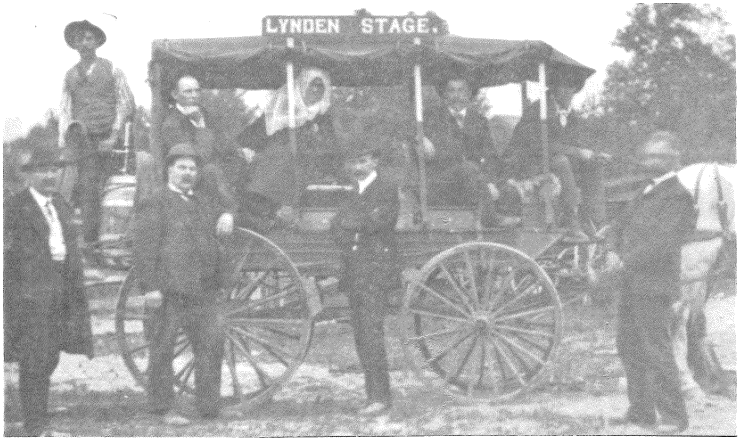


Figure 4. An early Whatcom County "interurban"--the Lynden Stage in the 1890's. (Jeffcott Collection, CPNS)

demonstrations by several inventors, most notably Leo Daft of Baltimore and Charles Van Depoele of Chicago, but none of these systems proved commercially feasible.

It was the work of a young naval officer named Frank J. Sprague that led to the creation of successful American electric railways. Sprague had graduated from the United States Naval Academy in 1878, but left the service five years later to work as an assistant to Thomas A. Edison.[25] It was as a result of this association that Sprague was successful in designing and building in 1888 the Richmond Union Passenger Railway in Virginia--the United States' first electric street railway.

Practically all subsequent lines built in North America were based on Sprague's original patent. The Richmond line was an immediate success and drew interested observers from all over the world. George Hilton and John Due, in describing the phenomenal growth of electric railways, noted:

> Few inventions have ever received a more rapid and complete acceptance. . . . By 1902, 97 per cent of street railway mileage was electrically operated; only twelve years earlier, 70 per cent of street railways had used animal power. In 1901 there were some 15,000 miles of electric railway in the United States.[26]

The electric railway was introduced to the state of Washington via Seattle. A horsecar line begun in 1884 was Seattle's first street railway, followed in 1887 by a proliferation of cable car lines which were much better adapted to the steep hills. Then, in 1888, a young Seattle real estate speculator, Luther Henry Griffith, began planning an electric railway from downtown north to Lake Union to boost the value of his land along the proposed route. Griffith had an uncle in the electric power business in the East who kept him informed on the latest technological advances, and the news of Sprague's success at Richmond was his inspiration.[27]

Griffith and several other Seattle businessmen incorporated the Seattle Electric Railway and Power Company in the fall of 1888, and immediately sent two representatives east to look at equipment. Only two companies had begun to manufacture electric railway equipment this soon--the Thomson-Houston Company and the Sprague Electric Railway and Motor Company. The Seattle company signed a contract with the former, giving the railway (among other things) exclusive rights to use Thomson-Houston equipment.

On March 31, 1889 the Seattle Electric made its first run over the completed line. The event was witnessed by hundreds of skeptical Seattleites, the majority of whom came convinced that the electric trolley car would not work and, when it did, left believing they had seen a miracle. The era of modern mass transit had begun in the Pacific Northwest.

CHAPTER II NOTES

[1]"Bellingham Lowland" is the terminology applied and preferred by William H. Pierson in The Geography of the Bellingham Lowland, Washington (Chicago: Department of Geography, University of Chicago, Research Paper #28, 1953). Another useful study is Bernice Elenbaas, "The Nooksack Valley: A Regional Geography," (M.A. thesis, Clark University, 1946).

[2]For a detailed look at the geological evolution and composition of the Bellingham Lowland, see Donald J. Easterbrook, Pleistocene Geology of the Northern Part of the Puget Lowland (Ann Arbor, Michigan: University Microfilms, 1963). Important works of a more general nature include Donald J. Easterbrook and David A. Rahm, Landforms of Washington: The Geologic Environment (Bellingham, Washington: Union Printing Company, 1970) and Bates McKee, Cascadia: The Geologic Evolution of the Pacific Northwest (New York: McGraw-Hill, Inc., 1972).

[3]When white settlers first arrived in Whatcom County the Nooksack flowed into the Straits of Georgia via the Lummi River and Lummi Bay. An 1860 log-jam near Ferndale diverted the river south into Bellingham Bay, and this diversion has since been made permanent by the construction of levees in this vicinity by the United States Army Corps of Engineers. See Jones and Jones, Inc., A Plan For the Nooksack (Seattle: Jones and Jones, Inc., 1973).

[4]Pierson refers to Stewart Mountain as "Nooksack Mountain," while others occasionally use "Whatcom Mountain." In a rather curious omission, the United States Geological Survey has never labelled the mountain on any of their topographic maps.

[5]The only areas in the Bellingham and Skagit lowlands not covered by dense timber were small meadows and marshes which early settlers called "prairies." See David G. Tremaine, "Indian and Pioneer Settlement of the Nooksack Lowland, Washington, to 1890: A Study in Settlement Geography" (M.A. thesis, Western Washington University, 1974), p. 17.

[6]Pierson, The Geography of the Bellingham Lowland, p. 7. For a more detailed account of Indian life, see Tremaine, op. cit.

[7]The falls at the mouth of Whatcom Creek are not to be confused with the site which today is known as Whatcom Falls, the latter being over two miles upstream, near the west end of Lake Whatcom.

[8]Edson, The Fourth Corner, p. 33.

[9]Ibid., p. 96.

[10]David G. Tremaine, Indian and Pioneer Settlement of the Nooksack Lowland, Washington to 1890 (Bellingham, Washington: Center for Pacific Northwest Studies, Western Washington University, Occasional Paper #4, 1975), pp. 72-73.

[11]Roth, History of Whatcom County, Vol. 1, p. 211.

[12]Ibid., p. 221.

[13]Ibid., p. 222.

[14]Interstate Publishing Company, History of Skagit and Snohomish Counties, p. 192.

[15]Originally founded as two separate towns, Sedro (1884) and Woolley (1890) merged in 1898 to form Sedro-Woolley. During the period covered by this study the name was invariably written with a hyphen, a form which I have elected to use in subsequent chapters in the interest of maintaining historical accuracy.

[16]The development of the lumber industry in Skagit County was delayed by the lack of timber adjacent to deep water. In 1867 Daniel Dingwall built a sawmill on the north shore of Samish Island--the only place in the county which did have this combination--but the location assumed more importance in later years as a fuel stop for steamboats rather than as a commercially successful mill. For a more detailed look at the construction of roads in the valley, see Daniel E. Turbeville, "The Development of Land Transportation in the Skagit Valley: A Brief Overview," in Of Man, Time, and a River: The Skagit River, How Should it be Used?, Ed. Roland L. DeLorme (Bellingham, Washington: Center for Pacific Northwest Studies, Western Washington University, Occasional Paper #10, 1977), pp. 62-67.

[17]The most accurate and comprehensive work on Puget Sound steam vessels is Gordon R. Newell, Ships of the Inland Sea: The Story of the Puget Sound Steamboats (Portland, Oregon: Binfords and Mort, 1960).

[18]Newell, Ships of the Inland Sea, p. 81.

[19]See Pierre Berton, The Impossible Railway (New York: Alfred A. Knopf, 1972) for an excellent account of the construction and geographical implications of the Canadian Pacific. Also of value is Harold Innis's classic study, A History of the Canadian Pacific Railway (Toronto: University of Toronto Press, 1923).

[20]Edson, The Fourth Corner, p. 249.

[21]The standard work is Bruce B. Cheever, The Development of Railroads in the State of Washington.

[22]Ibid., pp. 88-89.

[23]Quoted in John Anderson Miller, Fares Please!, p. 35.

[24] Ibid., p. 49.

[25] Sprague attributed his inspiration to build an electric railway for urban use to a ride on the steam-powered Metropolitan District underground in London while on leave from his ship. He was appalled by the grime and smoke caused by operating a steam engine underground. See Frank J. Sprague, "The Growth of Electric Railways," AERA [American Electric Railway Association Magazine], (October, 1916).

[26] Hilton and Due, The Electric Interurban Railways in America, p. 7. For a more in-depth look at this phenomenon, see Arthur J. Krim, "The Innovation and Diffusion of the Street Railway in North America," (M.A. thesis, University of Chicago, 1967).

[27] Blanchard, The Street Railway Era in Seattle, p. 8.

CHAPTER III

THE EARLY STREET RAILWAYS ON BELLINGHAM BAY: 1890-1896

The street railway era in Bellingham began as the combined result of two previously discussed events in Washington transportation history. The first was the tremendous real estate boom of 1890, which had been triggered by news of the impending arrival of James J. Hill's Great Northern Railroad on Puget Sound. The second was the success of the Seattle Electric Railway and Power Company's line in developing real estate along its right of way--a fact which did not escape notice among land speculators in other parts of the Puget Sound region. In the spring of 1890, each of the four Bellingham Bay communities considered itself a prime contender for the honor of being the Great Northern's terminus in the Pacific Northwest, and each began preening itself for the coming selection. Spurred by the success of Seattle's electric railway, local real estate men seized upon the idea of constructing electric street railways as a perfect way to enhance not only the appearance and commercial activity of their respective towns, but also to increase the value of their own land holdings.

The Bellingham Bay Electric Street Railway

The first Bellingham Bay towns to begin a street railway were Whatcom and New Whatcom (as Sehome had renamed itself in May, 1890). A group of prominent businessmen from the two adjoining towns met on July 17, 1890, to form the Bellingham Bay Electric Street Railway. Incorporated in the state of Washington with a capital stock of $200,000, the Bellingham Bay Electric Street Railway's stockholders all owned substantial amounts of real estate in the area. Officers of the new company included Eugene Canfield (president), P. B. Cornwall, J. H. Stenger, P. D. McKellar, J. L. Perkins, H. B. Williams and E. F. G. Carlyon. Canfield and Cornwall were the largest stockholders, with $40,000 worth of shares each.[1]

Arrangements were made at this first meeting to negotiate a contract with the Northwest Thomson-Houston Electric Company of St. Paul, Minnesota for an electric street railway plant.[2] The choice of Thomson-Houston over the Sprague Electric Railway and Motor Company was attributable to the organizers' familiarity with the equipment used by the Seattle street railway. The contract was signed

September 2, 1890, the Thomson-Houston Company agreeing to provide ". . . their system of an electric street railway, complete except power. . . " for $24,450.[3]

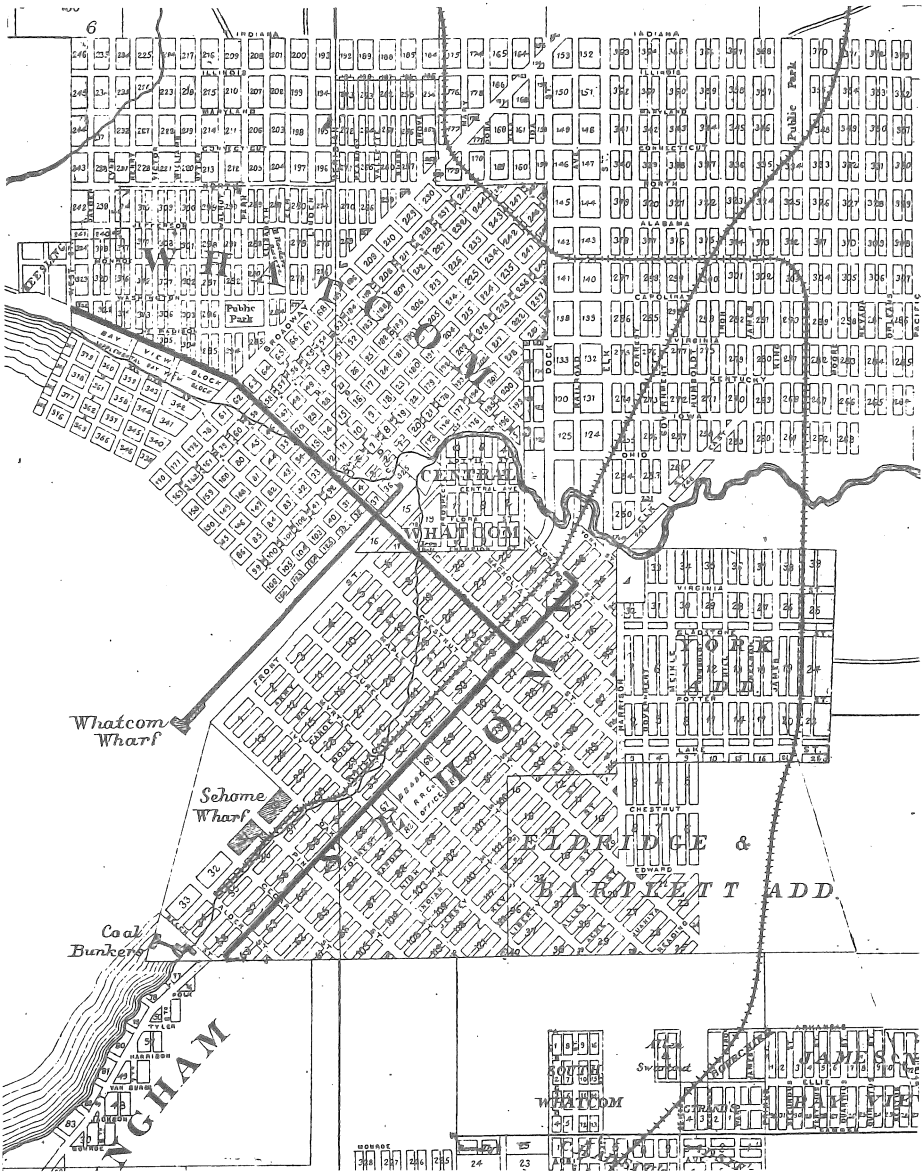
Work began on construction of the line late in the summer of 1890 with numerous contracts let for lumber, poles, rails, work crews and horse teams. The owners planned for the line to run from the southern city limit of New Whatcom north along Elk Street (now State Street) to Holly Street, west along Holly to the Whatcom-New Whatcom boundary at Bay and Holly, then out 13th Street (the Whatcom continuation of Holly Street) as far as West Street.

Since the Bellingham Bay Electric Street Railway's owners were prominent residents of both towns, little difficulty was encountered in obtaining franchises to build the line down the center of the main streets. Planning ahead for possible later expansion, Canfield also secured a franchise from the Whatcom County Commissioners to build an extension out of town to Lake Whatcom. However, when he requested a similar franchise for a connection into rival Fairhaven, that town's officials bluntly refused him.

The delivery of the electric power-generating equipment for the Bellingham Bay Electric Street Railway was repeatedly delayed through the winter of 1890-1891 because the Thomson-Houston Company was literally swamped with similar orders. The equipment finally arrived in mid-March and was soon installed and connected to the waiting railway line. A trial run was conducted at one o'clock in the morning of March 28, 1891, with McKellar and Stenger at the controls. The line began regular service the following day. A major difficulty in the early months was that "the cars scared the horses badly."[4]

One of the most significant events brought about by the new streetcar line occurred a month before the first car ever ran, however. Due largely to the spirit of cooperation fostered by the construction of the railway line and the realization of the necessity to present a strong, united front to Fairhaven, the towns of Whatcom and New Whatcom consolidated on February 16, 1891. With the creation of New Whatcom, as the merged town was called, there remained only two of the original four Bellingham Bay settlements, as Fairhaven had already absorbed "old" Bellingham Bay in May, 1890.

Technologically, the Bellingham Bay Electric Street Railway was almost as "rough and ready" as the towns it served. The original two-mile main line from West Street to Beech Street via Holly and Elk consisted of lengths of 40 lb. strap iron rails[5] nailed directly to the primitive planked streets.



Map 4: The Bellingham Bay Electric Street Railway, 1891. (Source: E. S. Hincks, "Whitney's Map of the Bellingham Bay Cities and Environs," 1890.)

Figure 5. A Bellingham Bay Electric Street Railway car at Holly and Elk in 1891. Debris in street is from construction of the Bellingham Bay National Bank (Pike Building) at right. (Buswell Collection, CPNS)

This engineering shortcut plagued the company in that the rails required constant maintenance, and in September, 1891, after only six months of use, the section along Holly from West to "F" Streets had to be replaced. Finally a contract was let in October, 1892 to relay the entire line with 40 lb. "T" rail on a bed of gravel and ties.

Electric power for the system was supplied by a 100-horsepower Valley engine and two Parke and Lacey boilers located in a powerhouse constructed on the southeast corner of Railroad and Willow (now Champion) Streets. This building also served as a car barn, and was connected to the main line by a short spur track on Elk and Willow Streets. Fuel for the powerhouse was coal, supplemented by waste lumber from local sawmills. Power was distributed over the line by aluminum feeder wire suspended from poles along the right of way, with bonded rails providing a return path for the current.

Little information has survived regarding the original rolling stock of the Bellingham Bay Electric Street Railway, but it appears to have consisted of six single-truck closed streetcars, each operated by a motorman and a conductor. The car bodies were constructed by the Northern Car Company of Minneapolis and

Figure 6. Looking west along 13th Street (later West Holly) in New Whatcom, 1891. (Buswell Collection, CPNS)

Figure 7. New Whatcom street scene, 1891. This short siding was on 13th Street between "C" and "D" Streets. (Buswell Collection, CPNS)

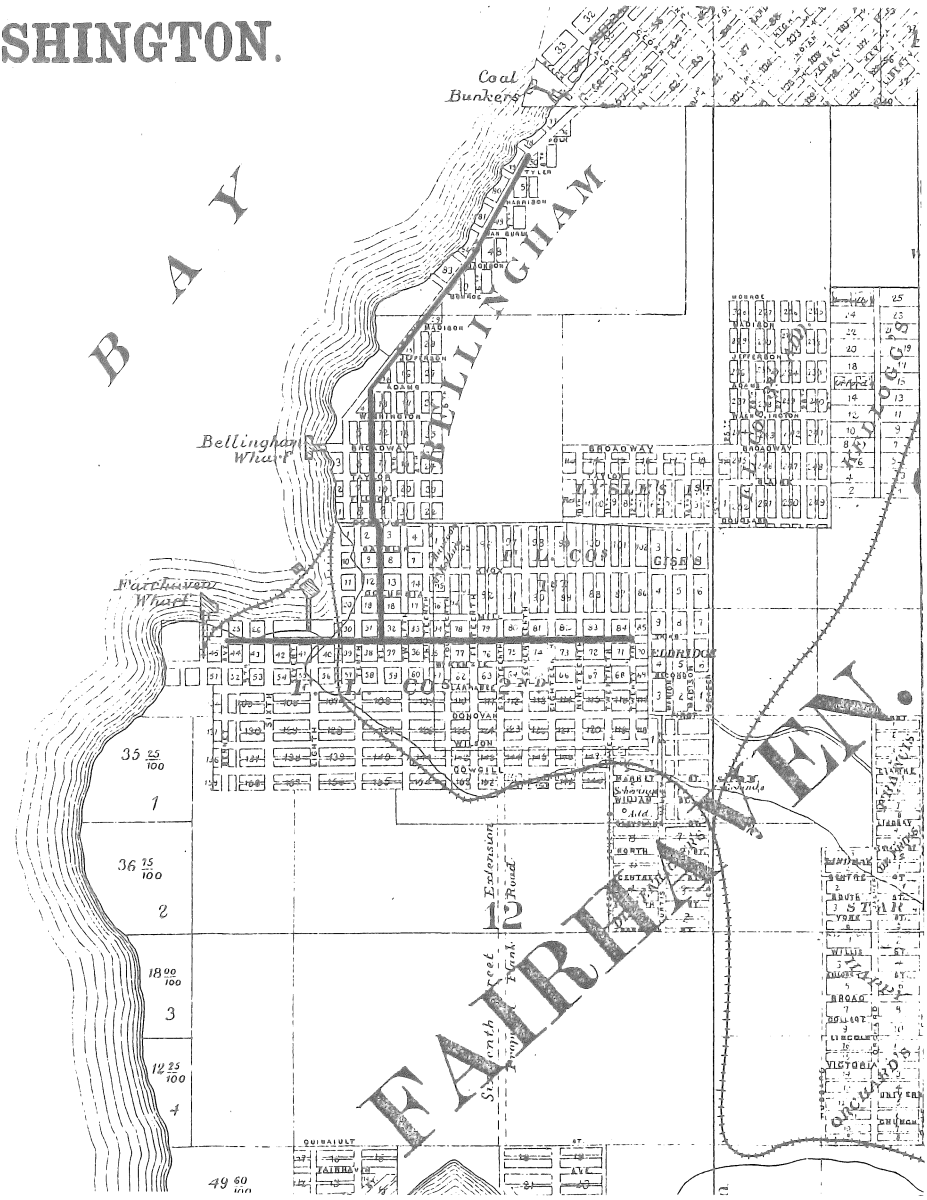
all were equipped with the latest J. G. Brill Type 21-E streetcar trucks. These car bodies were subsequently modified by local builders so many times that after several years their ancestry became very complex, but the Brill 21-E trucks survived intact for many years, serving as late as the 1920's, first on passenger cars and later on various freight and auxiliary cars.

The owners of the Bellingham Bay Electric Street Railway planned a number of improvements to the existing system during the first two years of operation. Some of the more interesting of these included 1) the extension of the line out to Lake Whatcom within eight months if the residents of Silver Beach would cede 15 per cent of the townsite to the railway company (January 3, 1891); 2) the laying of double tracks along Elk Street from Holly to Rose to alleviate congestion (July 7, 1891); 3) the extending of the Holly Street segment west to Squalicum Creek and east to Lake Street (now Lakeway Drive) in the York Addition (July 7, 1891); and 4) the building of a branch line from Elk Street west to Sehome Wharf (February 26, 1892). The only one of these proposals that was ever completed by the Bellingham Bay Electric Street Railway was the westward extension of their line along Holly to Squalicum Creek, in the fall of 1892, but the basic soundness of the ideas proposed is attested to by the fact that all of these planned extensions were ultimately built by later companies.

A second electric railway was proposed for New Whatcom in the summer of 1890 by the Belt Line Electric Railway, but very little information was survived regarding this company. The Belt Line received a proposal from the Edison General Electric Company's Seattle office on August 1, 1890 describing what equipment and services would be provided, and quoting a price of $30,490 for a complete electric railway system.[6] Evidently adequate financial backing could not be secured, and the Belt Line Electric Railway folded. This appears to have been an unsuccessful attempt by Edison General to get its foot in the door in the Puget Sound electric railway rush.

The Fairhaven Street Railway

The promoters of Fairhaven, like their rivals to the north, were acutely aware of the potential value of an electric street railway in the competition for the Great Northern terminus. While the Bellingham Bay Electric Street Railway was under construction, the Fairhaven City Council granted a franchise to the Fairhaven Electric Railway to build a similar line. It was to protect this



Map 5: The Fairhaven Street Railway, 1891
(Source: E. S. Hincks, "Whitney's Map of the Bellingham Bay Cities and Environs," 1890.)

franchise that the council had refused Canfield permission to enter Fairhaven, forcing the Bellingham Bay Electric Street Railway to provide "wagonette" service from the south end of its line into Fairhaven for a fifteen cent fare.[7]

Failure of the Fairhaven Electric Railway Company to secure adequate financial backing caused the line to collapse soon afterward, and the franchise was assumed by another company--the Fairhaven Street Railway. Little is known about this company other than the fact that it succeeded in building a line up Harris Street (later Harris Avenue) from the Ocean Dock east to 21st Street, and a small powerhouse at Harris and Bennett (now 4th) Street. The first car ran on October 19, 1891, and was so full of enthusiastic riders that it required three attempts to reach the top of the Harris Street hill.[8] Soon afterward the Fairhaven Street Railway began constructing another line north from Harris along 11th Street and Front Street (now South State Street[9]), thence to a point near the New Whatcom city limit.

The Lake Whatcom Electric Railway

Electric railway fever continued unabated on Bellingham Bay as another street railway was proposed in June, 1891. Known as the Lake Whatcom Electric Railway, this line was the product of another group of New Whatcom business and real estate men, including Hugh Eldridge, Edmund Cosgrove, J. A. Cook, J. E. Baker, J. C. Dooley and H. E. Waity. They proposed to build a street railway north and west from New Whatcom's southern limit via Garden, Maple, Forest, Chestnut, Dock (Cornwall), 24th (Kearney), "G", 16th (Clinton), Elizabeth and Monroe Streets, then an extension east from Dock Street out to Lake Whatcom.[10] To back up this ambitious plan the Lake Whatcom Electric Railway secured a contract with Thomson-Houston dated August 29, 1891, to provide street railway equipment similar to that used by the Bellingham Bay Electric Street Railway. Construction began on the Garden Street segment shortly thereafter.

The strategy of the Lake Whatcom Electric Railway was obvious from the start: Eldridge, Cosgrove, Baker and Cook, the principal stockholders, were trying to block the Bellingham Bay Electric Street Railway from connecting with Fairhaven or Lake Whatcom by doing it first. Work was concentrated on the critical Garden-Dock-Lake Whatcom (via Kentucky Street) segment first.

Evidently little difficulty was encountered in securing the necessary street franchises from New Whatcom or from the Whatcom County Commissioners for a sixty-foot wide right of way from the end of Kentucky Street to Silver

Beach on Lake Whatcom. Fairhaven, however, still refused to allow either of the New Whatcom lines entrance and New Whatcom retaliated in a like manner. Passengers traveling from one town to the other were forced to walk between the unconnected termini, frequently in knee-deep mud, to change streetcars.

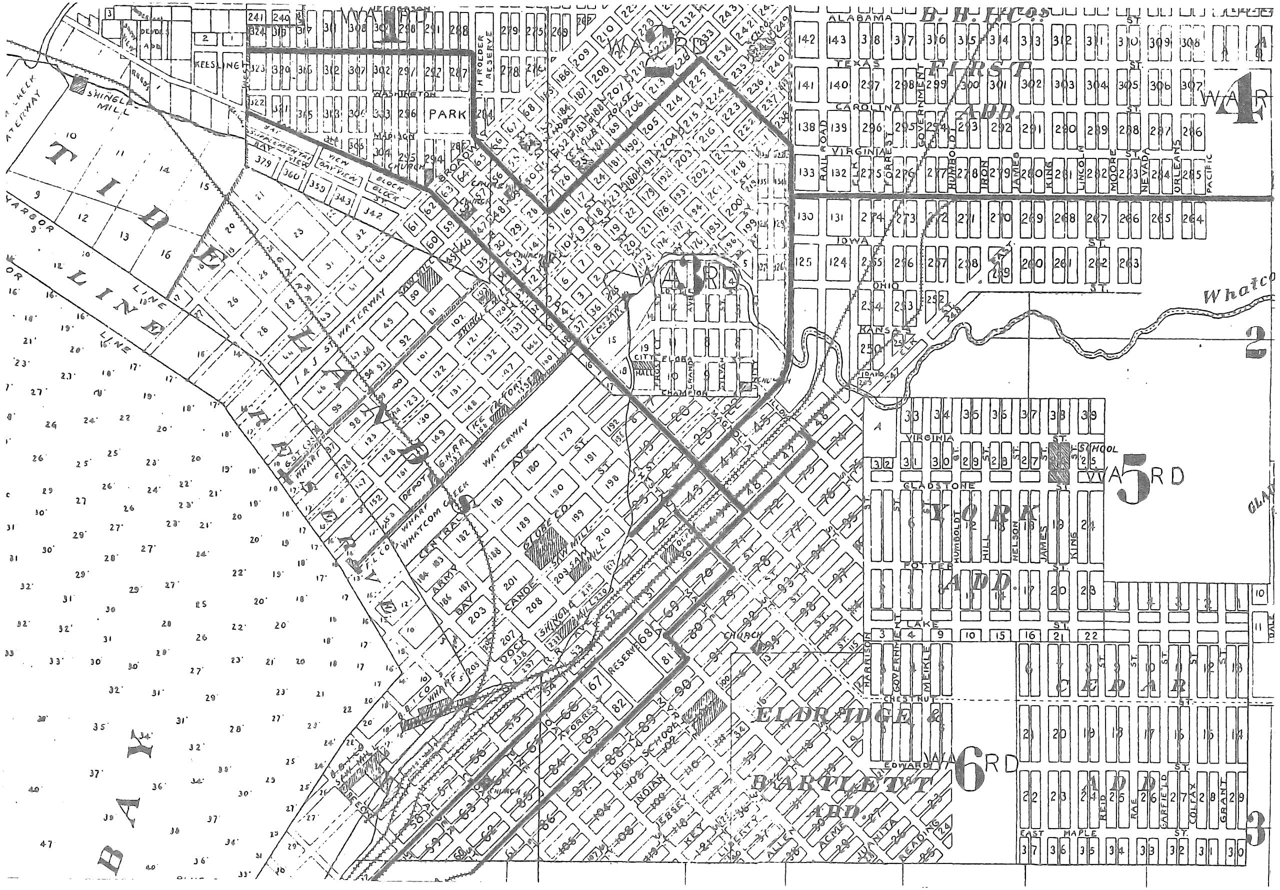
The Fairhaven and New Whatcom Railway

The stalemate was finally broken on February 3, 1892 when the still uncompleted Lake Whatcom Electric Railway agreed to trade its tracks, equipment and associated franchises to the Fairhaven Street Railway for a large block of shares in the latter. The new company was reorganized as the Fairhaven and New Whatcom Railway, and shortly afterwards it extended the Garden Street line to Monroe Street and west to the Front Street terminus,[11] thus "outflanking" the Bellingham Bay Electric line.

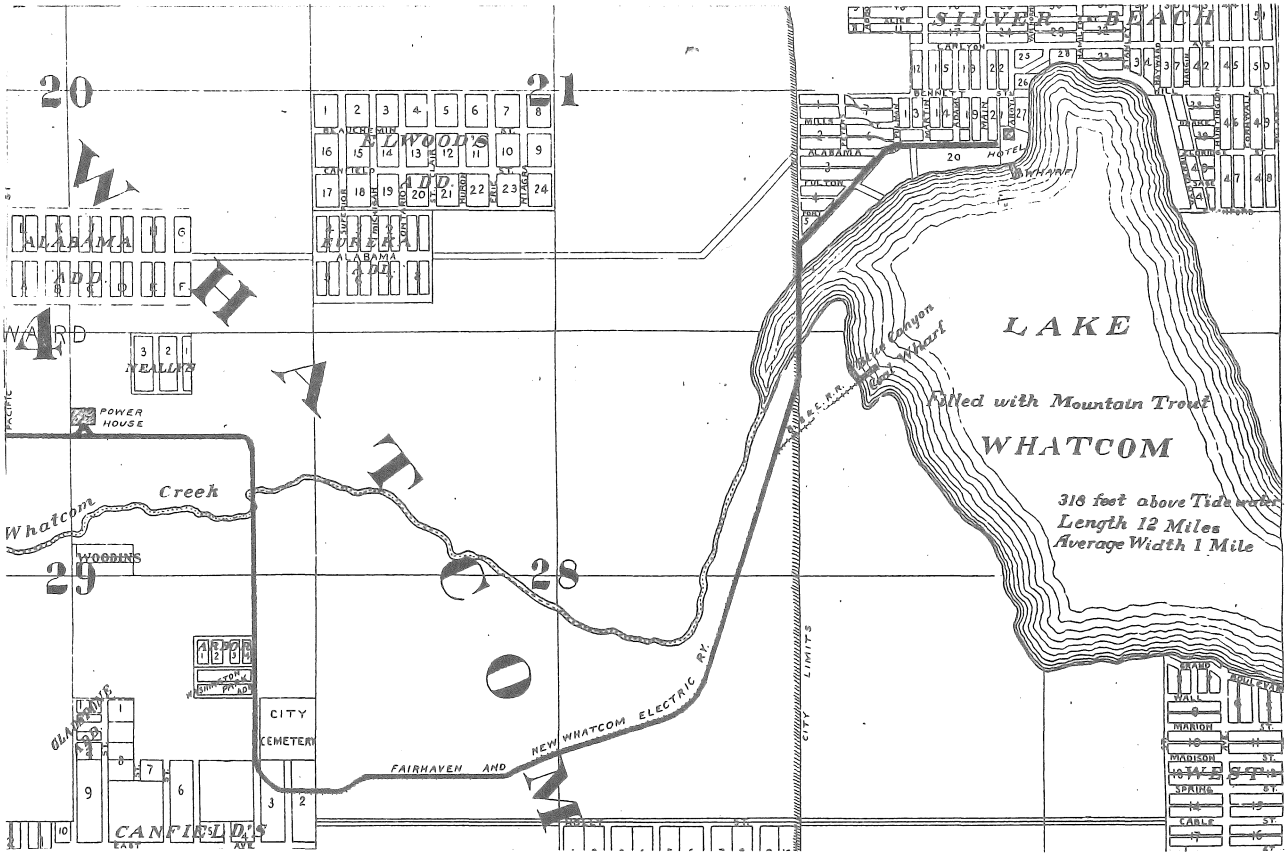
The grand opening of service on the Fairhaven and New Whatcom was held on February 18, 1892, when cars loaded with officials from the two cities made the trip to Lake Whatcom for a day of "feasting and speechmaking" at Silver Beach. It was estimated that 3000 people (almost a third of the total population) rode the new line during this celebration.[12] Particularly jubilant were the residents of South Fork communities whose access to New Whatcom was much improved.[13]

With their plans for a Fairhaven connection and a Lake Whatcom extension thwarted by the merger of their rivals, Stenger, who had replaced Canfield as president, and the other owners sold the controlling interest in the Bellingham Bay Electric Street Railway to Cosgrove and Eldridge in June, 1892. Although this gave the Fairhaven and New Whatcom complete control over the entire Bellingham Bay streetcar system, the corporate structure of the Bellingham Bay Electric Street Railway was retained, and the whole system--tracks, franchises, cars, power-house and all--was leased to the Fairhaven and New Whatcom for $1.00 a month. After almost fifteen years of existence as a "paper corporation," the Bellingham Bay Electric Street Railway was legally dissolved on November 19, 1907.

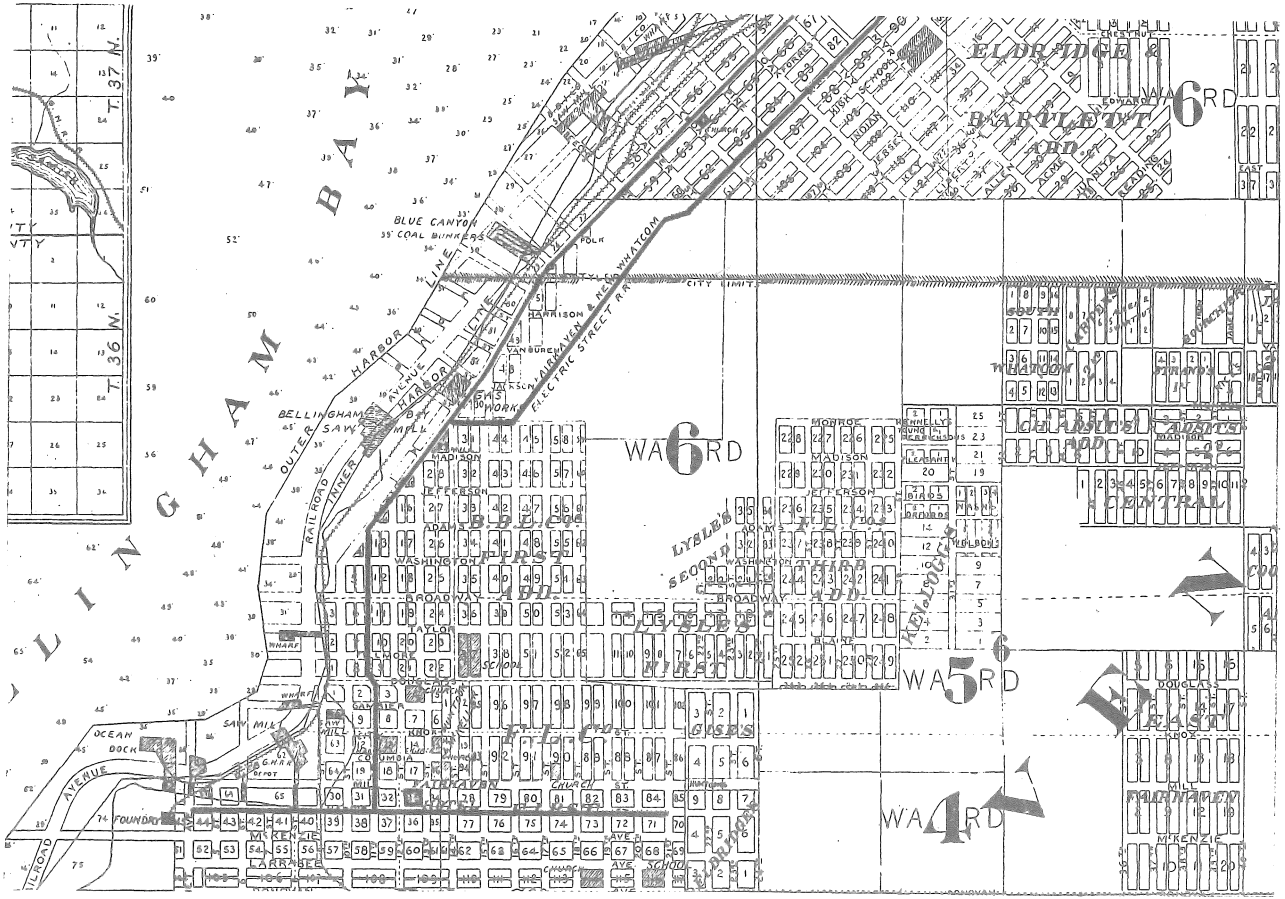
Following the lease of the Bellingham Bay Electric Street Railway to the Fairhaven and New Whatcom it was necessary to make several adjustments in the route of the united street railway lines. First, the still new connection between South Garden and the Elk Street-Front Street line was abandoned in favor of the more direct Front-Elk-Holly route. This relegated Garden Street



Map 6: The Fairhaven and New Whatcom Railway, New Whatcom Lines, 1893.
(Source: Washington Improvement Co., "Map of Fairhaven and Vicinity," 1893.)



Map 7: The Fairhaven and New Whatcom Railway, Lake Whatcom Line, 1893.
(Source: Washington Improvement Co., "Map of Fairhaven and Vincinity," 1893.)



Map 8: The Fairhaven and New Whatcom Railway, Fairhaven Line, 1893.
(Source: Washington Improvement Co., "Map of Fairhaven and Vicinity," 1893.)

to the role of a mere feeder line rather than the main route to Fairhaven. Fifteen-minute service was established between Harris Avenue and the Keeslingville district, as the part of New Whatcom west of Broadway was then called. Another line provided service between the Whatcom County courthouse at Ellsworth and "G" Streets and as far south on Garden as the Cosgrove residence at Cedar Street. The standard fare for the entire system was five cents.

To encourage weekend and holiday traffic on the Lake Whatcom line, the streetcar company built a large pavilion and a grandstand at the line's terminus on the shore of the lake. On April 1, 1892 the Silver Beach Hotel opened for business, further increasing traffic. The hotel was built by E. F. G. Carlyon, one of the original owners of the Bellingham Bay Electric line. Carlyon had also built the first wagon road to Silver Beach in 1890, and had extensive real estate holdings in the area.[14]

The year of the consolidation was the high point in the economic history of the Fairhaven and New Whatcom, however, for the line soon began a decline which would send it into bankruptcy in four years. The main reason for the company's failure was the "Panic of 1893" which swept across the entire United States the following year. The impact of this fiscal disaster on the Bellingham Bay economy, especially the lumber industry, was felt for almost a decade. The failure of the Bay area to secure the Great Northern terminus was also a serious blow to local aspirations.

Figure 8. The Silver Beach Hotel at the end of the Fairhaven and New Whatcom's "Lake Line." (Buswell Collection, CPNS)

As passenger receipts fell sharply, the Fairhaven and New Whatcom began offering freight service in an attempt to make up for lost revenue. Although the freight service was successful, the line continued to lose money rapidly, as is shown in the following table:

TABLE 1

FAIRHAVEN AND NEW WHATCOM PASSENGER AND FREIGHT REVENUE 1892 - 1895

	Passenger	Freight	Total
1892	$30,994.79	$ 270.70	$31,265.49
1893	21,437.07	865.15	22,302.22
1894	16,781.35	882.63	17,663.98
1895	15,353.54	1775.19	17,128.73

SOURCE: Fairhaven and New Whatcom Railway Journal, 1892-1896

To bolster their dwindling passenger and freight revenues, the Fairhaven and New Whatcom sought additional sources of income. One of the most lucrative was to share the Lake Whatcom line with the Bellingham Bay and Eastern, the steam railroad which carried coal and lumber from the lake area to the New Whatcom waterfront. The rent paid by the steam line added significantly to the electric railway's earnings.

Another method of securing additional income was to hire out special cars, usually to local groups for such things as excursions to Lake Whatcom, picnics and the like. A small mail contract was secured in 1892, and in 1893 a special funeral car was built to carry the community's deceased out to the new cemetery at Bay View on the Lake Whatcom line. Neither of the latter two services provided a great deal of additional income, being more in the nature of a public service.

Although not a direct source of revenue (except for the $1.00 a month rent), the lease of the cars and tracks of the old Bellingham Bay Electric Street Railway proved so beneficial to the Fairhaven and New Whatcom that the lease was renewed every year until May, 1895, when it was extended indefinitely. In fact, the Harris Street to Squalicum Creek line, most of which ran on the Bellingham Bay Electric Street Railway tracks, was the most lucrative of the Fairhaven and New Whatcom's three routes.

The earnings of the Fairhaven and New Whatcom followed a seasonal pattern, with the best months being those of the spring and summer when excursion business was heaviest. There was also a lesser peak for several weeks after Christmas attributable to holiday traffic and the custom of local saw and shingle mills of closing down for repairs until late January. But even in a good year the line barely broke even, as can be seen in Table 2:

TABLE 2

FAIRHAVEN AND NEW WHATCOM RAILWAY REVENUE AND EXPENSES:
JANUARY 1 TO JUNE 1, 1893

	Revenue	Expenses	Loss/Gain
January	$ 2,407.41	$ 2,761.66	$354.25 (-)
February	1,408.97	1,887.27	478.30 (-)
March	2,919.41	2,775.29	144.12
April	3,026.91	2,835.44	191.47
May	3,125.52	2,762.51	363.01
	$12,888.22	$13,022.17	$133.95 (-)

SOURCE: Fairhaven and New Whatcom Railway Operating Account Statement, January-May 1893

Unfortunately, the information in this table comes from the only such financial report of the Fairhaven and New Whatcom to survive. Since passenger receipts appear to compose from 75 per cent to 90 per cent of the line's monthly earnings, by comparing this information with that in Table 1, it can be seen that January 1 to June 1, 1893, was a better than average period. Therefore, by 1895, we must assume that the line's losses were considerably heavier despite the increase in freight and other revenues. The Fairhaven and New Whatcom was finally forced into receivership on March 20, 1896.

The financial condition of the Bellingham Bay street railways was, as might be expected, a direct function of the local economic situation. Not only did the line depend on a healthy local economy to provide passengers and freight, but also on the sale of real estate along the line. When the Fairhaven "boom" ended abruptly in January, 1892 the bottom fell out of the real estate market in New Whatcom and Fairhaven alike. As Lottie Roeder Roth described the situation:

> It would have been bad enough had the blasting of Fairhaven's hopes been a purely local matter; but it came at the beginning of, and was primarily caused by, one of the largest and hardest periods of depression our country has ever known. There was no money and no market any place. It was the day when the armies of Coxey and Kelly marched throughout the land...[and]...the time when the overburdened, helpless debtor turned to the panacea of free silver....[15]

A number of Whatcom County banks collapsed, wages were paid in local scrip and at least six local men ended their lives because of financial distress.

Summary

Even at the lowest point of the depression, the suffering Fairhaven and New Whatcom could point to several important developments in the growth of the Bellingham Bay region, however. First and foremost, the consolidation of Whatcom and New Whatcom was a direct result of the cooperation begun by the construction of the Bellingham Bay Electric Street Railway. The residential area of New Whatcom bounded by Dock, North, West and Holly Streets owed its existence to easy access by streetcar, as practically every house was within two blocks of the line. A similar situation prevailed in Fairhaven, where again almost every lot was within two blocks of either the 4th to 21st via Harris Street line or the Harris to Elk via 11th and Front Street line. In addition, the residential area at Silver Beach--most of which was owned by Carlyon--grew rapidly after the completion of the Lake Whatcom line, and blocks of land owned by Eldridge and Canfield along the right of way (today's Lakeway Drive area) began to be developed.

The creation of the Fairhaven and New Whatcom in 1892 dealt a mortal blow to steam vessel service on Bellingham Bay. The Mikado, which had made as much as $15,000 in one of the previous "boom years" ferrying passengers from Whatcom to Fairhaven, lost so much business that she was soon removed to Lake Whatcom.[16] During the mid-1890's the Puget Sound steamships that operated between Bellingham, Everett, Seattle, Tacoma and Olympia also began to suffer lost revenue, but this was chiefly due to the effect of steam railroads.

CHAPTER III NOTES

[1]Bellingham Bay Electric Street Railway, Record of Board of Trustees Meetings: 1890-1907, meeting of July 17, 1890.

[2]Ibid., meeting of September 2, 1890.

[3]Ibid., meeting of September 2, 1890.

[4]Roth, History of Whatcom County, Vol. 1, p. 331.

[5]Rails were identified by the weight of a one yard length, hence a 40 lb. rail weighed 40 lbs. per yard.

[6]Edison General Electric Company, Proposition to Build and Equip Belt Line Electric Railway, August 1, 1890.

[7]Roth, History of Whatcom County, Vol. I, p. 331.

[8]Ibid., Vol. I, p. 332.

[9]Fairhaven's Front Street became South Elk Street after the 1903 consolidation. Elk was renamed State Street in 1926.

[10]Roth, History of Whatcom County, Vol. I, p. 331. After the 1904 merger of Whatcom and Fairhaven the numbered streets of the former were given names: thus 16th became Clinton, 17th became Dupont, 18th became Ellsworth, etc. Holly Street west of Bay had originally been 13th Street, but was renamed after the merger of Whatcom and New Whatcom (Sehome) in 1891. Also, the proposed Maple Street route mentioned here was never built--the line used Laurel Street instead to connect Garden and Forest.

[11]This Monroe Street no longer exists--it was located immediately south of today's State and Olive Street intersection, and connected Elk with Garden Street. It is not to be confused with the Monroe Street in old Whatcom.

[12]Roth, History of Whatcom County, Vol. I, p. 503.

[13]Mrs. John M. Potter, personal interview, June 1976.

[14]Roth, History of Whatcom County, Vol. 2, p. 330.

[15]Ibid., Vol. 1, p. 450.

[16]Edson, The Fourth Corner, p. 278.

CHAPTER IV

THE FAIRHAVEN AND NEW WHATCOM RAILWAY: 1897-1902

Receivership

On petition of the estate of M. C. Thum, one of the original backers of the line who had died in 1892, E. J. Hill was appointed receiver of the Fairhaven and New Whatcom. Hill's first project was to compile a complete inventory of the line's property. Since it is the earliest surviving inventory of Bellingham Bay streetcar equipment and routes, some of the line's chief assets should be considered:

Streetcar Tracks: A continuous line of track extending from the foot of Harris Street in Fairhaven east to 21st Street; from Harris Street north on 11th and Front to the city limit at Tyler Street, where it connected with the leased Bellingham Bay Electric Railway; the Bellingham Bay Electric Street Railway line from Squalicum Creek to Tyler Street via Holly and Elk; the connecting line from Fairhaven's Front Street to the south end of Garden Street via Monroe Street; from a point on Dock Street between Maple and Chestnut north to 24th Street; and from Dock Street to Silver Beach via Kentucky Street and the sixty-foot wide right of way which has become today's Woburn Street, Lakeway Drive, Electric Avenue and Northshore Drive. The failure of this inventory to mention the line west of Dock Street (24th, "G", 16th, Elizabeth and Monroe Streets) indicates that it may have been abandoned due to the adequate service offered this area by the leased Bellingham Bay Electric Street Railway line. The lack of mention of a connection between the Garden Street line and the Elk and Dock Street lines suggests this too was temporarily abandoned, probably for financial reasons, although this point is still not clear.[1]

The road also was equipped with an unspecified number of "the proper and necessary switches and side tracks for the operation of the same," and was constructed of "40 and 56 lb. 'T' rail laid upon 6x6 fir ties."[2]

Rolling Stock: Eight closed cars and trucks, and two open cars and trucks, all manufactured by the J. G. Brill Company, and a "tower car" for overhead line maintenance. There were also a number of extra electric motors, probably from the Bellingham Bay Electric Street Railway's original equipment which had evidently been either abandoned or were being used for parts. Four flatcars were included--used for hauling freight, they had been built locally.

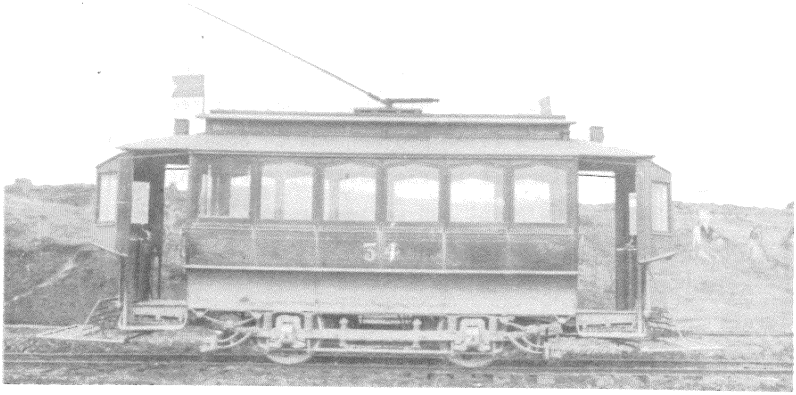


Figure 9. A J. G. Brill Co. single-truck streetcar of the Fairhaven and New Whatcom Railway. Note the "undeveloped" character of the background. (Puget Power Collection, CPNS)

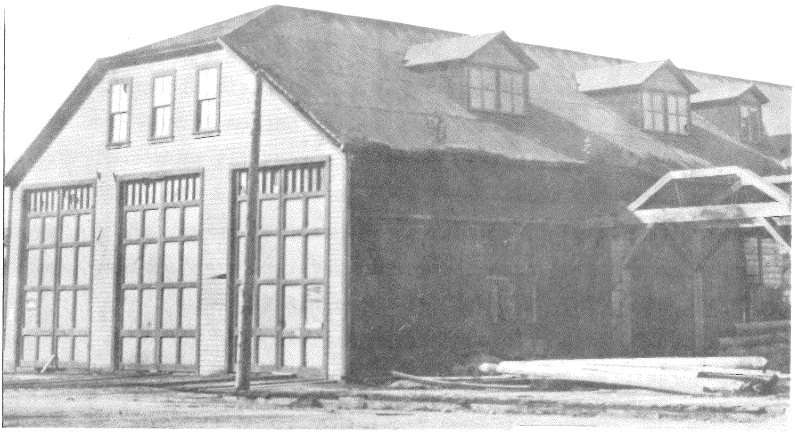


Figure 10. Power station and car barn of the Fairhaven and New Whatcom on Kentucky Street, originally built for the Lake Whatcom Electric Railway in 1892. (Puget Power Collection, CPNS)

Power Station: Soon after the 1892 merger, a new power station was constructed on Kentucky Street on land procured for this purpose by the Lake Whatcom Electric Railway. The building was of wood frame construction, 100 feet square, and also served as a streetcar barn. The electric plant consisted of two 14'x14' Ideal steam engineers, two M. P. 80 generators, a switch board, two 6'x16' boilers and other associated equipment.

Franchises and Rights of Way: Three franchises (including that of the Bellingham Bay Electric Street Railway) from the cities of New Whatcom and Fairhaven allowing the line to operate over city streets, and a sixty-foot wide right of way from the end of Kentucky Street to Silver Beach on Lake Whatcom.

As Hill was to discover, all this looked much better on paper than in reality. The connection between Garden Street and Fairhaven's Front Street had not been used since the acquisition of the Bellingham Bay Electric Street Railway, and was now completely unusable due to neglect. The Lake Whatcom Line suffered from both a lack of maintenance and damage from the coal and lumber hauling of the Bellingham Bay and Eastern Railroad, a use for which it was never designed.

Soon after Hill's appointment, two more serious problems arose. First, the crankshaft of one of the two steam engines used for power generation failed and had to be replaced.[3] Shortly thereafter, the New Whatcom City Council ordered the Fairhaven and New Whatcom to "cease running cars across the [Holly Street] Viaduct until the Street is repaired in a workmanlike manner."[4]

Although faced with an almost impossible task, Hill managed to scrape up enough money to repair the viaduct to the satisfaction of the City Council. He then arranged to divert part of the Bellingham Bay and Eastern rent into repair of the Lake Whatcom line. Hill's efforts to save the Fairhaven and New Whatcom were in vain, however, for severely depressed economic conditions throughout the Pacific Northwest finally brought the line to a complete collapse. In March, 1897 the sheriff of Whatcom County ordered the line sold to satisfy debts amounting to $380,485.[5]

Acquisition by General Electric

The General Electric Company of New York, successor to the firm of Thomson-Houston which had built the equipment for the three original Bellingham Bay streetcar lines, was the Fairhaven and New Whatcom's principal creditor.[6] On

April 2, 1897, acting with S. Z. Mitchell of Portland, Oregon as its agent, General Electric purchased the Fairhaven and New Whatcom for $75,000. Mitchell placed Norman Tucker and G. C. Hyatt in charge of the line in an attempt to try and recover as much of General Electric's original investment as possible.

During the middle and late 1890's, General Electric was purchasing numerous small electric railway and utility firms. Many were like the Fairhaven and New Whatcom, firms which were deeply in debt to their original contractors, while others were acquired simply because they had been financially weakened by the Panic of 1893 and were available at rock-bottom prices. At the same time, however, there was a growing fear of such corporate growth--a fear which had resulted in the Sherman Antitrust Act of 1890--so General Electric had to move carefully to conceal its acquisitions. General Electric's desire to maintain a low profile on Bellingham Bay resulted in orders that the notices posted in streetcars and offices informing the public of the line's change in ownership should name Mitchell as the owner, rather than the corporation. Care was also taken not to have the corporation's name appear on any of the checks which changed hands during the purchase.[7]

Several months after Mitchell's "acquisition" of the Fairhaven and New Whatcom, General Electric began a major corporate shuffle, evidently to further disguise its control of the railway. On October 29, 1897, the ownership of the Fairhaven and New Whatcom was "conveyed" to James O. Carr of Schenectady, New York. It is more than coincidental that Schenectady was also the location of General Electric's headquarters and of its main electrical equipment plant.[8]

Soon afterwards, S. Z. Mitchell and four other Portland, Oregon businessmen incorporated a new firm--The Northern Railway and Improvement Company--on February 10, 1898, ostensibly to purchase the Fairhaven and New Whatcom and remove the taint of Eastern capital and control.

Of a total of one thousand $100 shares of the new company, the Oregonians held only three shares. The remaining 997 were owned by an S. Dana Greene, again from Schenectady. Almost immediately thereafter, Greene gave Mitchell complete power of attorney to act as his proxy in all matters pertaining to the administration of the corporation's affairs, making Mitchell, in effect, the holder of 99.8 per cent of the stock.[9]

At the first meeting of the company's stockholders, held March 9, 1898, in the General Electric office in Portland, Mitchell was elected president.

Then a proposition from James O. Carr was read, wherein Carr offered to sell to the Northern Railway and Improvement Company all of the property of the Fairhaven and New Whatcom. Mitchell and his associates voted unanimously to accept the offer "for carrying out the purpose of [the Northern Railway and Improvement Company's] incorporation," since Carr's proposition appeared to be "the cheapest and best method of acquiring immediately the property required by this company for the purpose of carrying on its business."[10]

The price named by Carr/General Electric was $100,000 cash and $80,000 in Northern Railway and Improvement bonds. The following month Northern Railway and Improvement executed an indenture of trust for two hundred $1000 bonds with the Old Colony Trust Company of Boston, Massachusetts, which gave the Boston firm a first lien upon all the "real, personal and mixed property assets and revenues, rights, privileges, franchises and liens now owned and hereafter acquired" by Northern Railway and Improvement.[11] These bonds were to bear interest at the rate of 5 per cent and to be payable thirty years from their March 1, 1898 date of issue.

The Northern Railway and Improvement Company

The signing of the indenture with the Old Colony Trust marked the beginning of the involvement of Boston capital with Bellingham area electric railways. On September 2, 1898, the Electric Corporation of Boston purchased 501 shares of Northern Railway and Improvement from S. Dana Greene, and General Electric purchased outright the remaining 496 of his original 997. At the next annual meeting of Northern Railway and Improvement on January 3, 1899, details of the purchase from Carr were resolved and Norman Tucker, who was still acting as local manager for the Fairhaven and New Whatcom, was given the title of Superintendent and accorded a raise in salary from $90 to $100 a month.

Tucker apparently deserved his raise, for during his administration of the Fairhaven and New Whatcom the line succeeded in reversing its downward spiral. His efforts were greatly aided by a much improved economic situation on Bellingham Bay, and by the substantial amount of capital available for repairs and improvements following the acquisition of the road by Northern Railway and Improvement and its Eastern backers. In fact, the Fairhaven and New Whatcom was doing so well that on December 21, 1899, Northern Railway announced its first dividend: $6.00 per share, based on the company's net earnings of

$8179.89 from its organization in February, 1898 to the end of November, 1899.[12] Since General Electric and The Electric Corporation held all but five of the one thousand shares there was no sudden surge of money into Bellingham Bay, but at least someone was turning a profit after almost nine years of street railway operation.

Northern Railway and Improvement began to take advantage of this new-found prosperity to purchase some badly needed equipment for the Fairhaven and New Whatcom. During 1899 the line bought five new electric motors from General Electric, six more Brill 21-E trucks and two second-hand car bodies from the Tacoma Railway and Power Company. The use of Thomson-Houston/General Electric motors with Brill trucks and car bodies was consistent with previous practice, but the following spring Mitchell arranged to buy two new open-car bodies from the American Car Company of St. Louis. These were planned for summer excursion use on the Lake Whatcom line.

Several changes were made in streetcar routes by the Northern Railway and Improvement Company. Increased revenue and new equipment allowed the line to resume service on the Dock to West Street line via 24th, "G", 16th, Elizabeth and Monroe--service which had been abandoned since the mid-1890's. Service was also resumed on the Laurel-Forest-Chestnut connection between Garden and Dock Streets. Several lengths of new track were added, including extending the end of the Dock Street line to Maple Street, and laying a second track on Elk from Holly to Ivy to ease traffic tie-ups downtown.

Business improved steadily through 1900 on the Fairhaven and New Whatcom, and in Feburary, 1901 the line was forced to buy more new equipment. This included four more of the highly successful Brill 21-E trucks, four G. E. #67 electric motors, two 21-foot closed and two ten-bench open cars from the American Car Company, and additional generating equipment and wiring from various other companies. The total cost of these improvements was $12,737.50. By June, 1901, the value of all of the improvements made by Northern Railway and Improvement since March, 1898, was estimated to be in excess of $20,000.[13]

The reason for the improvement in the fortunes of the Fairhaven and New Whatcom was not only the increased availability of capital, however. By the late 1890's, the lumber industry had begun a recovery and gradually the effects of the depression began to fade from Bellingham Bay.

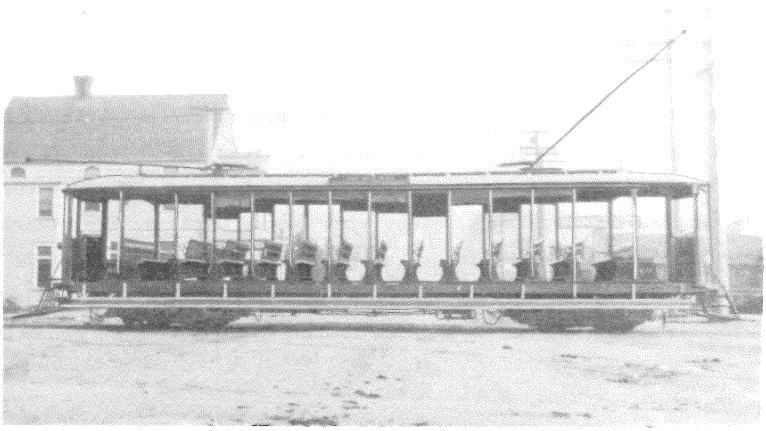


Figure 11. Car #69 of the Fairhaven and New Whatcom. Used primarily on the Lake Whatcom line during summer months, this open model was built by the American Car Company in 1900. (Puget Power Collection, CPNS)

It was largely through the efforts of Julius H. Bloedel that the Bellingham Bay mills survived to see the national lumber market revive. Bloedel traveled up and down Puget Sound seeking contracts for local loggers not only to keep the mills running but to insure traffic on his Bellingham Bay and Eastern railroad from the Blue Canyon district to tidewater. Despite a number of serious fires which destroyed several of the largest lumber mills in 1898, and the loss of others which went broke and closed down completely, this was the year that marked the beginning of the end of the depression. In November of 1899 Bloedel secured a tract of 3600 acres of timber in the area south of Lake Whatcom by enlisting the cooperation of a San Francisco bank,[14] and within a year almost all of the Bellingham Bay mills were humming again.

Summary

The years from 1897 to 1902 were a transition period for the street railway, when local control was surrendered to Eastern corporations. The economic situation which caused this also prevented much physical growth in both the streetcar system or the size of the Bay cities. Therefore, little can be said

about the growth of the area being influenced by the extension of streetcar routes, since there was hardly any of either. This period instead was one of consolidation and of reorganization, not only of management, but of existing routes to better serve the already settled areas.

Perhaps the best example of this spirit of consolidation and reorganization is to be found in the majority vote in each town in October, 1903, to merge Fairhaven and Whatcom (the "new" was dropped in February, 1901) into a single city. Although the merger came one year after the Fairhaven and New Whatcom Railway had changed owners again, it had been a decisive factor in physically uniting the two towns, along with improved roads, the clearing of much of the intervening dense timber, and a desire for improved public services at less cost. The new city was named Bellingham, and when its charter was adopted in July, 1904, it became the fourth largest city in the state.

CHAPTER IV NOTES

[1]Fairhaven and New Whatcom Railway, Inventory, March 20, 1896.

[2]Ibid.

[3]Letter, Harvey Titcomb to E. J. Hill, April 28, 1896.

[4]Letter, J. K. Appleby, Clerk, City of New Whatcom, to E. J. Hill, May 29, 1896.

[5]Roth, History of Whatcom County, Vol. I, p. 504.

[6]The Thomson-Houston Electric Company merged with the Edison General Company in 1892 to form General Electric. For further information see David Loth, Swope of G. E. (New York: Simon and Schuster, 1958).

[7]Letter, Burke, Shepard and McGilvra, Attorneys at Law, to Norman Tucker, April 2, 1897.

[8]The site was chosen as General Electric's headquarters by Thomas Edison in 1896, when his New York City light bulb plant outgrew its original building. See Loth, p. 13.

[9]Northern Railway and Improvement Company, Record of Meetings of Stockholders and Board of Directors, February 15, 1898-February 27, 1902, p. 2.

[10]Ibid., p. 39.

[11]Ibid., p. 44.

[12]Ibid., p. 78.

[13]Ibid., p. 110.

[14]Roth, History of Whatcom County, Vol. I, p. 481.

CHAPTER V

THE STONE AND WEBSTER ERA BEGINS: 1903-1911

After 1902 the development of electric railways in the Puget Sound region was inextricably linked with the Stone and Webster Corporation of Boston. The firm had been founded in the electrical industries boom of the late 1880's by Charles A. Stone and Edwin S. Webster, two 1888 graduates of the Massachusetts Institute of Technology. At this early date,

> . . .the pure scientists knew what was then known about electricity, but as there were no commercial consulting engineers in the field, these young men were encouraged to fill this need by such leaders as Professor Charles R. Cross of the Massachusetts Institute of Technology and Professor Elihu Thomson of the Thomson-Houston Electric Company. . . .[1]

In 1889, Stone and Webster formed a partnership and became one of the country's first electrical engineering consulting firms.

The new corporation was successful from the beginning. Most of its work during the 1890's included building hydroelectric installations in New England, but it later branched out into numerous related electrical industries. Foremost among these were electric railways. Backed by Boston capital, Stone and Webster began building or acquiring electric railways all over the United States, particularly in New England, Texas and the Puget Sound region. These properties were not owned outright, but were "managed" by the Stone and Webster Management Association. New electric railways were constructed by the Stone and Webster Engineering Corporation, then turned over to the Management Association. The majority of stockholders in the various electric railways were almost always high corporate officials in the Stone and Webster hierarchy, however.

Stone and Webster became interested in the development of electric railways in the Puget Sound region ". . . through securities which they held to cover payment for some of the electrical equipment furnished to the Seattle Electric Railway and Power Company. . .and other electric lines by the Thomson-Houston Company."[2] In March, 1900 a proposal from Stone and Webster to merge and manage eight of the small street railways which had proliferated in Seattle during the 1890's was accepted, and thus was born the Seattle Electric Company. "The

consolidation of the local street railway properties under the management of Eastern capitalists was regarded. . .as a severe setback. . . ."[3] by advocates of municipal ownership, but an attempt to submit the ordinance to a popular referendum failed.

The street railway systems of Tacoma and Everett were soon added to the Stone and Webster roster, and in December, 1902 they purchased the Fairhaven and New Whatcom from Northern Railway and Improvement. Since the Bellingham line had begun to do quite well by this time, the owners did not sell out of desperation but rather because Stone and Webster controlled most of their stock.

Whatcom County Railway and Light

To administer its Fairhaven and Whatcom properties, Stone and Webster organized the Whatcom County Railway and Light Company. Incorporated in the state of New Jersey on November 28, 1902, the stockholders were practically all Boston businessmen associated with Stone and Webster. During the following month Northern Railway and Improvement sold all of its holdings, including the Fairhaven and New Whatcom Railway, the Fairhaven Electric Light, Power and Motor Company and the Whatcom-Fairhaven Gas Company, to Whatcom County Railway and Light. The old Fairhaven and New Whatcom name was dropped and the streetcar line was thereafter run as the Railway Department of Whatcom County Railway and Light. There was also a Gas Department and a Light and Power Department. Northern Railway and Improvement was retained as a separate company and handled survey work in Whatcom and Skagit counties.[4]

The first year of operation for Whatcom County Railway and Light was a very trying one, according to the 1903 Annual Report. Despite the improvements made by Northern Railway and Improvement, a great deal of the chaos attendant in the merger of so many small, underfinanced companies remained. The most pressing problem was to get the existing parts of the line into working order since the old track of the Fairhaven and New Whatcom ". . . was in almost an inoperative condition. . . ."[5] Several miles were retied and ballasted and heavier rail was added in some of the worst sections.

At this time the company was operating three streetcar routes. The Main line, from Squalicum Creek to Fairhaven via Holly, Elk and 11th Streets, used four cars on a fifteen-minute headway. This run accounted for over 50 per cent of the total monthly car-miles operated. The remainder was divided between two

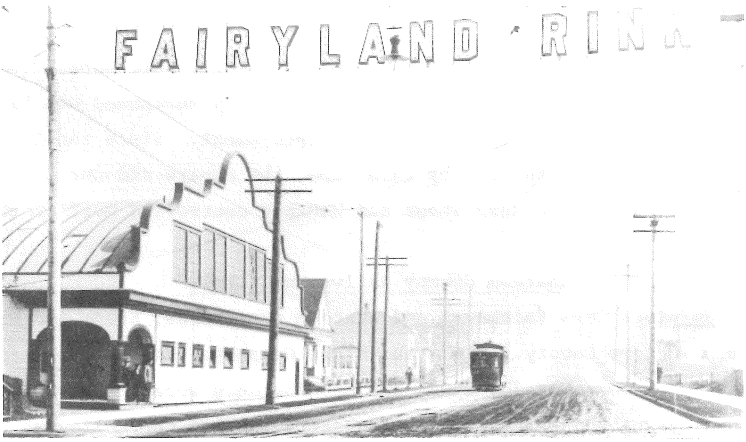


Figure 12. Car #67 passes the Fairyland Rink, a popular stop on the Garden Street line. (Puget Power Collection, CPNS)

cars on the Lake line and one on the Garden Street and Court House line, both at 30-minute intervals.

These seven cars were the only ones in operating condition out of a total of twenty-one that the Fairhaven and New Whatcom had accumulated over the years.[6] The 1904 Annual Report described these survivors as ". . .for the most part uninviting and in a very poor state of repair, and it became necessary to spend a considerable amount upon their repair and upon additions to the total number, in order to accommodate the business."[7] Eight of the original small single-truck Brill cars were coupled to produce four 34-foot double-truck cars. Also, two new four motor cars and trucks were purchased, and a new express car built.

Power Problems

Power for the system was generated at the Kentucky Street station by four steam engines driving direct-current 500-volt generators. A fifth engine drove a single-phase belted generator which supplied power to the 149 electric lighting customers of Fairhaven and Whatcom. The engines were powered by six boilers which were fueled by wood. It soon became apparent, however, that the Kentucky Street station could not handle all of this load, for frequently the output to

the railway would drop to a point where cars along the various lines would come to a complete stop for several minutes until normal power production was resumed.

Stone and Webster was aware of the shortcomings of the old steam station when they purchased the Bellingham properties, and began planning a hydroelectric project soon after. In September, 1905, the Whatcom County Railway and Light Company bought up the lighting and power property of the Bellingham Bay Improvement Company, including the large wooden steam power plant at the corner of York and Railroad, and their partially-completed hydroelectric plant at Nooksack Falls. The Stone and Webster Engineering Corporation began work the following month at the dam site, and electric power was first transmitted to Bellingham on September 21, 1906, via a 47-mile powerline.[8]

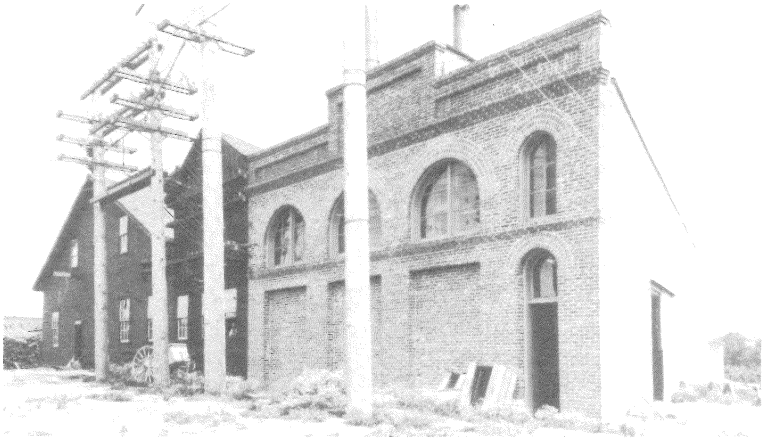


Figure 13. The original wooden steam power plant on York Street is to the left of the new 1908 brick station. (Puget Power Collection, CPNS)

Minor alterations were made in 1904 to keep the Kentucky Street station going until hydroelectric power could be secured, and in 1908 a supplemental steam plant added at the York Street site. Power shortages plagued Whatcom County Railway and Light until the Nooksack Falls plant was completed. The system operated normally until January, 1908, when a series of transformer failures at Nooksack Falls necessitated operating the steam stations again. The problems were not corrected completely until the following year, and were attributed to

improper storage of the equipment by the Bellingham Bay Improvement Company before the dam was finished. In 1909, a substation was constructed in South Bellingham to help the steam stations shoulder the load until the Nooksack plant was operating again.

In February, 1903, Whatcom County Railway and Light leased a wood frame building at the corner of Bay and Holly Streets to serve as an office for the gas, electric light and railway departments. The front part of the building contained a sales showroom, offices and the auditing department, while the rear served as a stock room, pipe-fitting shop and freight and express office. For better access to the latter, a spur track was run along the Bay Street side of the building from the main line.

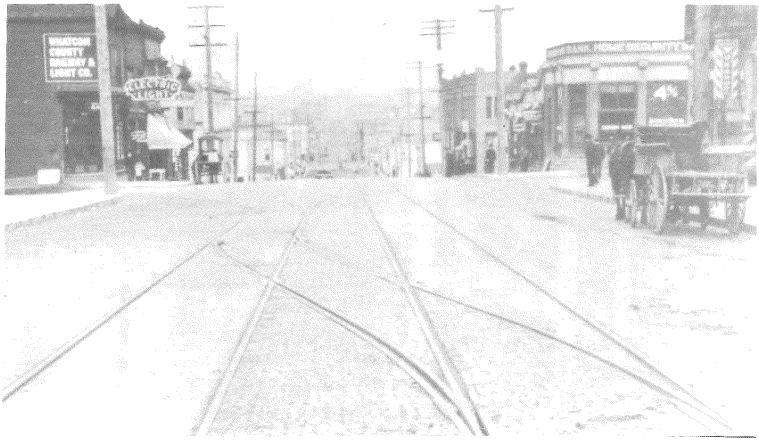
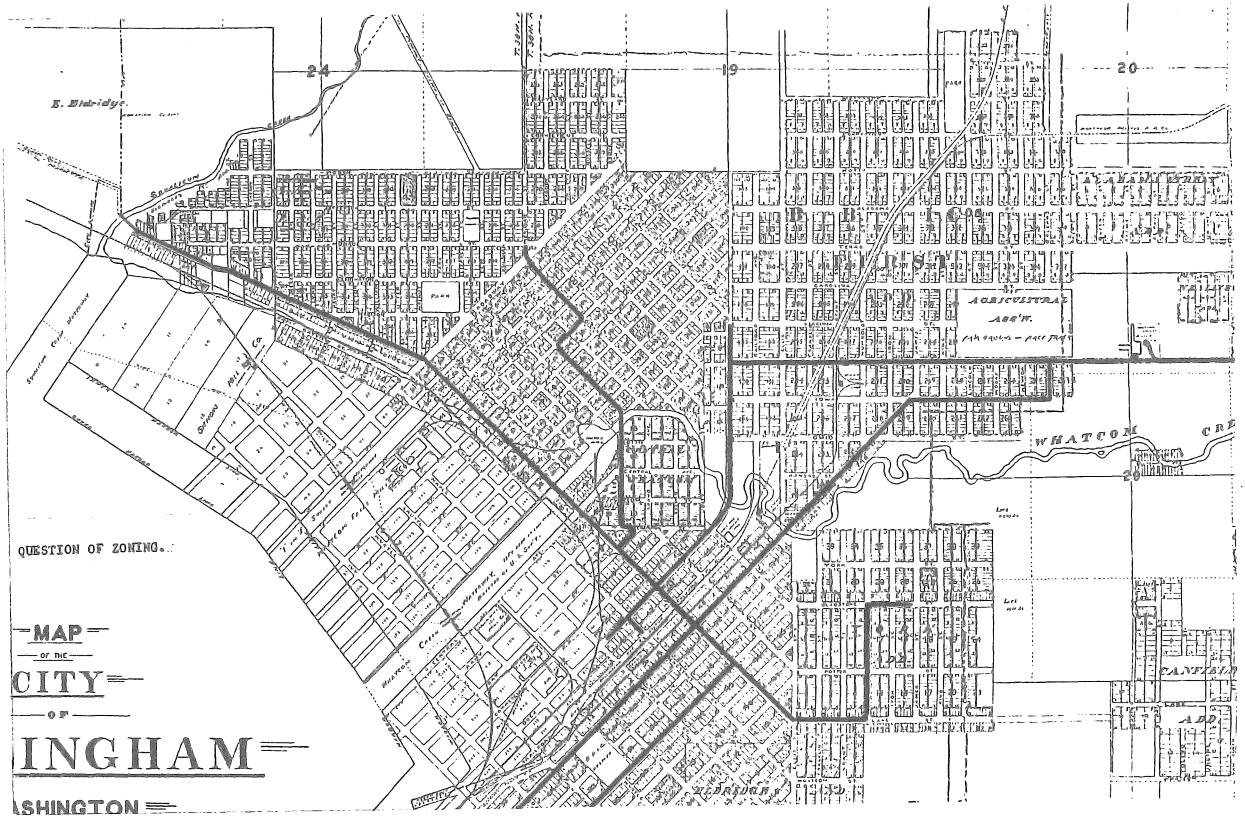


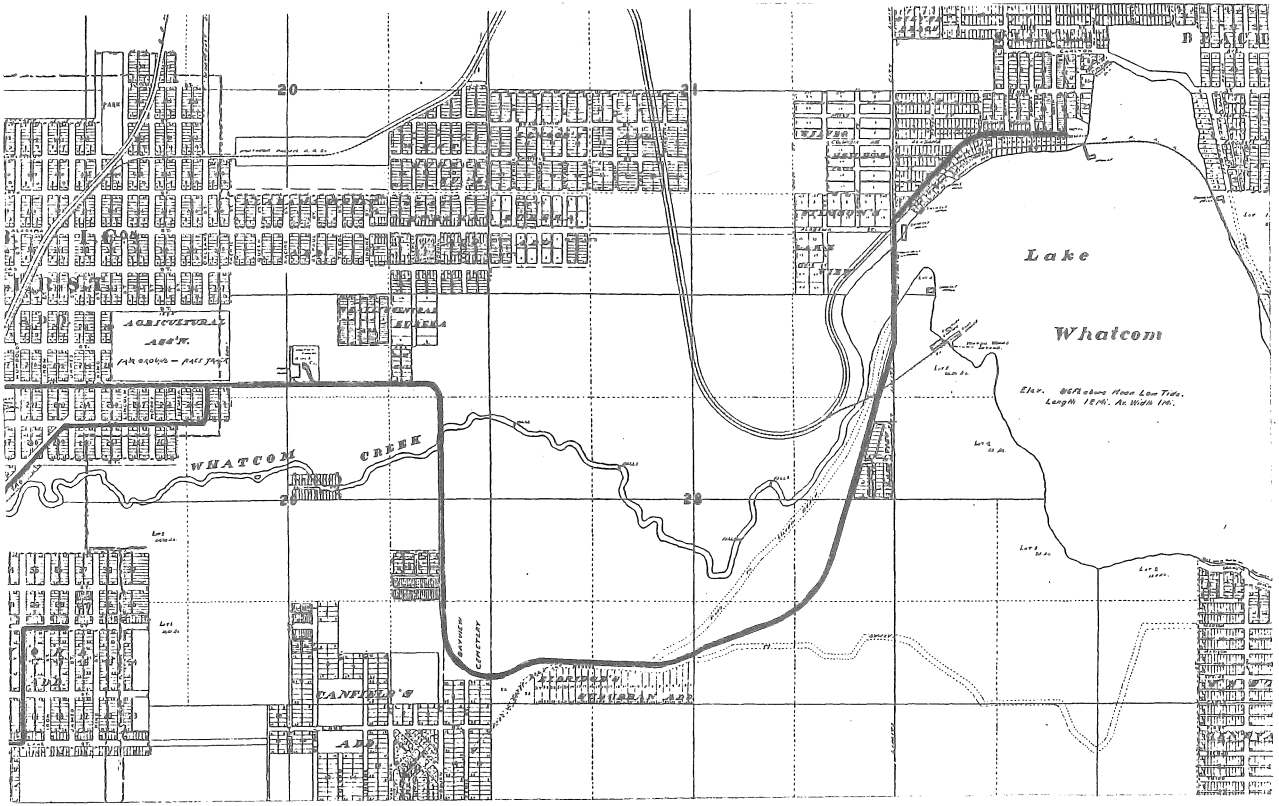
Figure 14. A 1908 view of the intersection of Holly and Bay. The headquarters of Whatcom County Railway and Light are at the left. (Puget Power Collection, CPNS)

Route Improvements

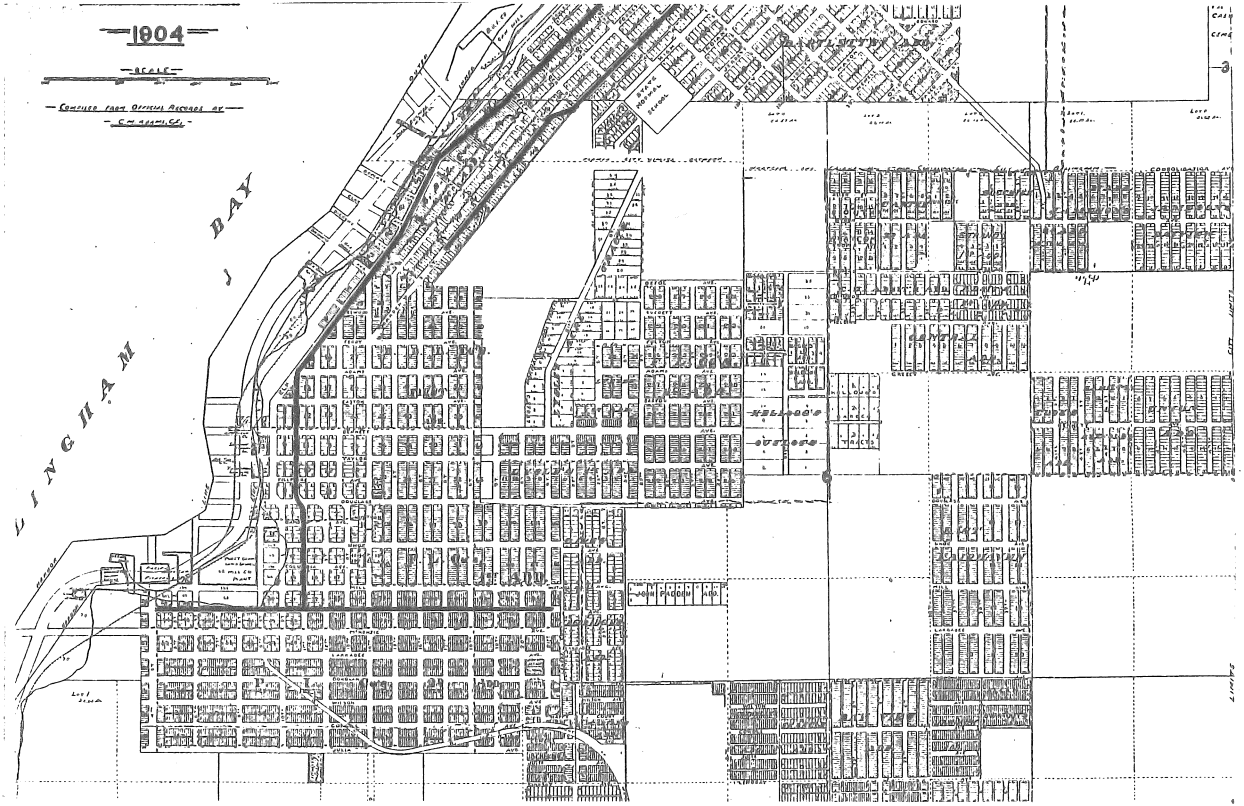
During the first three years of operating the Bellingham street railways, the Whatcom County Railway and Light Company's policy was directed at improving the existing system by rebuilding worn-out or poorly constructed segments of track, adding new rolling stock and rebuilding older cars and changing schedules to improve service. However, several relatively short extensions of track were added during this period.



Map 9: Whatcom County Railway and Light, Street Railways in North Bellingham, 1904. (Source: C. M. Adams, "Map of the City of Bellingham," 1904.)



Map 10: Whatcom County Railway and Light, Lake Whatcom Line, 1904.
(Source: C. M. Adams, "Map of the City of Bellingham," 1904.)



Map 11: Whatcom County Railway and Light, Street Railways in South Bellingham, 1904. (Source: C. M. Adams, "Map of the City of Bellingham," 1904.)

First and most important was the construction of a new "Courthouse" line, from Holly to Broadway via Bay, Champion, Prospect, Ellsworth, "G" and Girard Streets in 1903.[9] This route had been planned originally by Northern Railway and Improvement, who realized that the older line through this district had been designed by the old Lake Whatcom Electric Railway to compete with rather than complement the Holly Street line. This area could not support two lines so close together, especially during the hard times of the mid-1890's--hence the reason for its temporary abandonment then, and now in 1903, its permanent abandonment.

Early in 1904 another short extension was completed--a one mile segment into the York Addition via Holly, Lake, Humboldt and Champion (Champion east of Ellis Street is today Gladstone Street) as far as James Street. The same year, the Elk Street line was extended to Kentucky Street via Iowa and Orleans, and to ease congestion downtown, Holly was double-tracked from Elk to Bay. Finally, the completion of the York extension allowed the company to run the Garden Street line directly to Holly Street, and the steep, difficult to maintain Laurel-Forest-Chestnut-Dock connection was abandoned. Improvement of the Garden Street line was also directly related to the continuing growth of the Bellingham Normal School.

Following the completion of these extensions in 1904, the following service was offered: the Main line operated four cars at 15-minute intervals, the Garden Street-Court House and York lines had one car each at 30-minute intervals, and the Lake line offered two cars, also at 30-minute intervals. Both the Garden Street and York lines ran as far west as the courthouse until January, 1905, when the Garden line shifted its terminus to the end of the Dock Street line between Virginia and Carolina Streets.

Early in 1906 Whatcom County Railway and Light began a larger construction program aimed at extending the streetcar system into more previously unserved areas of the city. During this first year, the Dock Street line was extended to North Street and the Garden Street line continued from Cedar Street southwest to 16th Street. In 1907, the Dock Street tracks were extended from Maple Street to Sehome Wharf and the Silver Beach portion of the Lake line was extended out onto the Lake Whatcom wharf. Later extensions included running the Prospect Street line directly through to Holly Street (1908); extending the Garden Street line down 16th to Knox Street in old Fairhaven (1909);

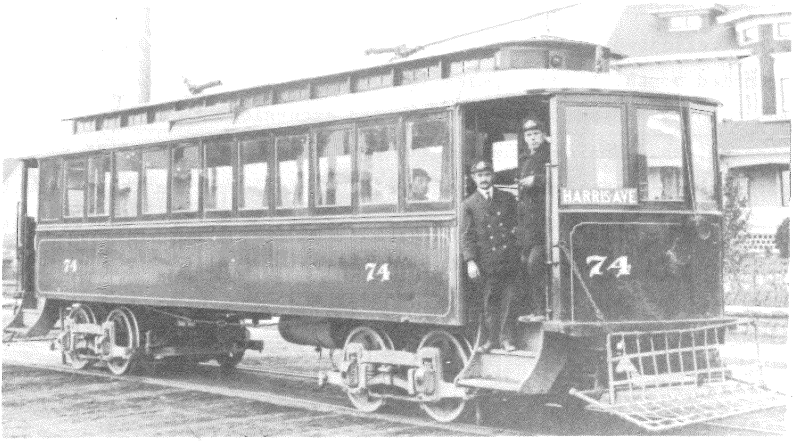


Figure 15. Car #74 and its two-man crew pause on the Main line, which ran from Squalicum Creek to Harris Avenue. (Puget Power Collection, CPNS)

continuing the line from Dock Street east along North Street as far as St. Clair Street (1909); and the construction of a Happy Valley extension via Harris, 23rd, Donovan, 32nd, Cowgill and 33rd Streets (1909). To further ease congestion in the downtown area, Magnolia Street was double-tracked from Dock to Elk.

The franchises held by Whatcom County Railway and Light to operate streetcars on public streets in Bellingham provided that the railway company would be responsible for the maintenance of these streets. During the years 1903-1911 the company was required to invest a tremendous amount of labor and money into street improvement, particularly grading and paving. By 1911, every street in Bellingham with streetcar tracks had been paved by the railway company.[10]

Passenger and Freight Revenues

The years between 1903 and 1911 were a period of solid, steady economic growth for Bellingham. The city's primary industries were lumber, cedar shingles and salmon packing, all of which enjoyed a relatively steady market during these years. The lumber and shingle mills were located along the waterfront between Squalicum Creek and Poe's Point (since corrupted to "Post Point"), and on the

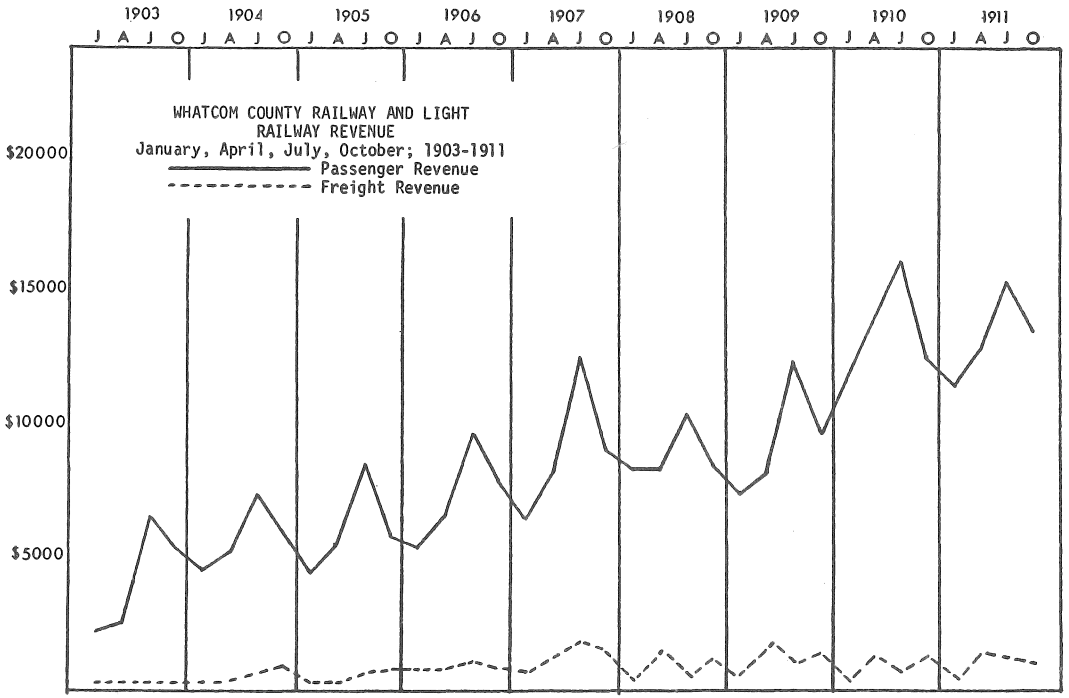
west shore of Lake Whatcom, while the salmon canning industry was centered on the large Pacific American Fisheries plant at South Bellingham.

These centers of employment were all linked with residential areas by the tracks of Whatcom County Railway and Light. Seasonal variations in local industries are reflected in Graph 1, which shows passenger and freight revenue for every third month. Summer peaks indicate increased travel to work during the salmon canning and building seasons, and excursions to the Lake Whatcom recreational areas. The declines in the fall represent the end of seasonal employment in both canneries and lumber mills. Inclement weather characteristic of the Puget Sound area sustained passenger travel during the winter months, with the exception of January during which it was the custom of the lumber mills to close for a month and make necessary repairs.

Although not as important a source of revenue as passenger traffic, the handling of freight by the electric railway was of considerable importance. Originally begun by the Fairhaven and New Whatcom to bolster sagging passenger revenues in the 1890's, local freight service had been neglected in the line's later years. When Stone and Webster took over, freight service was provided by five locally-built flatcars which were pulled by the express car or, on occasion, one of the passenger cars.

In June, 1903, a freight locomotive was built along with several flatcars and a new express car. Freight handling was not confined to just the electric railway's cars, however, for the line also moved Great Northern and Northern Pacific cars over the streetcar tracks when necessary. Like its predecessors, Whatcom County Railway and Light also maintained a funeral car which operated between downtown and the Bay View cemetery on the Lake line. Another special service and source of additional income was the operation of a sprinkler car for cleaning city streets, which was built locally in 1908. This car used one of the old Brill 21-E trucks on a scratch-built car body. Capable of putting out 9920 gallons per hour, the sprinkler car paid for itself during its first summer of use.[11]

During this period the bulk of the Whatcom County Railway and Light's freight car mileage was attributable to the movement of lumber and shingles from the Lake Whatcom area to the waterfront. Consequently, the illustration of freight-car miles tends to mirror the production of the local lumber industry in general, and the Larson Lumber Company at Lake Whatcom in particular.


1903
1904
1905
1906
1907
1908
1909
1910
1911
J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O
WHATCOM COUNTY RAILWAY AND LIGHT
RAILWAY REVENUE
January, April, July, October; 1903-1911
Passenger Revenue
Freight Revenue
$20000
$15000
$10000
$5000

GRAPH 1

Figure 16. Loading the old Whatcom County Railway and Light express car (#73) from a wagon at the rear of the company office on Bay Street. (Puget POwer Collection, CPNS)

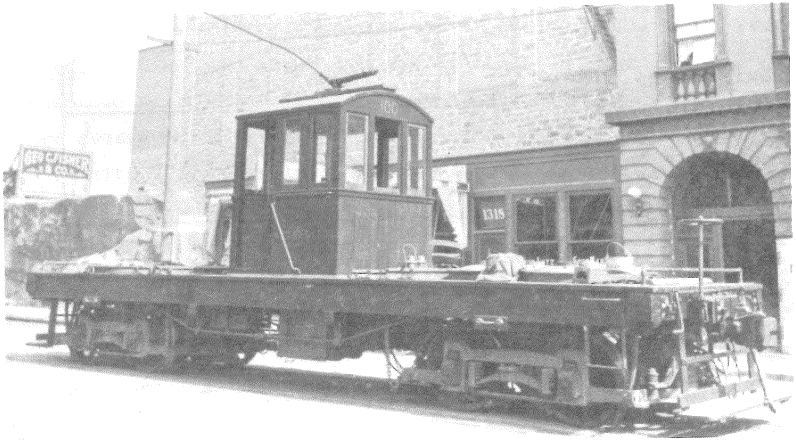


Figure 17. Whatcom County Railway and Light's first freight locomotive, #100, built in 1903. (Puget Power Collection, CPNS)

Figure 18. The highly successful sprinkler car which went into service in 1908. (Puget Power Collection, CPNS)

The slump during 1910 and 1911 reflects the small nationwide depression which had begun late in 1908 and had serious effects on the Midwestern and East Coast lumber market. A healthy foreign market during these years, however--especially that of Japan--kept the Bellingham mills going for almost two years into this period before a decline began.

More Power Problems

Problems with power generation plagued Whatcom County Railway and Light throughout 1908. After replacing the defective equipment at Nooksack Falls earlier in the year, the Francis turbine began to show serious damage from glacial sediment in the water passing through the blades. Numerous times during the year the Nooksack plant would shut down leaving the Kentucky Street station to shoulder the entire load, a job of which it was barely capable. The problems at Nooksack Falls were finally remedied by replacing the old turbine with a new 3200 horsepower Pelton water wheel. At the same time, the York Street station was rebuilt to increase its capacity to 1500 KW. with a high pressure horizontal turbine and new boilers. The total cost of these improvements was about $174,000.

With adequate power available for the first time since 1903, Whatcom County Railway and Light began a series of improvements designed to facilitate joint operations with the new interurban being planned by Stone and Webster. In October, 1910 the company moved from the old building at Bay and Holly to the Pike Block at Elk and Holly. The Pike building was to serve as offices for the railway, electric light and power, and gas departments of Whatcom County Railway and Light as well as offices and terminal facilities for the interurban.

With the modernization of the York Street plant, the old generating equipment in the Kentucky Street station was removed and the building converted to a car barn. Both street and interurban cars were kept here overnight, necessary maintenance was performed and new cars constructed.

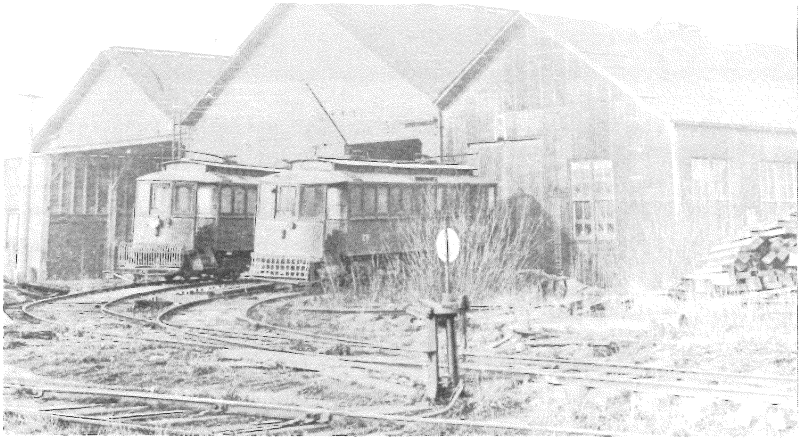


Figure 19. The Kentucky Street car barn two years after the removal of the steam generating plant. Streetcars #72 and #78 are in front. (Puget Power Collection, CPNS)

Summary

By 1911 Whatcom County Railway and Light was almost at the peak of its success. This period of growth and financial success had been beneficial to both the city of Bellingham as well as the Boston capitalists who managed the street railways. The net earnings of the Railway Department increased drastically during these years, as seen in Graph 1. The decline in earnings in 1904 and 1905

is attributable to the lack of sufficient power from the steam plants, a problem remedied by the completion of the Nooksack Falls hydroelectric plant. The 1908 dip also appears to be due to problems with the power from Nooksack Falls, since the railway was forced to run on steam plant power alone for much of the year.

The effect of the expansion of street railway routes and service on the physical growth of Bellingham is also very noticeable during this period. Two major residential areas--Happy Valley in South Bellingham and the corridor from Dock Street to the west side of Alabama Hill--owed their existence to the new tracks laid in 1909. Development in the York Addition also owed much to the extension of the Holly Street line in 1904, although it was already well underway by this time. The extension of the Garden Street line into South Bellingham was described in a company report as providing ". . . a suitable car service for several hundred people who were not near a car line previously, and bids fair to cause the building of many new homes along the hillside which overlooks the beautiful waters and islands to the west,"[12] a prophecy which was soon fulfilled.

CHAPTER V NOTES

[1]Stone and Webster, Inc., Stone and Webster: A Brief Account of the History of This Organization and of the Services Developed During 44 Years. (New York: Stone and Webster, 1932), p. 7.

[2]Blanchard, The Street Railway Era in Seattle, p. 58.

[3]Ibid.

[4]Whatcom County Railway and Light, Record of Stockholders' Meetings, November 1902-May 1910, p. 50.

[5]Whatcom County Railway and Light, Annual Report, 1904, p. 4.

[6]Roth, History of Whatcom County, Vol. 1, p. 613.

[7]Whatcom County Railway and Light, Annual Report, 1904, p. 5.

[8]Stone and Webster, Public Service Journal, Vol. 1, p. 341.

[9]At this time Prospect Street did not connect directly with Holly because of the existence of a triangular block bounded by Champion, Holly and Bay. Prospect Street was extended through to Holly (and the streetcar track also) in 1908 after a fire destroyed the building which occupied this block. It should also be noted that the Prospect Street bridge over Whatcom Creek connected with Ellsworth Street rather than Dupont, as is the case today.

[10]Whatcom County Railway and Light, Financial Report, December, 1911.

[11]Stone and Webster, Public Service Journal, Vol. 3 (December, 1908), p. 419.

[12]Stone and Webster, Public Service Journal, Vol. 4 (April 1909), p. 269.

CHAPTER VI

PLANNING AND BUILDING AN INTERURBAN: 1901-1911

In the first decade of this century there began a second phase of the great transportation revolution which the electric street railways had begun. Two new rivals to the dominance of steam railroads and steam vessels in the intercity passenger and freight business appeared on Puget Sound at almost exactly the same time: the first electric interurban railways and some of Henry Ford's early Model "T's," the first mass-produced automobile. The ultimate victory of the automobile over the railroad was an event foreseen by only a handful of far-sighted men. The greatest investment boom in early twentieth century transportation was not in automobile factories, but in electric interurban railways. In describing the result of this serious financial miscalculation, George W. Hilton and John F. Due have observed:

> Few industries have arisen so rapidly or declined so quickly, and no industry of its size had a worse financial record. The interurbans were a rare example of an industry that never enjoyed a period of prolonged prosperity.[1]

The study of the rise and decline of the interurbans in American transportation history has been even more neglected than that of the street railways. Since most studies tend to concentrate on either successful or well-known subjects, this is quite understandable. However, it should be remembered that the study of failure is equally illustrative of the processes of development in modern transportation.

The remarkable success of electric railways in urban service soon led to the extension of lines into rural areas and ultimately to the linking of urban areas. The interurban boom began in the Midwest about 1900 and spread rapidly to the Pacific Coast. Some of the more important reasons for the quick success of the interurbans included: 1) widespread agricultural prosperity between 1900 and the end of World War I; 2) greater rural contact with urban ideas fostered by such innovations as rural free delivery, land-grant colleges and farmer-oriented rural newspapers; 3) subsequent demand among farmers for greater mobility and access to urban areas for both cultural as well as economic reasons; 4) ready availability of electric railway technology as a result of more than a decade of street railway experience; and 5) availability of excess capital for this type of investment.

The Fidalgo City and Anacortes Railway

Skagit County very nearly had the first successful interurban railway in the United States. During the great 1890 land boom, a group of Anacortes businessmen chartered an electric railway in June of that year, calling it the Fidalgo City and Anacortes Railway. Their plan was to build a small electric line south from Anacortes to Fidalgo City (now Dewey Beach) on Deception Pass as rapidly as possible in order to secure a large land grant along the right of way. The line had to be completed by January 1, 1891 to secure the grant, but because of delays in receiving equipment, they were granted an extension. The first car eventually went into service on March 29, 1891 (the day after the Bellingham Bay Electric Street Railway commenced operations) on a thirteen-mile road built at a cost of $200,000. "Although . . . built under such favorable auspices, the reaction following the boom so affected business that the road was abandoned as soon as the land subsidy had been safely procured."[2] There were also serious defects in the electrical power system that the Fidalgo City and Anacortes could not afford to remedy, and the line never ran again.[3]

Stone and Webster Interurban Plans

By the spring of 1906 it was generally known by the Bellingham business community that Stone and Webster planned to build an interurban line in Whatcom and possibly Skagit County as soon as the street railways were running smoothly and the power difficulties sorted out. The local manager of Whatcom County Railway and Light announced that the Boston office was considering such a plan in the June 2, 1906 edition of the Bellingham Herald. Louis H. Bean was quoted as saying:

> We have never yet investigated this proposition, but we intend to do so in the near future. I cannot say what course the line will take, if we decide to build one. . . . The time has come when the company thinks it is advisable to consider the building of extensions into the country.

The Herald went on to speculate:

> It is generally believed that Lynden will be the main objective of the company, but it is not known whether the company will decide to build a direct line, or to build by way of Marietta and Ferndale through the Nooksack valley.[4]

Several weeks later Charles D. Wyman of Boston, a top Stone and Webster executive (president of Whatcom County Railway and Light, vice-president of

the Puget Sound Electric Railway and a member of the Stone and Webster executive committee) visited Bellingham on his annual tour of the company's Puget Sound properties. Wyman was evidently impressed by what he saw, for he returned the following June and spent over a month touring Bellingham, the Nooksack Falls power plant and the towns of the Skagit Valley, in addition to the company's other properties. Much of the tour was by automobile over potential interurban routes, and numerous interviews were held with bankers, merchants and municipal authorities in various locations in the area.

In a public statement made just before he returned to Boston, Wyman finally outlined Stone and Webster's plans for the development of electric railways in the Puget Sound area:

> Our interests are negotiating an affiliation with the Everett street railway properties which will give us control of them. The new company will immediately begin carrying out plans for the building of interurban roads from Bellingham to Seattle. It has always been our plan to afford the Puget Sound cities an interurban service eventually from the International boundary to Olympia and Chehalis and perhaps finally to Portland and the Grays Harbor county.
>
> Our first step was the Puget Sound Electric Railway between Seattle and Tacoma. That has developed the valley through which it ran. Another region to the north, with its center at Bellingham, we shall develop with similar lines as rapidly as conditions permit, as the money is raised, the franchises and rights of way acquired and other plans perfected. This cannot be done in a day, especially when the construction including equipment costs from $40,000 to $50,000 per mile of single track.
>
> . . . We shall put surveyors in the field with the idea of locating accurate and positive routes for lines through Seattle. Our engineers have already made surveys 30 or 40 miles south of Bellingham and these will be continued in this direction.
>
> It is our policy to develop the interurban system from each center until we shall have completed a through line from the [international] boundary south. Thus we commenced from Seattle. We have already extended from Tacoma south to American Lake and will continue to Olympia. Our next step is the system from Bellingham and we shall make plans for reaching out from Everett.
>
> To carry out our plans for these interurban electric railway extensions proposed by Stone and Webster on Puget Sound, the Puget Sound International Railway and Power Company has been incorporated in Washington.[5]

Wyman's statement ended several years of rumor and speculation, for it revealed the survey work which was being done in Whatcom and Skagit counties by the crews of Northern Railway and Improvement. These efforts were being directed from Bellingham by Whatcom County Railway and Light, in whose name considerable right of way purchases had already been made. The purpose of withholding the announcement for so long was to prevent real estate speculation along the proposed route, causing land prices to rise.

Despite Wyman's assurances that the Bellingham interurban was next on the priority list, some of the other Stone and Webster projects ended up taking more time than originally thought necessary, especially the Seattle-Everett

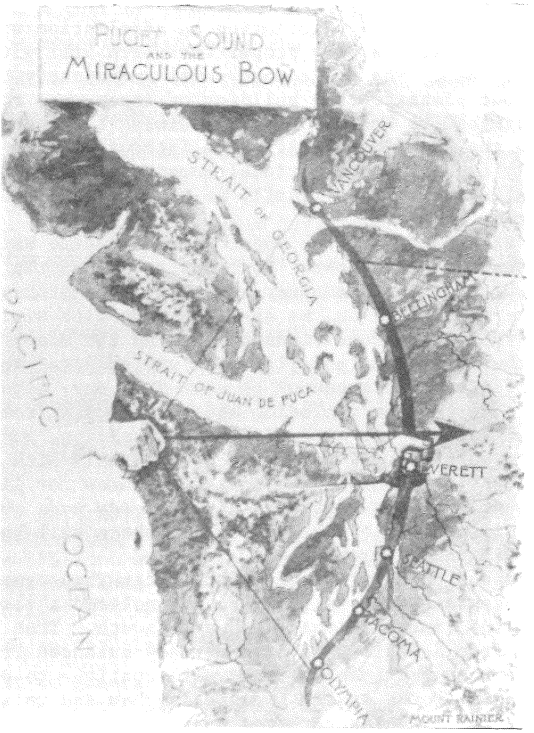


Figure 20. Stone and Webster's plan for linking the cities of the Pacific Northwest are portrayed in this illustration of "The Miraculous Bow." (Puget Power Collection, CPNS)

line. Begun by a Seattle real estate man named Fred Sander in 1906, Stone and Webster acquired the line in 1907. They were forced to rebuild the already completed 14 miles from Seattle to Lake Ballinger, since "Sander's ideas of building an interurban were not Stone and Webster's. . . . "[6] It was not until May 1, 1910, that the Seattle-Everett line was opened and full attention could be shifted north to Bellingham.

Competition

In the meantime, however, residents of the area north of Bellingham were becoming impatient with the delay. The desire for the construction of an interurban electric railway was especially strong in the Nooksack Valley, and attempts by residents of that area to gain financial support to build such a line into Whatcom actually predate the arrival of Stone and Webster on Puget Sound. The earliest of these efforts was a 1901 proposal by several Lynden businessmen to build an electric railway from Lynden to Whatcom via Marietta. The group incorporated as the Lynden Electric Railway and Improvement Company in 1902, and secured the necessary franchises to actually begin construction. However, in attempting to secure financial backing the company was swindled by a group of Wall Street financiers. A legal battle ensued, and the line folded in 1904 without ever laying a single rail.[7]

In 1905 some Ferndale promoters formed the Nooksack Valley Rapid Transit Company with the intention of building north to the border. Whatcom County Railway and Light's local manager kept a wary eye on these plans, and reported to Boston that there was talk that the Canadian Pacific might be involved.[8] This appears to have been the only serious threat to Stone and Webster's plans. Several other Whatcom County entrepreneurs attempted to form similar ventures, but were discouraged by a $1000 deposit required by the City Comptroller before a franchise would be considered. The Nooksack Valley line did deposit their money in November, 1908 but never progressed beyond some preliminary survey and grading work. The Ferndale group could not find sufficient financial backing and disbanded completely when Stone and Webster began work on their Bellingham interurban.

The Bellingham and Skagit Interurban Railway

On May 18, 1910--seventeen days after the Seattle-Everett interurban began service--the Bellingham and Skagit Interurban Railway was born. Incorporated in the state of Maine by three Portland (Maine) businessmen associated with Stone and Webster, the company's purpose was to build an electric railway "between

any point or points in the City of Mount Vernon. . .and any point or points in the Cities of Sedro-Woolley, La Conner, Burlington and Anacortes. . . ."[9] Also included were rights for extension and/or branch lines to Everett and the Canadian border, as well as land, timber, mineral, water, power distribution, telephone and telegraph rights. The capital stock of the new corporation was set at $1,000,000.

With the Bellingham and Skagit thus created, Stone and Webster proceeded to buy up most of the corporation's stock. Of the original 10,000 shares, Whatcom County Railway and Light bought 9,992 through the Bellingham and Skagit's secretary, Clement R. Ford. Ford was, not coincidentally, also the president of Whatcom County Railway and Light, having succeeded to the post on the death of Charles Wyman in November, 1907. From this point the "corporate shuffles" became even more complex. At any rate, Whatcom County Railway and Light ended up selling all its interurban right of way land and options, and the results of all the surveys made by Northern Railway and Improvement to the Bellingham and Skagit. The interurban company closed the deal on June 10, 1910 and the new railway moved a step closer to reality.

With the corporate structure of the Bellingham and Skagit established, at least temporarily, the next step was to secure the necessary franchises from the cities and towns on the proposed right of way. The Skagit County towns of Mount Vernon, Burlington and Sedro-Woolley acquiesced almost immediately, but Bellingham proved more difficult. The franchise was finally approved on October 17, 1910, by the Bellingham City Council, and read as follows:

> An ordinance of the City of Bellingham, granting to Bellingham and Skagit Railway Company, its successors, grantees and assigns, the right, privilege, authority and franchise to lay down conduits, erect poles, string wires, locate, lay down, construct, maintain and operate sundry tracks in, along, over and across sundry streets, boulevards, avenues, alleys, and other public places in said city, providing for the construction of switches, sidings, spur tracks and cross-overs; for the construction and maintenance of overhead bridges; and for the operation of such railway over existing and future lines of the Whatcom County Railway and Light Company, its successors, grantees and assigns.[10]

The company also accepted the "terms, conditions and restrictions" appended to the ordinance, the most significant of which was that, for the franchise to be final, the new interurban line must reach "the south city limits of Bellingham by July 1, 1911."[11] This requirement seems to reflect the frustrations of Bellingham merchants with the delays encountered by Stone and Webster projects

elsewhere on Puget Sound; it was, in essence, a challenge to "put up or shut up" after years of surveys, promises and speculation. Relations between the Bellingham and Boston factions remained extremely cordial, however, for when Louis H. Bean, the local manager of Whatcom County Railway and Light returned from a trip East in December, 1909, he had reported that ". . .the road could be financed and constructed provided the citizens of Bellingham and Skagit County would be willing to raise a certain proportion of the money."[12] Residents of the area responded by raising $400,000 to show their support for the interurban.

With the franchise problem finally out of the way, the Board of Directors of the Bellingham and Skagit authorized the execution of a general engineering contract on November 4, 1910, with the Stone and Webster Engineering Corporation. In the standard-form proposal considered by the directors, Stone and Webster offered: 1) consulting engineering, including "preliminary investigation of proposal engineering and construction work, estimate of the cost of proposed additions. . .and other miscellaneous advice and assistance in connection with construction and reconstruction work,"[13] 2) designing engineering, and 3) physical construction of the railway. In addition, the Bellingham and Skagit would also receive the benefits of "all the experience and facilities. . .which we have gradually developed during the past twenty years,"[14] as well as the use of Stone and Webster's purchasing and accounting departments.

For the rendering of these services, Stone and Webster was to receive the following:

1) consulting engineering--regular billing rate for actual time of men employed on such work less 10 per cent, plus incidental expenses.

2) designing engineering--6 per cent of cost of work designed plus connected expenses (other than those specifically mentioned as furnished at Stone and Webster's expense).

3) construction--10 per cent of cost of work designed and constructed and 7.5 per cent for work designed elsewhere, plus connected expenses.[15]

The Stone and Webster proposition was unanimously accepted for the period from July 1, 1910 to December 31, 1911. After signing the contract, the meeting adjourned and word was telegraphed to Bellingham to commence construction as soon as possible.

On November 10, 1910--less than a week after the signing of the contract--Stone and Webster began work on the Bellingham and Skagit. A number of Boston executives were present to witness a ceremony which included the driving of a "golden spike" at the foot of McKenzie Street where the interurban connected

with the Great Northern for its source of supplies. Perhaps the fact that the driving of a golden spike was done at the beginning of construction rather than at the end is indicative of the degree of optimism that pervaded the ceremony. On the same day, the cornerstone was to be laid for a new armory building on Elk Street, so the mayor of Bellingham declared a half-holiday and thousands of residents turned out to witness both events.

A number of prominent businessmen from Whatcom and Skagit counties attended the railway ceremony, and numerous speeches were made on the subject of ". . . the great benefits that had been derived by the energy of the far-sighted railway men in developing the resources of the great Northwest." The construction of interurban was lauded as marking ". . . an epoch in the history of the State, inasmuch as the citizens had become partners with Stone and Webster in this great undertaking by subscribing to $400,000 worth of stock in the project."[16] The celebration was concluded by an evening banquet given by the Bellingham Chamber of Commerce. About 200 of the area's most influential citizens attended, the occasion was a ". . . most enjoyable one, and the speeches all tended to show the good will and confidence of the people here in Stone and Webster."[17]

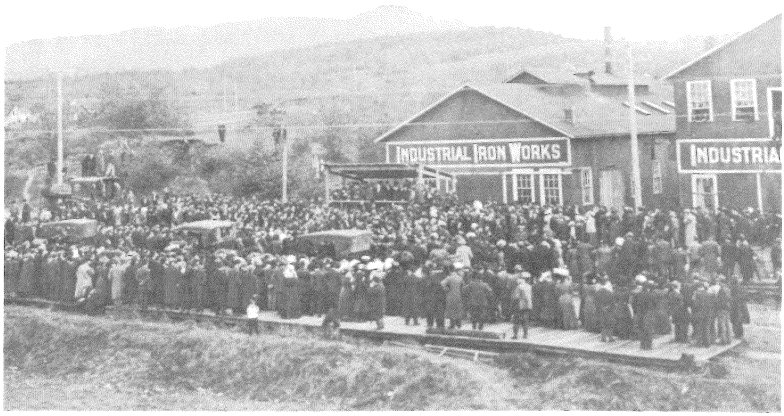


Figure 21. The November 10, 1910 "golden spike" ceremony at the foot of McKenzie Street, marking the beginning of construction of the interurban. (Puget Power Collection, CPNS)

The first phase of interurban construction was centered on the northern end of the line due to the requirements in the Bellingham franchise that it must reach the south city limit by July 1, 1911. Within this 4.3 mile segment lay

one of the line's most challenging obstacles--the deep ravine of Chuckanut Creek. Since weather precluded any major bridge construction until spring, the winter of 1910-1911 was spent working on the section of line between the intersection of Elk and Ivy Streets and the northern bank of Chuckanut Creek, and in completing the surveys in Skagit County.

Figure 22. A prefabricated section is lowered into place during construction of the Chuckanut Creek bridge. (Puget Power Collection, CPNS)

Work began on the Chuckanut bridge early in May, 1911, in what a Bellingham newspaper dramatically described as "a spectacular race against time."[18] Although the franchise deadline was almost two months away, the Stone and Webster engineers predicted that the bridge would be finished within 30 days, causing a flurry of interest in the project and securing a maximum amount of newspaper coverage. By June 1, everything was done with the exception of erecting power poles and overhead wires. The completed Chuckanut Creek bridge was 700 feet long and 130 feet

high. In order to save time during construction, sections were prefabricated on the north bank of the ravine and a five-ton capacity overhead cable system was used to lower the completed assemblies into place.

With the Bellingham franchise deadline safely out of the way, work was pushed south from Chuckanut Creek into Skagit County. From a work force of 600 men in seven construction camps in May, the numbers grew to 1000 men and eighteen camps by late summer. Stone and Webster was spending $7500 a week in Bellingham for provisions alone, and the daily payroll approached $1000.[19]

Immediately following the completion of the Chuckanut Creek bridge, the crews moved on to the next obstacle--a four-mile trestle from Clayton Bay to Blanchard. Since the Great Northern had constructed the "Chuckanut Cutoff" in 1902,[20] it occupied the only available right of way along the steep, rocky shoreline between Bellingham and Blanchard. Stone and Webster engineers decided that

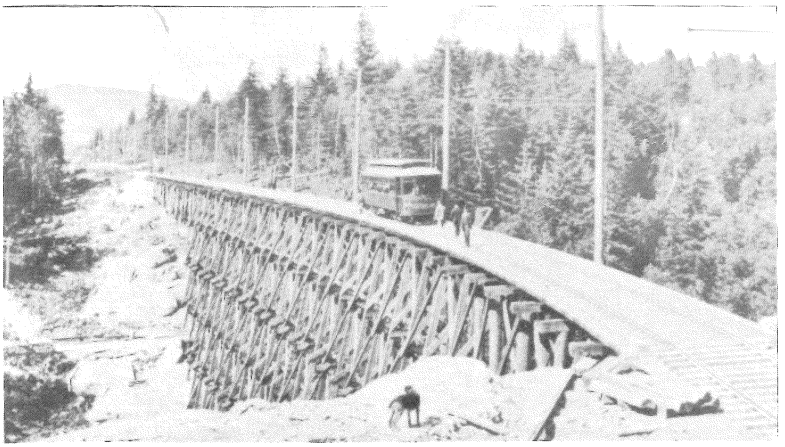


Figure 23. The Chuckanut Creek bridge, also called "Hibridge," as completed. Car on the span is Whatcom County Railway and Light #77. (Puget Power Collection, CPNS)

a long overwater trestle would be much cheaper than attempting to dynamite another route across the face of Chuckanut Mountain. The construction of this trestle consumed 500 cedar piles and three million feet of lumber,[21] almost all of which was towed to the site by barge at high tide. Lifting and placement of timbers was done by a gasoline-powered derrick.

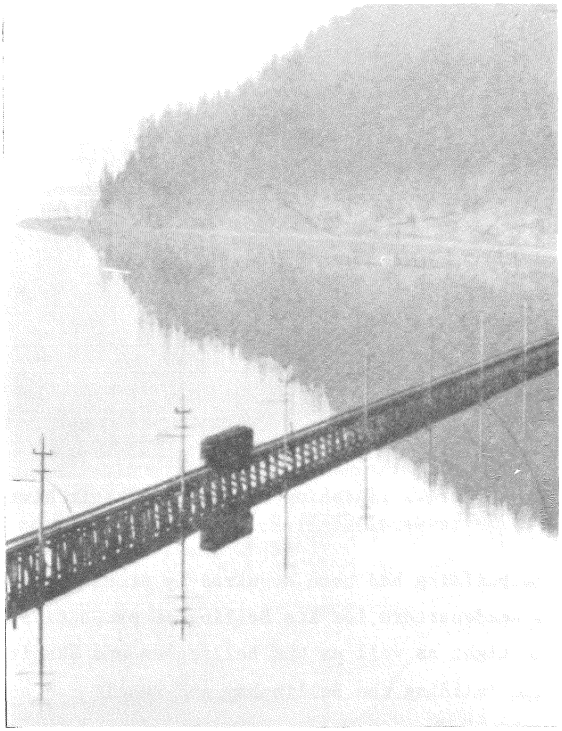


Figure 24. "The Trolley That Went to Sea," as the interurban company described the crossing of the scenic four-mile trestle along the shore of Samish Bay. (Puget Power Collection, CPNS)

A third major obstacle confronting the new interurban was the Skagit River. The speed with which the Stone and Webster engineers spanned this river set a company record. The bridge consisted of a 240-foot draw span, three 150-foot through spans, two 50-foot deck spans and 1430 feet of pile trestle approaches.[22] Construction was begun in January, 1912, to take advantage of low water conditions. The race against the slowly rising waters became serious by early May, but by the 15th of the month the concrete foundations and steel spans were safely in place. The approaches and track laying were completed during the summer and the bridge was ready well in advance of the September 1 completion deadline.[23]

The Bellingham terminal for the completed interurban was the Pike Block, a handsome three story building of Chuckanut sandstone on the corner of Elk and

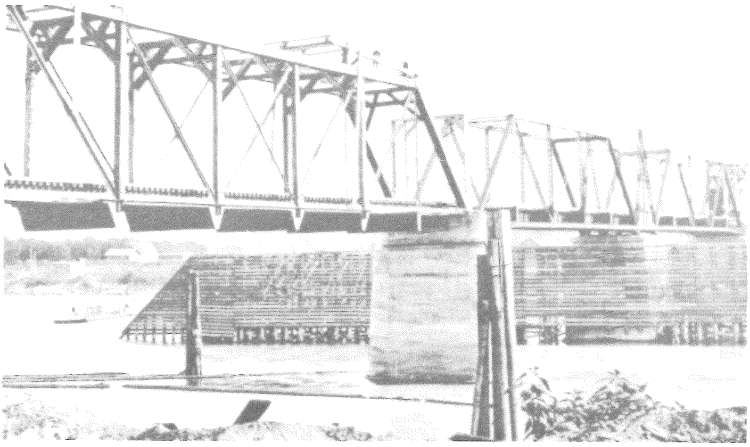


Figure 25. Work crews finishing up the new Skagit River bridge in August, 1912. (Puget Power Collection, CPNS)

Holly Street. The building had been acquired by Stone and Webster in October, 1910, to serve as headquarters for its Bellingham properties, including Whatcom County Railway and Light as well as the Bellingham and Skagit.

From the Pike Building the Bellingham and Skagit ran south on Elk Street on the streetcar tracks of Whatcom County Railway and Light. At Ivy Street the interurban right of way left the streetcar line and followed the west side of Boulevard and South Elk Street into South Bellingham. The line entered the old Fairhaven district on 10th Street; curving to the west it crossed Harris at 9th Street and then swung east along Padden Creek on the old Fairhaven and Southern Railroad right of way. Passing under today's 12th Street bridge, the interurban ran along the northern edge of Fairhaven Park and into the Happy Valley district. Between 23rd and 24th Streets the line made a sweeping curve to the south again. From Harris Street to the Chuckanut Creek bridge was an ascending grade of almost two miles. The southern end of the bridge was, at 200 feet above sea level, the highest point on the line.

For the next five miles the roadbed was literally carved out of the side of Chuckanut Mountain, and passengers were treated to a sweeping view of Chuckanut Bay and the distant San Juan Islands. Gradually the line descended to sea level, crossing the Great Northern at Clayton Bay, then ran out along the trestle on the

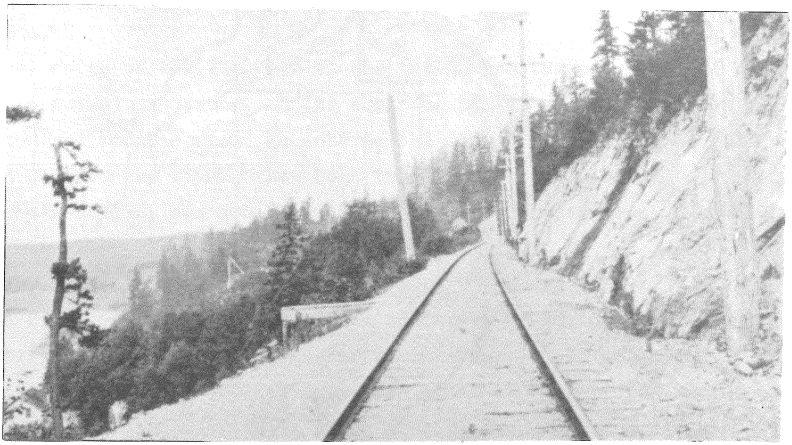


Figure 26. Looking north along the interurban right of way on Chuckanut Mountain. (Puget Power Collection, CPNS)

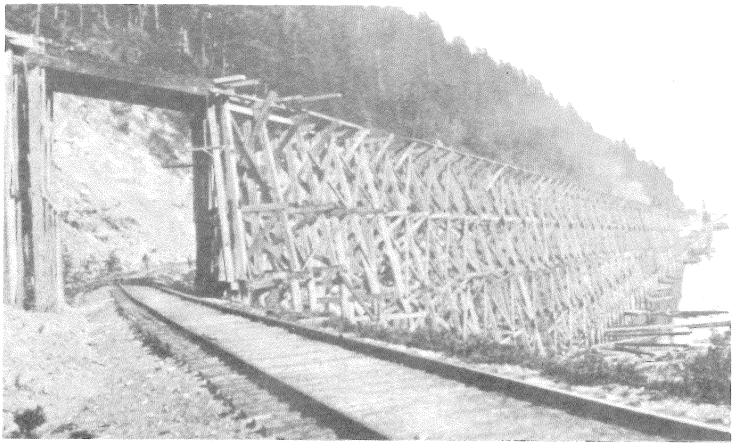
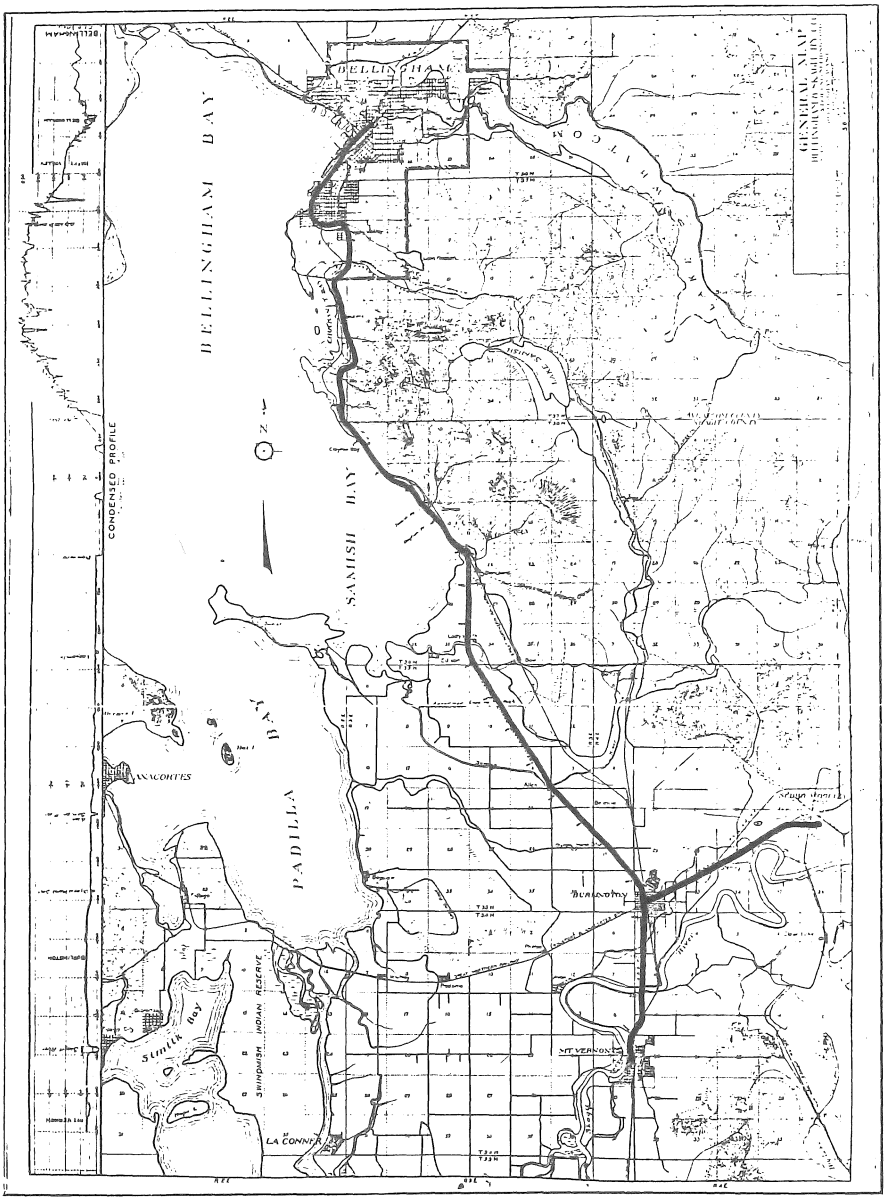


Figure 27. The Clayton Bay overpass which carried the interurban line across the Great Northern tracks and out onto the Samish Bay trestle. (Puget Power Collection, CPNS)



Map 12: The Bellingham and Skagit Interurban Railway: 1912. (Source: Stone and Webster Engineering Corp., "General Map and Profile of the Bellingham and Skagit Railway," 1911.)

shore of Samish Bay. After reaching the end of the trestle at Blanchard, the interurban ran due south to Edison Station (where today stands the Bow post office), then turned southeast for an eight-mile run across the Skagit Flats into Burlington.

Just north of the city limit, the interurban turned south and ran through Burlington on Walnut Street. After crossing the Skagit River midway between Burlington and Mount Vernon, it entered the latter by paralleling the Great Northern down to the river, then down 1st Street, across Division Street and over to Main Street, and down Main to the rear of the terminal between Pine and Kincaid Street.

From Burlington the branch line ran east from the station at Walnut and Victoria STreets to the Great Northern Anacortes to Rockport line, then parallel to the north side of these tracks for almost four miles. The line crossed the Great Northern at Sedro-Woolley's western limit and entered town on Woodworth Street. The Sedro-Woolley depot stood at Rita and Woodworth Streets.

As was the case with all of Stone and Webster's Puget Sound interurbans, the Bellingham and Skagit was built to steam railroad specifications and no expense was spared on engineering details. The total cost of construction approached $2,000,000--a figure which a mathematically-inclined Bellingham newspaper reporter further estimated as "$57,000 per mile" or "almost $12 a foot or $1 for every inch of rail in the line."[24] The main line from Bellingham to Mount Vernon was 27.5 miles long, while the Sedro-Woolley branch line measured 4.75 miles.

During the course of construction a steam locomotive was used to carry supplies to the work camps, as well as to haul rails, poles, ties and land fill. A rail-mounted steam shovel was used for excavation. The entire line was constructed of 60-foot sections of 70 lb. "T" rail, except within the Bellingham City limits and on the Samish Bay trestle where lighter 60 lb. rail was used. The rails were laid and power poles placed with a locomotive crane leased by Stone and Webster.

The Bellingham and Skagit was powered by 600-volt direct current from the Nooksack Falls power plant via the York Street Station of Whatcom County Railway and Light, which had been extensively modified in 1910 to handle the increased demand. This station was also capable of running the entire street and interurban systems by steam-driven generators alone in case of an interruption in power from Nooksack Falls. Two additional substations were built for the

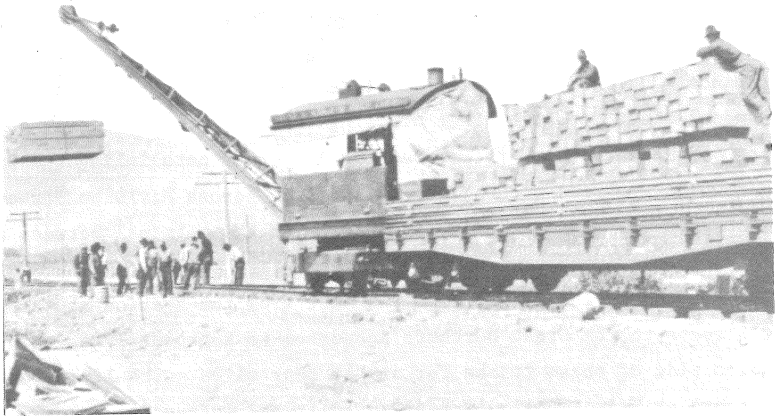


Figure 28. Locomotive crane unloading rails and ties near Burlington. (Puget Power Collection, CPNS)

interurban in 1911, one near the Great Northern overpass at Clayton Bay and another adjacent to the Burlington station.

The power transmission line consisted of #1 equivalent aluminum cable, while the feeder line was 500,000 c.m. copper cable. Power poles were located on the east side of the line, and the feeder wire suspended directly over the tracks by brackets on the power poles. On curves requiring pulloffs to the west, poles were placed on both sides of the track and the feeder line was suspended from span arms between the poles.

All of the interurban cars used a #4/0 grooved copper shoe (or "trolley") at the end of the spring loaded trolley pole on top of the car which remained in constant contact with the feeder wire. Although the Bellingham streetcars all used trolley wheels rather than shoes (the shoe being more suitable for high speed operation), the interurban cars were able to use the same overhead feeder wire in the downtown section with no difficulty.[25]

The main rolling stock of the Bellingham and Skagit consisted of four 58-foot steel interurban passenger cars purchased from the St. Louis Car Company in 1911. At the time of their acquisition, these cars were the most modern and efficient equipment available, and were described as being "the lightest per seated passenger of any interurban cars."[26] The Bellingham and Skagit paid

$72,000 for these cars, each of which was powered by four Westinghouse #304 interpole electric motors of 75 horsepower each. They were also equipped with Westinghouse air brakes and the latest Baldwin high speed interurban trucks. These four cars were assigned the numbers #75, #76, #77 and #78. All were painted olive green with black roofs, and "Bellingham and Skagit Railway" in gold lettering on each side.

Rather than purchase new freight equipment for interurban service, Stone and Webster borrowed a set of plans for a Baldwin electric locomotive from the

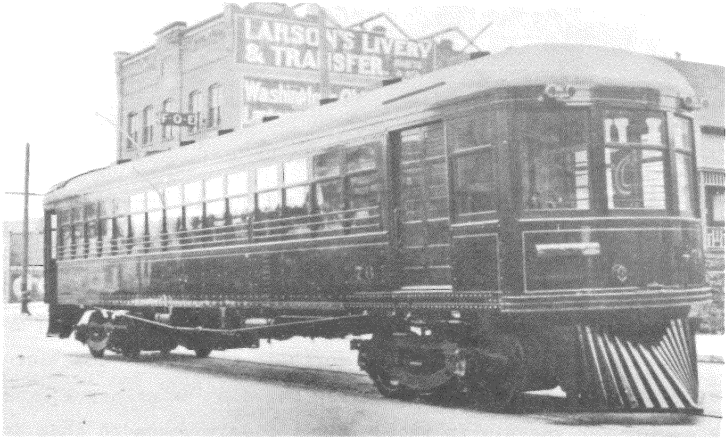


Figure 29. Interurban car #76 of the Bellingham and Skagit Railway on Elk Street in Bellingham. (Puget Power Collection, CPNS)

British Columbia Electric Railway and commenced to build a similar locomotive in the Bellingham car barn during the summer of 1911. Christened as #250 in October of the same year, this fifty-ton locomotive served as the line's heavy freight motor for twenty years. During the winter of 1911-1912 the shops of Whatcom County Railway and Light were kept busy with still more work for the new interurban. By the next summer they had also built a new express car (#251), twenty flatcars and four boxcars.

Summary

The completion of the Bellingham and Skagit gave Northwest Washington its first and only electric interurban line. Unlike the majority of Midwestern

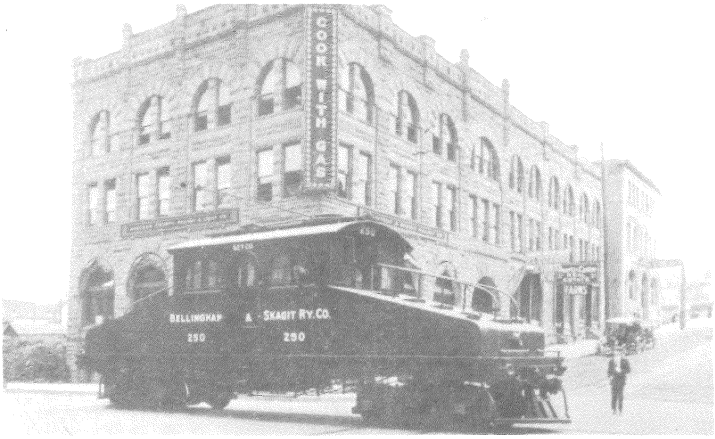


Figure 30. The new freight locomotive, #250, in front of the Pike Building at Holly and Elk. (Puget Power Collection, CPNS)

interurbans, the Bellingham and Skagit had been built to the much more demanding standards of a steam railroad. Although this heavier construction combined with the relatively rugged topography of the northern segment of the line had made the line extremely expensive, it ultimately saved on maintenance expenditures during the coming war years. In fact, it was widely conceded that Stone and Webster interurbans were deliberately "overengineered" as a matter of company policy.

The manner in which the route of the Bellingham and Skagit Railway so closely paralleled the existing Great Northern tracks was consistent with the interurban practice in other parts of the United States. The goal of the interurban was to provide frequent service with numerous stops in rural areas. On Puget Sound, the introduction of this type of service actually relieved the steam railroads of one of the more unprofitable types of operation. Relations between Stone and Webster interurbans and the Great Northern were to remain cordial until well into the 1920's for this very reason.

CHAPTER VI NOTES

[1]Hilton and Due, The Electric Interurban Railways in America, p. 3.

[2]Interstate Publishing Company, An Illustrated History of Skagit and Snohomish Counties, p. 215.

[3]For an entertaining but historically questionable account of the Fidalgo City and Anacortes Railway's first and last day of operation, see R. E. Foster, "You'll Have to Get Out and Push!," Puget Sound Electric Journal (September, 1929), p. 605.

[4]"Interurban Will Be Considered by Stone and Webster Interests," Bellingham Herald, June 2, 1906.

[5]Swett, "Pacific Northwest Traction Company," p. 3.

[6]Ibid., p. 3.

[7]Letter, Lynden Electric Railway and Improvement Company to Harald C. Mitchell, March 5, 1904.

[8]Whatcom County Railway and Light, Financial Report, February, 1906.

[9]Bellingham and Skagit Railway Company, Minutes of Stockholders' Meetings, meeting of May 4, 1910.

[10]Ibid., meeting of November 1, 1910.

[11]Cheever, "Electric Railroads in Whatcom County," p. 14.

[12]Stone and Webster, Public Service Journal, Vol. 6 (January, 1910), p. 58.

[13]Bellingham and Skagit Railway Company, Minutes of Stockholders' Meetings, meeting of November 4, 1910.

[14]Ibid.

[15]Ibid.

[16]Stone and Webster, Public Service Journal, Vol. 8 (January, 1911), p. 67.

[17]Ibid., p. 67.

[18]"Spectacular Race Against Time Made," Bellingham Reveille, May 7, 1911.

[19]"Crews Devour $250 Worth of Food Each Day," Bellingham Reveille, May 7, 1911.

[20]The "Chuckanut Cutoff" replaced the Great Northern's Chuckanut Valley-Happy Valley entrance into Bellingham in 1902. See Edson, p. 264.

[21]Stone and Webster, Public Service Journal, Vol. 11 (October, 1912), p. 26

[22]Ibid.

[23]Stone and Webster, Public Service Journal, Vol. 15 (December, 1914), p. 461.

[24]"Rushing Work on the Interurban," Bellingham Reveille, (no date).

[25]Stone and Webster, Public Service Journal, Vol. 11 (October, 1912), p. 264.

[26]Stone and Webster, Public Service Journal, Vol. 10 (supplement), p. 28.

CHAPTER VII

THE EARLY YEARS OF PACIFIC NORTHWEST TRACTION: 1912-1920

In the fortunes of electric railways in northwestern Washington, 1912 was a pivotal year. Not only did it mark the introduction of interurban service but also saw a major reorganization of all of Stone and Webster's Puget Sound transportation and utility companies. In January, Boston created the Puget Sound Traction, Light and Power Company to administer the Puget Sound properties from a central office in Seattle.

In Bellingham, the Whatcom County Railway and Light Company became the Bellingham Division of Puget Sound Traction, Light and Power, with separate railway, gas and electric light and power departments as before. The Bellingham and Skagit Railway was merged with the Seattle-Everett Interurban to form the Pacific Northwest Traction Company, and these were operated as the Northern and Southern divisions, respectively. In addition to interurban service, the Northern Division of Pacific Northwest Traction also handled the electric power and light business for Skagit County. The Boston office considered the division of Pacific Northwest Traction to be a temporary measure until the remaining link between Mount Vernon and Everett could be completed.

Interurban Service Begins

On August 31, 1912, the new interurban celebrated its formal opening. At 10:00 A.M. a special train left Bellingham

> . . .carrying practically all of the officials of the cities of Mount Vernon, Sedro-Woolley, Burlington and Bellingham, together with the officials of Whatcom and Skagit counties, the members of various commercial organizations, and a large representation from the Stone and Webster Club of Washington.[1]

Each town along the line received the train with festivities, banquets and speeches. Even an unfortunately typical summer rain "had little effect in dampening the enthusiasm of those participating. . . ."[2]

Pacific Northwest Traction began regular passenger and freight service the following day. Three of the new interurban passenger cars operated on the Bellingham-Mount Vernon line at ninety-minute intervals. The first car left Bellingham at 5:30 A.M., arrived at Mount Vernon at 6:45 A.M., and started back to Bellingham at 7:00 A.M. The last round trip car left Bellingham at 11:00 P.M.

Figure 31. August 31, 1912: opening day ceremonies for the new Pacific Northwest Traction Company. (Puget Power Collection, CPNS)

and returned at 12:30 A.M., arriving in Bellingham at 1:45 A.M. The fourth interurban passenger car was used on the Burlington-Sedro-Woolley line. From 6:15 A.M. to 12:45 A.M. this car operated every ninety minutes.[3] After the last run of the day, all of the cars returned to the Kentucky Street car barns in Bellingham where a night crew performed cleaning and necessary maintenance on them.

Passenger trains[4] were assigned numbers for scheduling purposes: southbound trains bore odd numbers 1-31, northbound trains had even numbers 2-32. Trains met at either Blanchard, where a siding was used, or at the "Y" at Burlington where connections were made for the Sedro-Woolley run.

Freight was handled by Pacific Northwest Traction at night after the last passenger cars had returned to Bellingham. The line's freight motor, #250, used the twenty flatcars and four boxcars built during the preceding year in the shops of Whatcom County Railway and Light. In keeping with the current notion of electric railways "opening up" new areas and new markets, Stone and Webster planned to handle mostly lumber and shingles until other types of local freight movement (fresh farm produce, milk, etc.) could be developed.

The opening of interurban service on the Northern Division of Pacific Northwest Traction was coincident with a tremendous upswing in the economy of Northwest Washington. Although Whatcom and Skagit counties had caught only the last two years of the nationwide slump of 1908-1912 due to a strong Oriental lumber market, business in Bellingham and the Nooksack and Skagit valleys was somewhat stagnant until late in the summer of 1912. That the local as well as the national economic picture would soon improve was evidently foreseen by the financiers in Boston or the interurban would probably never have left the drawing board.

The harvest of 1912 was one of the largest in local history and all through the following winter Bellingham and the towns in the Skagit Valley bustled with prosperous farmers. Real estate values began to climb and the number of building permits soared. In anticipation of the opening of the Panama Canal, the Whatcom Creek Waterway was dredged to allow ocean-going vessels to dock in the "heart of the city."

With the improvement of the local economy, there began a new phase of industrial development in Bellingham. In addition to the traditional lumber and fishing-oriented industries, some important new types of business were attracted to the area. Foremost among these was one of the largest cement plants in the western United States, constructed by the Olympic Portland Cement Company just west of Squalicum Creek. Another was an oil-distributing plant built by Standard Oil on the west side of the Whatcom Creek Waterway, the only such facility for oil-burning vessels north of Seattle and a boost for local shipping interests.

Downtown Bellingham began to show the effects of the new boom during the winter of 1912-1913 as many of the older wooden buildings were torn down and replaced by modern structures, including a new $325,000 federal building, a modern hotel and five new office buildings.[5] As has been previously mentioned, several miles of downtown streets were paved during this period, mostly by the street railway company. In early 1913, the old Bellingham Bay and British Columbia Railway was purchased by the Chicago, Milwaukee and St. Paul Railroad, giving Bellingham its third transcontinental line;[6] and the Inland Navigation Company, which operated steamships between the ports of Puget Sound began construction of a modern freight and passenger dock on the Whatcom Creek Waterway. Skagit Valley towns shared in the prosperity, too: in Mount Vernon, several miles of street were paved, and a similar project was begun in Sedro-Woolley. By

September, 1913, all three Skagit Valley towns had paved their main business streets.

The Threat of Competition

The success of the earlier interurbans on Puget Sound, especially the Puget Sound Electric Railway, and the news of Stone and Webster's construction of the Bellingham to Mount Vernon line spurred several competitors to action. The most serious threat was the Blaine-Lynden Electric Railway, which planned to build a line from Blaine to Lynden, then on to Bellingham and south to the Skagit Valley.

Two other competitors emerged from north of the Canadian border. The British Columbia Electric Railway in March of 1912, was ". . . ready to ask for a franchise in Bellingham and was surveying between that city and Blaine-White Rock. North of the border it was negotiating with the Great Northern for its abandoned right of way between Hazelmere and Blaine."[7] The British Columbia Electric Railway was aware of Stone and Webster's plan to link Portland, Oregon with Vancouver, British Columbia and evidently wanted to build the Bellingham-Vancouver link while Pacific Northwest Traction was preoccupied in constructing the Everett-Mount Vernon connection. A second Canadian effort, the International Railway and Development Company, was incorporated in July, 1912, with the object of building a 190-mile electric railway from Ladner to Seattle.[8]

While these competitors were undertaking surveys, planning routes, and, in the case of the British Columbia Electric Railway, actually purchasing rights of way, Stone and Webster was busily reorganizing its Puget Sound properties and trying to get the newer segments of interurban line running smoothly before undertaking any more major construction. It should be remembered that the construction of the Northern and Southern Divisions of Pacific Northwest Traction had been tremendously expensive, even by interurban standards, and the Mount Vernon to Everett branch would probably be even more so with the necessity of bridging both the Stillaguamish and the Snohomish Rivers.[9] Nevertheless, the uncompleted gap was causing much concern among businessmen, especially those in the Skagit Valley, and in April, 1913--only eight months after operations began on the Northern Division--a delegation from Mount Vernon formally proposed to Stone and Webster that the link be completed. The reply was that the company would do so in the near future.[10]

During the fall of 1913, the first signs that the recent economic boom might not last much longer began to appear. British Columbia was plunged into

a deep depression attributed to the cessation of railroad building activity and Canadians poured into Washington looking for work. The war clouds gathering in Europe served to dry up sources of capital for investment in new railroads and industries, and the Eastern lumber market began a rapid decline. Bellingham's lumber mills, all of which had been running in June, 1913 (for the first time in several years), began to close down again as conditions in Europe worsened.

The sudden outbreak of war in the late summer of 1914 affected Northwest Washington almost immediately. The December issue of the Stone and Webster Public Service Journal reported: "On account of Bellingham's proximity to Canada, much of the war excitement which is so prevalent there seeps across the boundary."[11] The naval engagement in November between units of the British and German fleets off the coast of Chile near Coronel caused great consternation in Victoria and Vancouver, and resulted in the mining of Canadian harbors and coastal waters, and the emplacement of coast defense guns. All plans for new electric railways, both American and Canadian, were shelved until the end of the war, which most investors believed would be only a few months to a year long.

The outbreak of war in Europe put the economy of the Pacific Northwest in a difficult situation. Since the United States did not enter the war until April, 1917, the area was forced to suffer the "negative" aspects of a wartime economy--lack of capital for improvements, new construction, or maintenance, uncertain markets, and trade restrictions, for instance--while the "positive" aspects, such as major government-sponsored construction projects and increased demand for raw materials were delayed for almost two years.

The fortunes of the Northern Division of Pacific Northwest Traction in the 1912-1920 time span of this chapter tend to fall into three distinct periods. These are the 1912 to 1914 boom period, the 1915 to 1918 slump, and the 1919 to 1920 postwar boom.

The Prewar Period: 1912-1914

Rather than launch a new construction project in the financially uncertain prewar years, Stone and Webster concentrated on improving the physical aspects of Pacific Northwest Traction and developing new markets and customers along the line's route. During 1913, improvements to the line consisted of a caretaker's house for the substation at Clayton Bay, remodelling the waiting room in the Bellingham terminal, building new depot facilities at Burlington and Sedro-Woolley, and the construction of several spur tracks.

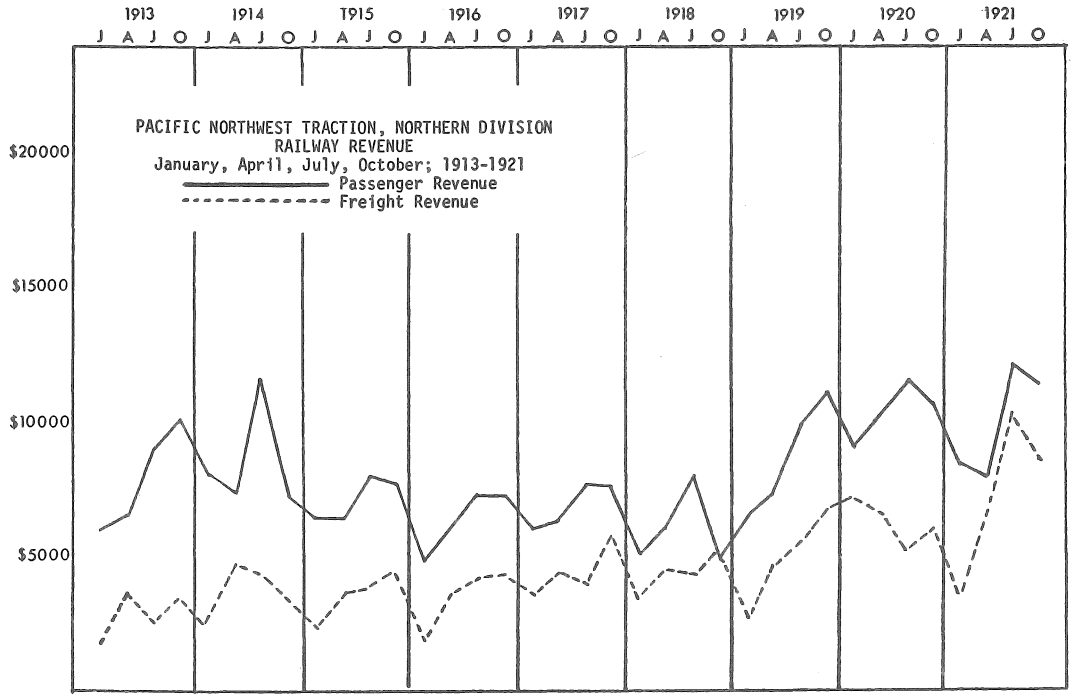
During 1914 the interurban company began several even more ambitious projects. Foremost among these was the decision to concrete the piles of the Samish Bay trestle due to damage from teredos (shipworms). Work was begun at Blanchard during the late summer and progressed at a rate of one hundred piles per day as far as Dogfish Point, where work was halted in October to wait for low winter tides to facilitate completing the last three-quarters of a mile to Clayton Bay.[12] To allow room for passenger cars to pass the work train unhindered, a spur line was constructed from the trestle to Rocky Point (also called Pigeon Point). Other projects undertaken during the summer of 1914 included a spur track at Hibridge "for the purpose of taking care of gravel shipments and shingles from various mills along the Samish Road."[13]

A graph of passenger and freight revenue (see Graph 2) reflects the rapid growth of service on the interurban during its first two years of operation. As was the case with street railways, both types of service exhibit a definite seasonality. Passenger revenue was highest during the summer months, reflecting family excursions, and, to a significant extent, tourism. The harvest in Skagit and Whatcom counties sustained passenger revenues well into the fall as cannery workers travelled between homes and seasonal employment. The drop during the winter months reflects the end of the canning season and the winter closure of most logging camps and lumber mills, the latter for annual maintenance.

Passenger revenue during the winter usually consisted of the "regulars": school children bound from rural homes to the nearest school, college students commuting to the Normal School at Bellingham, travelling businessmen and salesmen, farm wives going to town for shopping and loggers going to work. Weekend traffic was usually much heavier as whole families travelled together for visiting relatives or shopping trips.

The unsettled conditions brought about by the situation in Europe are mirrored in the 1914 passenger revenues: from a July peak of $11,781 they declined sharply, not to rise to similar heights again until 1920. The December, 1914 Financial Report contains this explanation:

> . . . the earnings in the Railway Department are approximately $1,200.00 less than last year, due to the fact that nearly all the mills in Whatcom and Skagit Counties are shut down, which directly reduced freight revenues on account of less cars handled and which indirectly reduced passenger earnings on account of a great many men being out of work who normally patronize the interurban.[14]


1913
1914
1915
1916
1917
1918
1919
1920
1921
J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O
$20000
$15000
$10000
$5000
PACIFIC NORTHWEST TRACTION, NORTHERN DIVISION
RAILWAY REVENUE
January, April, July, October; 1913-1921
Passenger Revenue
Freight Revenue

GRAPH 2

Freight revenue improved steadily during Pacific Northwest Traction's first two years. In addition to handling carloads of shingles, wood chips and gravel, the line gradually branched out into carrying fresh produce, milk and oysters. Milk was particularly important, for the interurban provided Skagit County farmers a means to get their fresh product to the dairies at Burlington and Mount Vernon in a matter of hours. Thus, the interurban was a major contributor to the rapid spread of the dairy industry in Northwest Washington during this period.

The beginning of another important service was noted in the March, 1913, Public Service Journal: "The interurban has given the local wholesale grocers a very convenient means of delivering into Skagit County, which should favorably affect their business."[15] Bellingham gradually became the source of many other types of wholesale goods for these small town merchants due largely to the service provided by Pacific Northwest Traction.

Another aspect of interurban freight service was that provided by the new express car, #251. Normally, one express run was made every day from Bellingham to Mount Vernon and return. Although the express service was never a great source of revenue for the interurban, it provided another useful service to the region which could not be duplicated by the steam railroads.

Still another source of revenue was from the handling, or "switching" as it was called, of rolling stock of the Great Northern, Northern Pacific and Chicago, Milwaukee and St. Paul railroads between local industries, especially lumber mills, and the Bellingham waterfront. Although most such movements were within the geographic domain of the Bellingham division of Puget Sound Traction, Light and Power, Pacific Northwest Traction had taken over this business in 1912 since its heavier freight locomotive was better suited than the light street railway equipment. Among the best examples of this service was the movement of Milwaukee cars between the Larson Mill on Lake Whatcom and Sehome Wharf, and the movement of Great Northern cars from Larson to the main line interconnection on McKenzie Street in South Bellingham.

War Years: 1915-1918

January, 1915, began a grim year in the economic history of the Pacific Northwest. In an article in that month's Public Service Journal, a Stone and Webster editorial compared the war to the fall of the Roman Empire in terms of the effect it could have on world civilization, although it observed that:

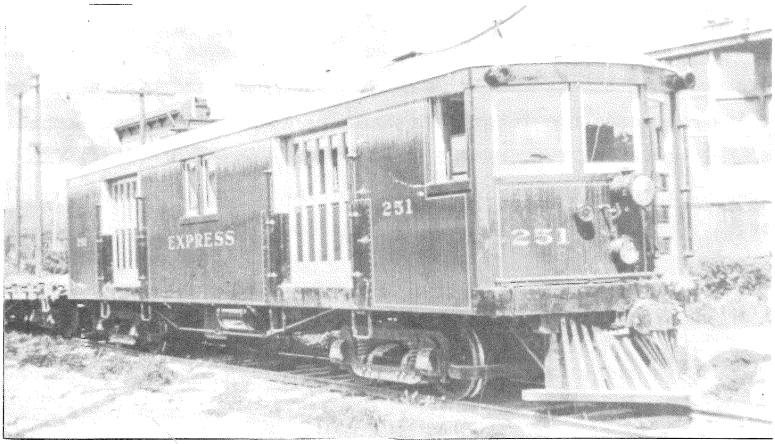


Figure 32. The interurban's express car, #251, pulling a train of flat-cars in South Bellingham, c. 1914. (Puget Power Collection, CPNS)

"Providence has a way of bringing good out of most of the evil of this life, and certainly in the past the world has been a great deal better after each of the great cataclysmic events. . . ."[16]

During the winter of 1914-1915, Pacific Northwest Traction passenger and freight revenues both declined. The loss in revenue was made even more noticeable by the completion of a segment of the Pacific Highway between Clayton Bay and Samish by the Quigg Construction Company of Seattle during 1914, a project whose early stages had provided the interurban with considerable passenger and freight earnings.[17] The closure of a major logging camp near Clayton Bay also depressed passenger revenue at this time. Both types of revenue managed to make their summer and fall increase, but the depressed state of the local economy, especially the lumber industry, was painfully obvious.

Conditions worsened during the summer of 1915. Although the harvest had been fairly good, extremely dry weather caused a number of serious forest fires. During August a forest fire caused serious damage to the wooden bridge over Chuckanut Creek, which forced the interurban to miss an entire weekend of traffic. Fires in Skagit County destroyed much pasturage, which led to a concurrent slump in milk revenue.

It was also during the summer of 1915 that a new danger appeared, one that would prove much more dangerous to the interurban than fires or depressions--the motor bus, or "jitney." At least two Skagit County entrepreneurs had begun using large touring automobiles to carry passengers between Mount Vernon, Sedro-Woolley and Burlington. Even though the jitney service was discontinued during the winter months, a potentially dangerous precedent had been set. For the rest of its existence the interurban would be locked in direct competition with the bus, the truck and the private automobile.

The jitney problem was by no means exclusive to the West Coast, however. First begun in Los Angeles in 1914, the jitney specialized in arriving at points on streetcar lines before the streetcar and picking off the bulk of the potential riders. The jitney also charged less for a ride. The movement spread like wildfire across the United States and by 1915 threatened almost all of the country's street and interurban railways.[18] Due to pressure on state legislatures by railway interests, the unregulated jitney was soon legislated out of existence, but the phenomenon carried a dire warning for the electric railways.

By early 1916 the business outlook was beginning to improve. The December, 1915, report to the Public Service Journal had observed that "While there has been no material improvement in the business situation in Bellingham, owing. . . to the closure of the Panama Canal, the general feeling is that this city has weathered the depression of the last few years very successfully."[19] The January, 1916, report optimistically noted that:

> The return of prosperity to the lumber industry is creating a hopeful feeling among businessmen in Skagit County. A number of logging camps tributary to the town[s] served by the Interurban are preparing to resume operations on a large scale. A number of large camps have been practically shut down for the last year or so and the resumption of their payrolls will again stimulate business in this territory.[20]

The report also noted that a recent increase in milk prices should be of considerable importance in improving the lot of the dairy farmer, many of whom had been forced to sell off parts of their herd during the previous year.

The slowly recovering lumber industry was dealt a hard blow in January, 1916, when the worst snowstorm since 1880 hit Puget Sound, causing many of the reopened logging camps to close down again and reducing the month's mill cut to one-fifth the normal amount. Pacific Northwest Traction managed to turn the situation to its advantage in February when melting snow caused slides to block the Great Northern's Chuckanut mainline:

> During this time (in fact, during all the snow and slide trouble) the Interurban had been able to operate continuously, and not only took care of its own business all along the line, but cared for the Great Northern passengers between Burlington and Bellingham, and on several occasions transported baggage, mail and work cars of that railroad.[21]

Figure 33. Locomotive #250 and the express car team up to traverse the Pacific Northwest Traction line after the blizzard of 1916. (Puget Power Collection, CPNS)

Passenger revenue during 1916 remained unusually low despite the reopening of the lumber mills and logging camps. The Bellingham manager attributed the slump mainly to bad weather, although it was mentioned that "considerable bus competition had sprung up" in the area, with the chief predators being a Burlington-Mount Vernon bus and a Bellingham-Blanchard-Burlington bus.[22]

Even if passenger earnings were disappointing, freight revenues were doing quite well, thanks to the lumber industry revival. Although the construction of a Chicago, Milwaukee and St. Paul spur into the Larson Mill had deprived Pacific Northwest Traction of a large share of its switching revenue, the loss was covered by the greatly increased output of the local mills. In Skagit County, the construction of a 32-mile logging railroad from Mount Vernon to Finney Creek via Clear Lake in 1916 by the Puget Sound and Cascade Railway[23] greatly boosted Pacific Northwest Traction's switching revenue. This spur had opened up one of

the finest stands of timber remaining in Western Washington, and Pacific Northwest Traction soon afterwards installed a switch to handle interline transfers of loaded log cars.

By late 1916, another serious problem had arisen, one which limited Pacific Northwest Traction's freight revenue. This was a shortage of railroad cars, a condition caused by heavy rail shipments east, especially of lumber, thus reducing the number of available "empties." The problem was further compounded by a shortage of ocean shipping, which led to storage of export materials in railcars until they could be shipped to Europe. In addition, the great quantities of grain from the intermountain states were not moving to the Pacific coast as usual, but to the East, further reducing the normal number of empty cars. This car shortage severely restricted the freight business of the interurban well into 1918, and ultimately restricted production in the lumber industry of the Pacific Northwest after all available storage areas had been filled to capacity with lumber for export.

The entry of the United States into European war in April, 1917, gave a tremendous boost to the gradual recovery of Western Washington from the depression of the previous two years. The improvement was most apparent in the Bellingham lumber mills: the Morrison Mill and Puget Sound Mill and Shingle Company both made the switch to full electric power for their machinery, and the waterfront Bloedel-Donovan mill began construction of new offices.

Advances were also made in Bellingham's fishing industry during 1917. The April Public Service Journal boasted that the city was ". . . rapidly forging to the front among the world's fish markets. . ." due largely to the efforts of Pacific American Fisheries. Since the decline of the Puget Sound salmon runs the company had purchased or built fifteen salmon canneries along the Alaskan Coast, for which Bellingham served as a supply base.[24] Pacific American Fisheries also operated a shipyard at its South Bellingham location, and the construction of wooden fishing boats provided employment for a considerable number of local men.

Skagit County was sharing in the increased prosperity due mainly to a booming milk market, with dairymen getting over four cents a quart and having to deliver it only as far as their front gate. The Pacific Coast Condensed Milk Company had purchased the John B. Ager condensery in Mount Vernon, and another large condensery was under construction there. At Sedro-Woolley the numerous lumber mills were cutting and shipping as much timber as the car shortage would

allow, and Burlington area farmers were enjoying the highest prices ever for their 1917 harvest, especially grain and potatoes.

Pacific Northwest Traction passenger revenue improved only slightly during 1917 despite the great increase in all of the local industries. This discrepancy was noted in the July Financial Report sent to Boston: "Business conditions throughout Skagit County would indicate that our [passenger] earnings should be somewhat higher than they really area, and the only way we can account for failure of our business to increase proportionately is because of privately-owned automobiles."[25] The report noted that the rapidly increasing number of automobiles combined with the growing mileage of paved roads between points served by the interurban was especially damaging to "short haul" business. It is significant to note that this observation was made during the summer months when the automobile's effect on the interurban's traditional peak period was most noticeable.

The graph of passenger and freight revenue (Graph 2) clearly shows the increasing importance of the latter in the interurban's total railroad revenue during 1917. Most of the increase in freight came from shipping machinery and grain crops over the main line,[26] but switching revenues from the Bellingham and Sedro-Woolley lumber mills and the Mount Vernon condenseries were also significant.

Pacific Northwest Traction entered 1918 with high hopes of sharing in the economic improvement that was taking place on Puget Sound. In addition to the large numbers of men working in Bellingham lumber mills, local shipyards were swamped with government orders for wooden vessels. Both of the cement plants--Olympic Portland Cement at Bellingham and Superior Portland Cement at Concrete--were operating to capacity and providing additional employment.

Despite the sudden prosperity in Whatcom and Skagit counties, however, the interurban was to suffer one of its worst years. The first blow fell in January when heavy flooding caused washouts and damaged track on the Skagit Valley portions of the line. The interurban was unable to resume full service until early in February on the main line, and on February 23 for the Sedro-Woolley segment. Flood damage necessitated the replacement of track and power poles and lines in several places, and the raising of the entire roadbed between Edison and Sunset.

During April, two serious mill fires eliminated a significant portion of the interurban's freight business: The Edison Shingle Mill was completely destroyed, while a large portion of the plant of the Clear Lake Lumber Company was damaged by fire soon afterwards. The shingle mill remained closed for several

years, and the Clear Lake plant was forced to close for several months while repairs were made. Pacific Northwest Traction's freight revenues were dealt another blow when the United States government's December 1917 take-over of the steam railroads resulted in a further shortage of available freight cars during the summer of 1918. The government action also temporarily eliminated the interurban's interline freight connections with the Chicago, Milwaukee and St. Paul, a major source of switching revenue.

The problems besetting the Northern Division had not escaped notice by the parent Puget Sound Traction, Light and Power Company, and in April, 1918, one of the big St. Louis passenger cars was transferred to the Southern Division where passenger traffic was considerably heavier. To avoid major schedule changes, this car was replaced by renting streetcar #79 from the Bellingham Division.

The last and most devastating blow to Pacific Northwest Traction during 1918 came during the fall, when Puget Sound was hit by a serious epidemic of influenza. The October report to Boston describing the loss in revenue stated that ". . . the closing of the schools, churches, moving picture houses and the ban placed upon all large gatherings. . . reduced passenger riding to the minimum. . . . "[27] The effect of the influenza epidemic on passenger revenue is clearly illustrated in Graph 2 where for the first time in the existence of the interurban freight revenue equalled that produced by passengers.

During the war years very little was done in the way of major construction or maintenance on the interurban. This was attributable to a lack of capital, and, after the United States entered the war, a lack of available labor. Two major projects which were repeatedly delayed during the war years--further preservation work on the Samish Bay trestle pilings and riprapping of the Skagit River bridge--would later prove to be much more difficult and expensive than if they had been completed sooner.

Pacific Northwest Traction did manage to make a few minor improvements during the war, however. During 1917 two spur tracks were constructed, one at South Grandview (or Chuckanut, as it is called in the schedules) and another at Burlington. Also, several waiting shelters were built along the Chuckanut portion of the line. All of these jobs took over a year from planning to completion due to the shortage of labor. During the following year the only new construction was a freight shed at Edison Station, since almost all available labor and money had been used to repair the flood damage.

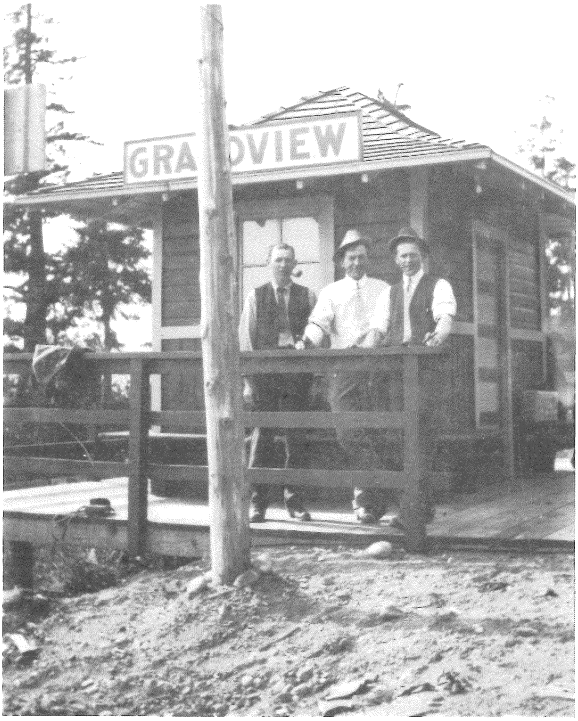
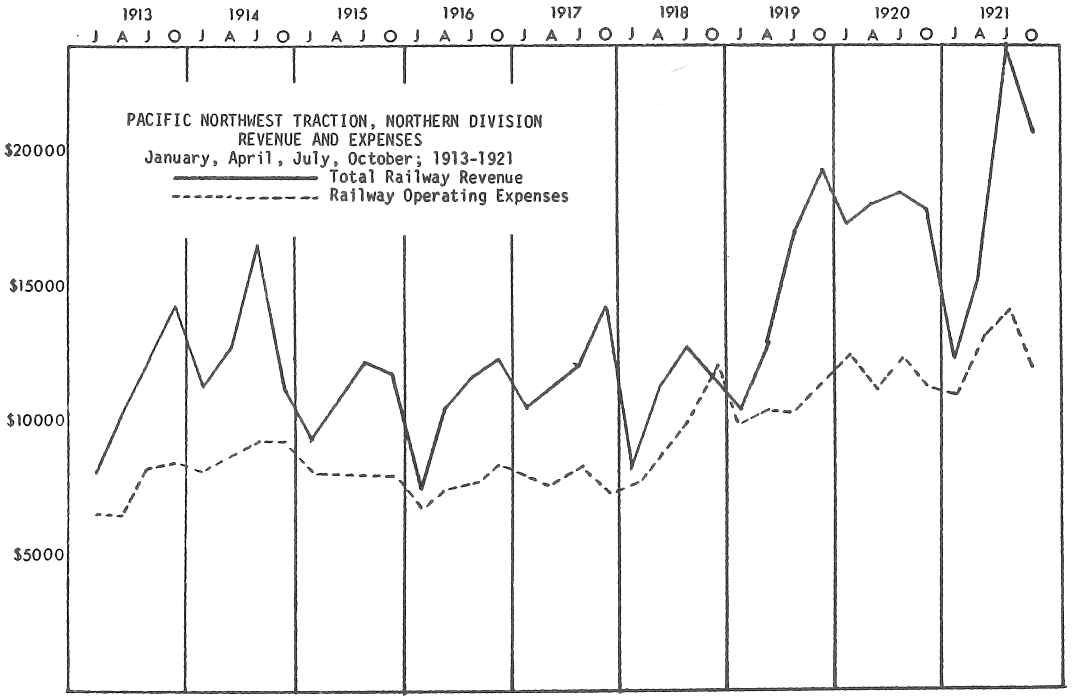


Figure 34. A typical waiting shelter built on the Chuckanut portion of the line in 1917. This is the Grandview stop, one-half mile south of the Bellingham city limit. (Mrs. Robert Sand)

The labor shortage during the war was compounded by inflation which caused Pacific Northwest Traction's operating expenses to climb sharply. Interurban trainmen whose rate of pay was relatively constant between 1913 and 1917 received two substantial pay increases during 1918. For example, a motorman with less than one year's service had his hourly pay raised to $.39 in April, 1918, and to $.53 in October. During August, in response to these increased expenses and a flat 25 per cent increase in steam railroad rates, the interurban raised its minimum car load rates 100 per cent, and all other rates 15 to 25 per cent, ". . . except where it would invite auto competition."[28] The relationship between revenue and increased expenses is depicted in Graph 3.


1913
1914
1915
1916
1917
1918
1919
1920
1921
J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O
PACIFIC NORTHWEST TRACTION, NORTHERN DIVISION
REVENUE AND EXPENSES
January, April, July, October; 1913-1921
Total Railway Revenue
Railway Operating Expenses
$20000
$15000
$10000
$5000

GRAPH 3

The Postwar Boom: 1919-1920

If the beginning of the First World War had come as a shock to the economy of Puget Sound, the war's sudden end in November, 1918, was no less a shock. The wartime boom which had enveloped the industries of the region for over two years now threatened to collapse. Seattle and Tacoma were particularly hard hit due to government cancellation of shipyard and grain contracts, but Whatcom and Skagit counties were to ride the crest of the war boom for several more years.

Steadily improving business conditions in Bellingham and the Skagit Valley caused a rise in passenger revenues during 1919. Passenger traffic was further augmented by an extremely successful harvest in Skagit County and an ambitious road building program in both counties which made a number of routes temporarily impassable, particularly the Pacific Highway between Bellingham and Blanchard. The operation of both the Samish Bay Logging Company and the re-opening of the Edison Shingle Mill during the fall of 1919 further boosted passenger traffic.

Even more impressive were the advances made in freight handling by Pacific Northwest Traction during 1919. Despite a somewhat slow start as uncertainty over the lumber market reduced the movement of cars between the Larson Mill and the Great Northern line at South Bellingham, freight revenues climbed steadily during the early part of the year. The government's elimination of the Chicago, Milwaukee and St. Paul connection and a shortage of tanker vessels which caused Standard Oil to move oil into Mount Vernon via the Great Northern rather than to Bellingham by ship and thence by interurban to its destination further reduced freight business but these losses were soon obscured by the movement of the Skagit County harvest.

During the summer of 1919, freight revenue increased still more after a spur was constructed into the Carnation Milk Products plant in Mount Vernon, and Pacific Northwest Traction began handling condensed milk shipments. A contract was also secured to provide the Carnation plant with "hog fuel" (wood waste) from the Bellingham Bloedel-Donovan mills. The interurban also handled shipments of cement to the construction crews working on the road paving projects south of Bellingham.

Another aspect of interurban service which made great strides during this period was the movement of express shipments. Although never a major producer of revenue, the express service nevertheless grew substantially during the war years.

The two most frequently mentioned items carried were perishable dairy products, such as ice cream, and automobile parts. With the rapid growth of the Skagit County fruit and berry industries, the express service was also used during the early postwar period for shipment of fresh fruit to Bellingham canneries.

The period of postwar prosperity on Northern Puget Sound continued well into 1920. As was usual when local lumber mills were operating to capacity, there was a shortage of freight cars which damaged Pacific Northwest Traction's switching business, but on the whole things had never looked better. It appeared that the interurban was on the verge of the prosperity and success for which it had been originally designed.

Passenger revenue remained relatively high during the late winter and spring months as the logging operations along Samish Bay and the roadwork on the Pacific Highway continued. The latter kept the waterfront road closed until late summer, further increasing passenger traffic. When the highway was opened at the end of the summer, passenger revenue dropped sharply.

Freight business on the line followed a similar pattern during 1920. Of increasing importance was the shipment of coal from the recently opened mines in Bellingham to Skagit County, while the shipment of wood and slabs to Edison, Burlington and Sedro-Woolley remained stable. The hauling of cement from Bellingham to points along the Pacific Highway decreased as the work there was completed.

By the fall of 1920, however, all types of revenue brought in by the interurban were beginning to drop as the Pacific Northwest began to feel the general business depression that was affecting the entire country. The slump was caused by the contraction of European markets for American agricultural products and world overproduction caused by the war. Higher taxes and mounting prices for manufactured goods combined with declining prices for crops and the burden of debt contracted during the prosperous wartime years sent American agriculture into a depressed period that would last for over a decade.

First to feel the crunch was, as usual, passenger traffic. The opening of the Pacific Highway between Bellingham and the Skagit Valley combined with the closing of many of the logging camps and mills had an immediate effect on passenger service. A twenty per cent increase in fares, a result of wartime inflation, became effective in September but even this could not cover the loss in actual numbers of passengers.[29]

Freight revenue began to sag as lumber mills began to close. Milk prices declined to a point where two of the Mount Vernon condenseries shut down completely, and a poor grain crop combined with the drop in market prices provided no relief. Even express shipments declined since the construction of two new canneries at Burlington and Sedro-Woolley cut down the amount of fresh fruit sent to Bellingham canneries. The movement of automobile parts via express car remained, however, prophetically stable.

The increased prosperity during the postwar period did allow the interurban a chance to finally perform some of the desperately needed maintenance that had been postponed since 1915. During 1919, a new freight station was constructed at York and State to relieve congestion at the old Bay and Holly location. Pacific Northwest Traction also built ten new flatcars and completely overhauled the bodies and trucks of the interurban passenger cars. The riprapping of the supports of the Skagit River bridge was finally completed, and a mooring dolphin was built under the structure.

During 1920 the long-postponed preservation work on the Samish Bay trestle was begun. The application of concrete to the pilings begun in 1915 had proven unsatisfactory, so Pacific Northwest Traction had decided on using the "gunite" process. Using this method, a mixture of cement, sand and water was applied to the pilings with a pneumatic cement gun. The operation required assembling a special train to carry all of the necessary materials and machinery, and the work had to be planned around freight and passenger schedules as well as the tides.

The "guniting" of the trestle began in April and took until late summer to complete. The longer pilings on the Clayton Bay to Dogfish Point segment--the portion left uncompleted in 1915--required the most work. The Northern Division was so satisfied with the guniting process that a three-page article with eight pages of photographs was sent to the Stone and Webster Public Service Journal,[30] following a preliminary experiment with the process that had been performed during the fall of 1919.

A final long-overdue maintenance job undertaken during 1920 was the replacement of a large number of wooden ties which had deteriorated over the years. Other minor projects included repainting the Skagit River bridge and several of the passenger cars.

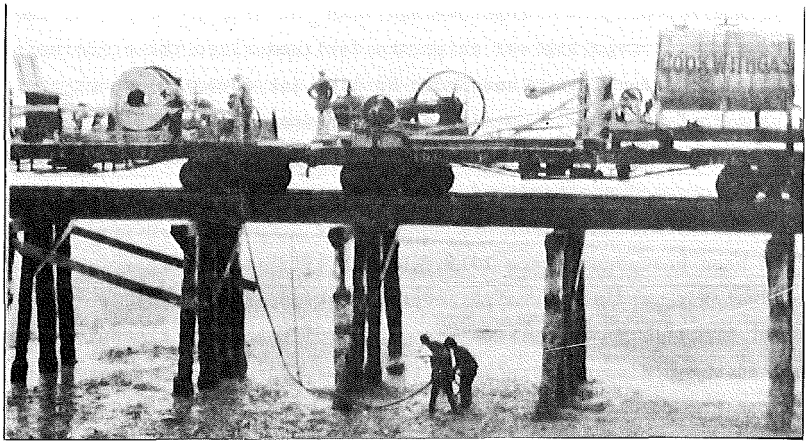


Figure 35. The special gunite train and crew working on the Samish Bay trestle. Note that the water tank on the flatcar is the one originally built for the street sprinkler car in 1908. (Puget Power Collection, CPNS)

Summary

Despite the trials and frustrations of the first years of Pacific Northwest Traction operations, the interurban had played a significant role in the development of the area which it served. It is quite probable that had the First World War not occurred, the interurban would have played a much larger role, as indeed it had been planned to do.

The most significant change during the interurban's early years was the gradually increasing importance of agriculture in the economy of the Puget Sound region. In the interurban's hinterland, the shift to agriculture from forest and fishing industries was most pronounced in the Skagit Lowland. The interurban's greatest impact was on the growth of the dairy industry since it first provided the means to ship fresh milk to the condenseries, although by 1918 the motor truck had taken over most of this service.

The interurban also played a major part in the postwar expansion of the fruit and berry industry by providing Skagit County growers with rapid access to Bellingham canneries. Numerous small businesses along the Pacific Northwest Traction right of way owed their existence to the line, including logging camps, gravel pits, commercial oyster growers, country stores and the like. The

interurban also was instrumental in the construction of the network of paved roads in Skagit County and of the Pacific Highway, arteries of transportation which would soon drive the electric line out of business.

The delay in necessary maintenance and new construction, especially of the projected Mount Vernon-Everett link, combined with road building and rapid advances in internal combustion engine technology occasioned by the war caused Pacific Northwest Traction to begin to lose most of the market it had created to the truck, the bus and the automobile by 1920. Consequently it was the war which, although bringing temporary prosperity to the interurban, had sealed its fate and started it on the long road to collapse.

CHAPTER VII NOTES

[1]Stone and Webster, Public Service Journal, Vol. 11 (October, 1912), p. 261.

[2]Ibid.

[3]Cheever, "Electric Railroads in Whatcom County," p. 17.

[4]It should be noted that interurban cars were referred to as "trains" even though they almost always operated as a single unit.

[5]Stone and Webster, Public Service Journal, Vol. 12 (April, 1913), p. 278.

[6]On January 1, 1913 the Chicago, Milwaukee and St. Paul Railroad acquired the Washington properties of the Chicago, Milwaukee and Puget Sound Railroad, a subsidiary which had been buying up smaller railroads, including the Bellingham Bay and British Columbia and the Bellingham and Northern. Since the Whatcom County portion of the line only ran from Bellingham to Glacier, freight cars were carried to the main line at Seattle by rail barges which sailed from the company's dock at the foot of Dock Street (now Cornwall Avenue).

[7]Swett, "Pacific Northwest Traction Company," p. 3.

[8]Ibid., p. 3.

[9]Bruce B. Cheever in "Electric Railroads of Whatcom County," p. 14, attributes the failure of Stone and Webster to construct the missing link solely to the cost of bridging the Snohomish and its tributaries.

[10]Swett, "Pacific Northwest Traction Company," p. 3.

[11]Stone and Webster, Public Service Journal, Vol. 15 (December, 1914), p. 471.

[12]Pacific Northwest Traction, Financial Report, October, 1914.

[13]Pacific Northwest Traction, Financial Report, June, 1914. The "Samish Road" paralleled the abandoned Fairhaven and Southern (later Great Northern) right of way from the Chuckanut Creek bridge east to Lake Samish.

[14]Pacific Northwest Traction, Financial Report, November, 1914.

[15]Stone and Webster, Public Service Journal, Vol. 12 (March, 1913), p. 197.

[16]Stone and Webster, Public Service Journal, Vol. 16 (January, 1915), p. 3.

[17]Pacific Northwest Traction, Financial Report, February, 1915.

[18]Hilton and Due, The Electric Interurban Railways in America, p. 234.

[19]Stone and Webster, Public Service Journal, Vol. 17 (December, 1915), p. 451.

[20]Stone and Webster, Public Service Journal, Vol. 18 (January, 1916), p. 48.

[21]Stone and Webster, Public Service Journal, Vol. 18 (March, 1916), p. 255.

[22]Pacific Northwest Traction, Financial Report, May, 1916.

[23]Cheever, Railroads of Washington State, Vol. 2, p. 49.

[24]Stone and Webster, Public Service Journal, Vol. 20 (April, 1917), p. 298.

[25]Pacific Northwest Traction, Financial Report, July, 1917.

[26]Pacific Northwest Traction, Financial Report, September, 1917.

[27]Pacific Northwest Traction, Financial Report, October, 1918.

[28]Pacific Northwest Traction, Financial Report, August, 1918.

[29]Pacific Northwest Traction, Financial Report, September, 1920.

[30]Stone and Webster, Public Service Journal, Vol. 25 (October, 1919), p. 292.

CHAPTER VIII

THE ROAD TO COLLAPSE: PACIFIC NORTHWEST TRACTION, 1921-1930

The year 1921 was another critical turning point in the fortunes of Pacific Northwest Traction. The next decade would be one of tremendous economic growth for Whatcom and Skagit counties. Unfortunately, the interurban would share in this prosperity for only a few brief years before being eclipsed in public favor by the motor vehicle. The introduction of bus service by Pacific Northwest Traction in 1921, first as a feeder to the electric railway and later as a direct competitor, only served to accelerate the decline of train service.

The Good Years: 1921-1922

By January, 1921, Whatcom and Skagit counties were locked in another serious depression. A decline in the Eastern and Midwest lumber markets gradually brought rail shipment of lumber east to a halt, and the few overseas orders placed were being filled from stockpiles accumulated during the recent car shortage. All but one of the Bellingham mills was closed, and in Skagit County the mills in Anacortes and at Clear Lake were forced to reduce wages as an alternative to closing down completely.[1]

Conditions in Skagit County were worsened by a rain-damaged 1921 harvest, and the lowest milk prices in years. Both of the major Mount Vernon condenseries--Federal Condensed Milk and Carnation Milk Products--went to partial operation.

As might be expected, Pacific Northwest Traction's freight revenues reflected these conditions. The primary reason for poor freight business was the lack of lumber and shingle movement. Both the Edison and Blanchard mills closed completely, and reduced operation at Bloedel-Donovan in Bellingham eliminated much of the switching business. Partial operation of the Skagit condenseries reduced the movement of both milk products and hog fuel from the Bellingham mills. Movement of coal from the Bellingham mines to the Puget Sound and Cascade Railway was reduced when most of the logging camps in the Clear Lake area closed down. The only bright spot at all in the picture was increased handling of gasoline from the Standard Oil plant at North Mount Vernon.

Despite the twenty per cent increase in fares the previous year, interurban passenger revenues remained low during 1921 because of the region's

depressed economic state. However, the Boston and Seattle offices were aware that the interurban was losing a large part of the long-distance passenger business to the steam railroads because of the missing segment of electric railway between Mount Vernon and Everett. During the spring of 1921 plans were begun for a massive reorganization of Pacific Northwest Traction to improve service and recapture the lost passenger revenue. This improvement program was made possible by the increased availability of capital for investment purposes by the Boston office and perhaps by a touch of guilty conscience for the way the interurban's maintenance had been neglected during the war years.

The first phrase of the improvement program was the integration of bus service into the operations of Pacific Northwest Traction. In June of 1921 Stone and Webster formed the Interurban Motor Company to provide bus service between the Everett and Mount Vernon termini, in order to eliminate the service ". . . now disposed of by irregular and irresponsible wild-cat busses [sic]. . . ."[2] The contract for providing this bus service was awarded to the Thompson and Smith Company of Tacoma, whose excellent Olympia to Tacoma service had impressed many people, most notably state legislators travelling to and from sessions at the state capital.

The March, 1921, Public Service Journal described the new equipment in glowing terms:

> The busses [sic] which will be put into this service will be very luxurious, with long wheel bases, air shock absorbers, heavy upholstering, and heavy glass windows. . . [they] will seat fourteen passengers, and, except for the inconvenience of changing at Mount Vernon and Everett, will make a more convenient and pleasant trip, with more frequent service at a less [sic] cost than the steam railroads are charging at the present time.[3]

An advertising campaign for the new service was begun soon afterwards which emphasized these points--frequent service at less cost.

The connection of the Northern and Southern divisions by bus was viewed by Stone and Webster as a cheaper alternative to the construction of a rail link. It had been made possible by the completion of the paving of all but about six miles of the Pacific Highway between Bellingham and Everett the previous year. The bus service was a daring step for the time, and Stone and Webster officials observed: "The experiment will be watched with much interest by those who are engaged in the transportation business, as it may develop possibilities for connecting lines and long distance travel."[4]

Another aspect of the introduction of bus service in this reorganization was the arrangement of a traffic agreement between Pacific Northwest Traction and the smaller bus lines which had proliferated since the end of the war in Whatcom and Skagit counties. In return for acting as "feeders" to the electric railway, these smaller companies were allowed to use Pacific Northwest Traction terminal facilities. Thus, bus service between Blaine, Lynden, Custer, Ferndale, Sumas, Nooksack, Everson, Glacier, Maple Falls, Kendall and Deming used the Bellingham terminal; Hamilton, Concrete and Lyman buses used the Sedro-Woolley station; and Anacortes, LaConner and Clear Lake lines fed directly into the Mount Vernon terminal.

During the summer of 1921 considerable time and money was spent in upgrading railway passenger equipment. The Southern Division had returned car #76 in June, and the Bellingham Division streetcar being used on the Sedro-Woolley line was replaced by the old Whatcom County Railway and Light funeral car, which had been modified for the job. This freed all four St. Louis cars for use on the main line. In August and September all of these four cars were regeared and the Westinghouse #304 electric motors modified to increase their speed. This reduced the actual travel time between Bellingham and Mount Vernon to forty-five minutes instead of one hour, for now the cars could hit sixty-five miles per hour on the straight stretches of the Skagit Flats, thus permitting hourly service on the main line.

The most expensive of the projects undertaken to revive the interurban was the improvement of the right of way. A survey undertaken by a team of Stone and Webster engineers during 1920 revealed that expensive repairs were necessary on most of the line's bridges and trestles. Early in 1921 repairs were made to most of the smaller frame bridges, including those at 14th Street (South Bellingham), Edison, Big Ditch, Slough Bridge, Varney, Samish River and South Riverside (Mount Vernon). The northern approaches to the Skagit River bridge required new piling and the roadbed across it was redecked.

Several of the wooden trestles were in much worse shape, so it was decided to fill them in. This was a major operation which required renting a steam locomotive, dump cars and a large railroad steam shovel for excavating fill. Five trestles were filled during the summer of 1921 at a cost of almost $50,000.[5] These included two on the Chuckanut portion of the line--Gravel Pit and Wildcat Cove--and three smaller ones in Skagit County. Some filling was also done on the Chuckanut Creek bridge. Plans were made to continue the trestle filling program into 1923, an indication of how badly the line had deteriorated.

Figure 36. Part of Pacific Northwest Traction's 1921 trestle filling operation: the Gravel Pit fill between Chuckanut and Wildcat Cove. (Puget Power Collection, CPNS)

Attention was also directed toward major improvements in interurban terminal facilities, with Mount Vernon being the first to be improved. Work had started in 1920 when the turntable south of the depot was replaced with a loop track to permit faster turnaround of interurban cars. During the summer of 1921 the inside of the terminal was enlarged and remodelled to accommodate a larger waiting room and a new lunch counter. On the north side of the building additional property was purchased and a paved entrance way for buses constructed. Over the entrance way a sixty foot by sixty foot trussed roof was constructed. To celebrate the opening of the new terminal in October, 1921, Pacific Northwest Traction's Northern and Southern Divisions held a dance, complete with "Bellingham's best jazz band" which drew employees from as far away as Seattle.[6]

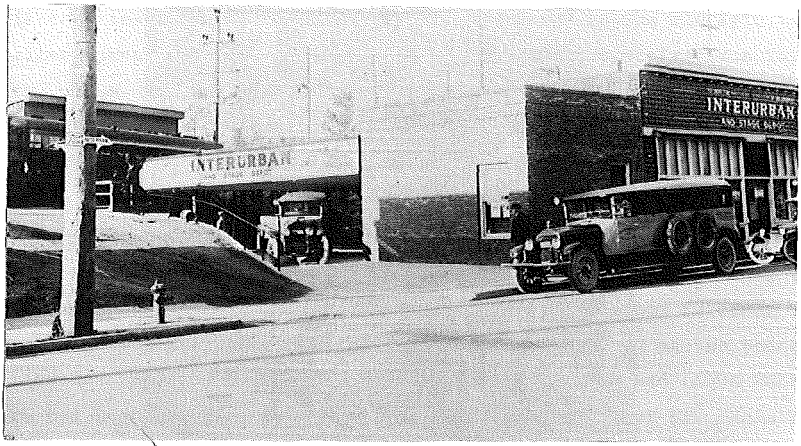


Figure 37. The Mount Vernon terminal as remodeled in 1921. Buses of the new Interurban Motor Company are in the foreground, while an interurban car is at the upper left. (Puget Power Collection, CPNS)

In spite of all of Pacific Northwest Traction's improvements, including the new bus service, passenger revenues remained relatively low because of the poor economy. They were hindered even further when car #76 "split the switch" on the Carnation Milk plant spur at Mount Vernon, causing damage to the car and temporarily removing it from service. No passengers were injured, but the accident did not enhance public relations.

The only bright spot during 1921 was a dramatic increase in freight revenues due to heavy sand and gravel shipments from Sedro-Woolley to the Pacific Highway construction areas between Blanchard and Allen. The interurban also moved a considerable quantity of cement from Bellingham to this site.

Both types of service were dealt a hard blow in December, 1921, as extensive flooding occurred in the Puget Sound region. The rampaging waters of the Skagit River did considerable damage to the interurban line and washed out 1000 feet of trestle on the Great Northern. The interurban and the Great Northern were both back in operation within days but bus service could not be resumed between Everett and Mount Vernon for two weeks. The worst hit area on the Northern Division was Burlington, where flood damage repairs continued for over a month.

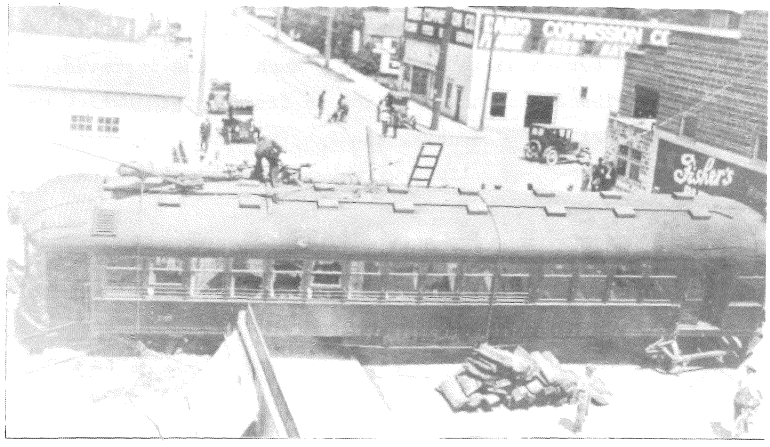


Figure 38. The derailment of car #76 at the Carnation spur on 1st Street in Mount Vernon. (Puget Power Collection, CPNS)

Figure 39. A scene on the interurban line near Burlington during the great flood of 1921. (Puget Power Collection, CPNS)

The fortunes of Pacific Northwest Traction improved during 1922 as the economy of the local area began another upswing. The Bellingham lumber mills had been gradually reopening during the fall of the previous year as the Midwestern and Oriental lumber markets improved, and by January, 1922, all were operating to capacity except the Bloedel-Donovan waterfront mill. All of the Skagit County mills were also in operation. Much of the improvement in the lumber market was attributed to the reduction in freight rates which became effective December 24, 1921. By February, the Public Service Journal reported that Bellingham's docks were ". . . lined with vessels taking cargoes for foreign ports," especially Japan.[7]

In order to keep abreast of the increasing passenger business and to better accommodate the new buses, the Bellingham terminus was finally moved from the seriously overcrowded Pike Building. A new combination bus and interurban depot was built during the spring of 1922 a half block north of the Pike Building on Elk Street. The one-story brick structure had covered driveways on the north and south sides, the former for unloading bus passengers and the latter for picking them up. Interurban cars loaded and unloaded from the street in front of the station. When the new building was opened in July, it was serving seventeen different stage lines which made seventy-seven trips daily.[8]

Another long-awaited improvement in passenger service began officially on the same day the new terminal opened: hourly through service from Bellingham to Seattle. Prior to this there had been two-hour service between Bellingham and Mount Vernon, hourly service from Mount Vernon to Everett, and half-hourly service from Everett to Seattle. The new schedule provided twelve trains daily each way from Bellingham to Seattle, every hour on the hour from 7:00 A.M. to 6:00 P.M. Total running time between Seattle and Bellingham was reduced to three hours and fifty minutes.[9]

In order to handle the increased mileage the new schedule would entail, an older interurban car was brought up from Tacoma on the Chicago, Milwaukee and St. Paul barge. This 1909 St. Louis interurban car, built originally for the Puget Sound Electric Railway, was assigned #80 by Pacific Northwest Traction and augmented the newer cars on the main line. The Bellingham shops were forced to spend considerable time working on this car's electric system to bring it up to the standards of the rest of the equipment.

Passenger revenues, which were beginning to climb slowly because of improved business conditions, positively soared following the introduction of the through hourly service in mid-July, as is shown in Graph 4. The August passenger

Figure 40. The new Bellingham combination bus and interurban terminal on Elk Street, built in 1922. (Puget Power Collection, CPNS)

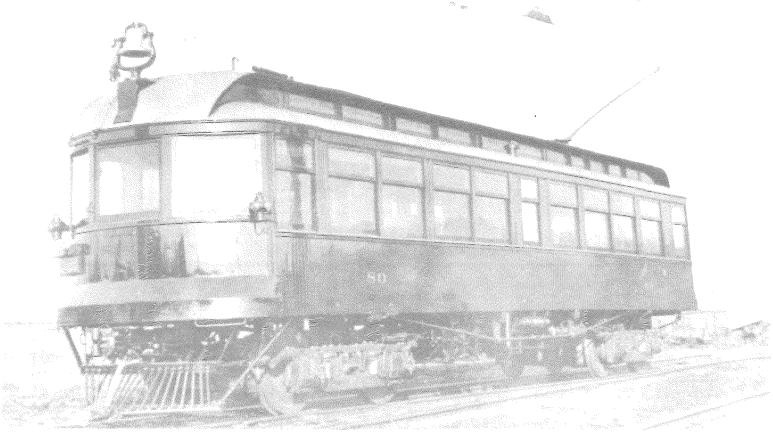
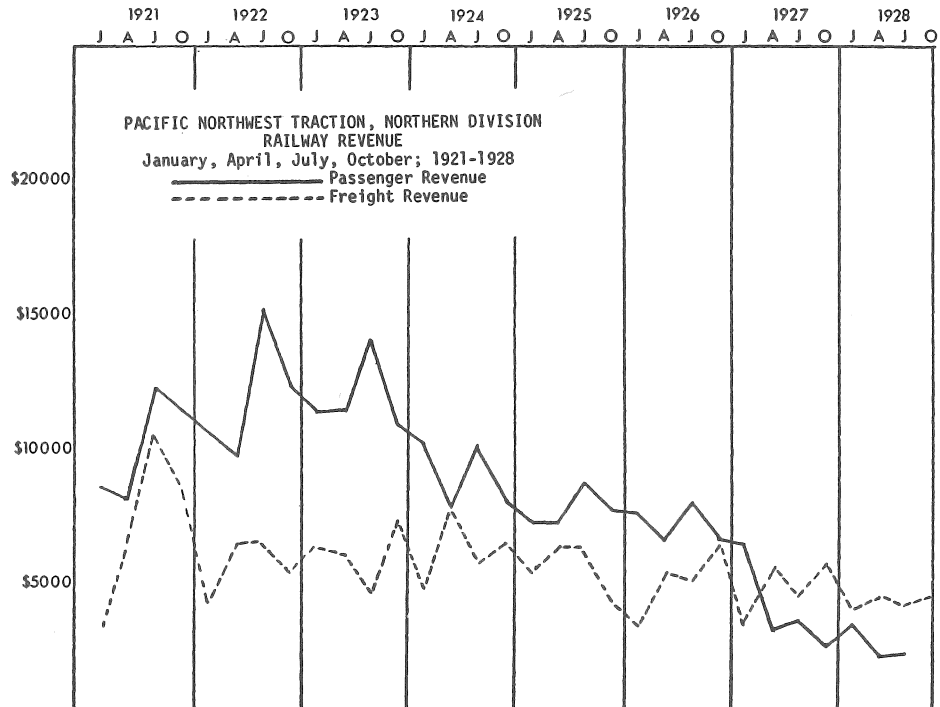


Figure 41. The 1909 St. Louis interurban car, #80, which Pacific Northwest Traction leased (and later bought) to replace the car sent to Everett. (Puget Power Collection, CPNS)


1921
1922
1923
1924
1925
1926
1927
1928
J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O
PACIFIC NORTHWEST TRACTION, NORTHERN DIVISION
RAILWAY REVENUE
January, April, July, October; 1921-1928
Passenger Revenue
Freight Revenue
$20000
$15000
$10000
$5000

GRAPH 4

revenue for the Northern Division was $17,070, the highest figure the line ever attained.[10]

Freight revenues during 1922 failed to improve with the corresponding climb in passenger traffic--an ominous sign. If the difference in passenger and freight revenues for 1922 is taken as a measure of the public's enthusiasm for bus transportation, then the growth of the motor truck freight business is similarly reflected by the relatively poor showing of freight handling. The rapidly expanding network of public highways, particularly in Skagit County, and corresponding improvements in truck technology had gradually taken away most of the milk and fruit hauling customers of the interurban, and during the mid-twenties began to threaten its hold on the movement of bulkier items such as logs, hog fuel, coal and gravel.

The excellent health of the lumber industry in Whatcom and Skagit Counties provided almost all of Pacific Northwest Traction's 1922 freight earnings. But even so, there were some drawbacks: the Bellingham mills were shipping almost all of their output by ship, reducing the handling of rail cars by the interurban. Also, as the Midwest and Eastern markets improved and the demand for empty cars rose, the Pacific Northwest was afflicted with another car shortage. Reduced operations at the Skagit Valley condenseries decreased the amount of hog fuel brought down from Bellingham mills, and a greatly curtailed road building program similarly reduced the movement of cement and gravel.

No more major trestle filling was done during 1922, although a number of smaller bridges and culverts were replaced. There was a move to improve grade crossings by installing warning signs and, in several cases, signals. A major expense proved to be maintenance of the interurban cars because the new hourly schedule increased monthly car-miles by thirty per cent.[11]

The Beginning of the End: 1923-1924

By early 1923 business conditions in Whatcom and Skagit Counties were the best in several years. For the first time in over ten years of interurban service, however, the upswing in the local economy was not accompanied by heavier traffic on the electric railway.

The surge of passenger business that followed Pacific Northwest Traction's adoption of hourly service was suddenly reduced when the Great Northern drastically cut its round trip rates to regain the passengers it had been losing to the interurban. Pacific Northwest Traction countered in March by issuing supplements to the current passenger tariff naming round trip fares between all stations. The Bellingham manager reported: "This was made necessary to meet round trip fares

of the Great Northern Railway and [the fares] are approximately 1-1/3 of the regular fare."[12]

Although the fare reduction served to reduce passenger revenues, traffic remained up to expectations until mid-summer due chiefly to the convenience of the hourly service. But in August, traditionally one of the best months, passenger earnings began to slip again. Pacific Northwest Traction blamed the fare decrease since "The amount of riding was approximately the same as the previous year."[13] It was also noted that much of the expected increase in traffic utilizing the hourly service had failed to materialize.

Freight earnings, which in past years could be counted on to bolster total railway revenues, were not meeting the line's expectations either. Bright spots included shipment of hog fuel to the Skagit condenseries, including the new Skagit County Dairymen's Association condensery at Burlington. The movement of hay and straw north to the Whatcom County Poultry Association provided a small amount of monthly revenue, as did the shipment of fuel oil from Mount Vernon to the Clear Lake Lumber Company. The increased shipment of lumber by ship rather than by rail, a slowness in the milk market and the postponement of the highway paving between Allen and Burlington kept freight revenue well below expectations.

Stone and Webster's improvement program for Pacific Northwest Traction during 1923 included a resumption of bridge and trestle improvements. The filling of the north and south approaches to Hibridge was completed, and the engineering office in Seattle began drawing up plans to replace the wooden center of the bridge with steel and concrete. The year's most ambitious project was the complete overhaul of the Samish Bay trestle. Between Blanchard and Dogfish Point the entire trestle was redecked and the pilings were gunited again. Several smaller bridges including those at Larrabee State Park and Burfiend were filled and spur tracks were built at Clayton Bay and Gravel Pit to facilitate the planned filling of the Clayton Bay overpass during the next summer.

More problems were encountered with maintenance of rolling stock in 1923 because of the additional wear and tear imposed by heavier usage. The replacement of worn wheels and extensive electrical work were the leading problems. The obsolete electrical equipment of car #80 still required a disproportionate amount of maintenance to keep the unit in service. Pacific Northwest Traction's express car, #251, was rebuilt during the summer, the first major overhaul since the car was built in 1912. Finally, to simplify some of the car rental records, the interurban purchased outright seven freight cars and two locomotives which it

had been renting from the Bellingham Division of Puget Sound Power and Light, and car #80 formerly leased from Tacoma Railway and Light.

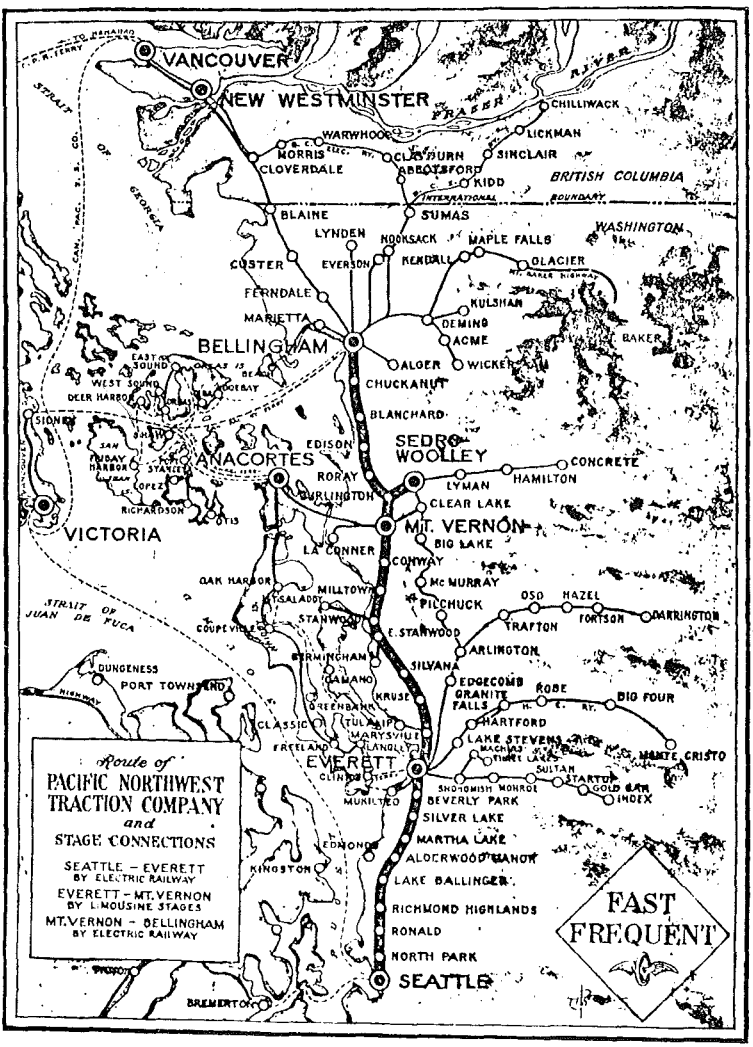
If passenger revenues were disappointing to Pacific Northwest Traction, those of 1924 were becoming disastrous. The January report to Boston explained: ". . . short haul business [has]fallen off considerably on account of automobile competition."[14] Despite Stone and Webster's entrance into the bus business, the private automobile was beginning to challenge both rail and bus business in the Northwest.

In a move to cut mounting expenses (see Graph 5), Pacific Northwest Traction reduced train service to Sedro-Woolley in March, 1924. Interurban Motor Company "limousine stages" were then placed in service between Mount Vernon and Sedro-Woolley, via Clear Lake. Even though the Sedro-Woolley branch had been declining in revenues generated for several years, the curtailment of interurban service resulted in a "substantial decrease in earnings to this division although reflected in increased earnings in the Bus Division."[15] Unfortunately for the railway department, the bus service proved to be a great success, a success which would have far-reaching consequences. The schedule changes also involved the transfer of car #76 back to Everett, where it was believed it would be more productive.[16]

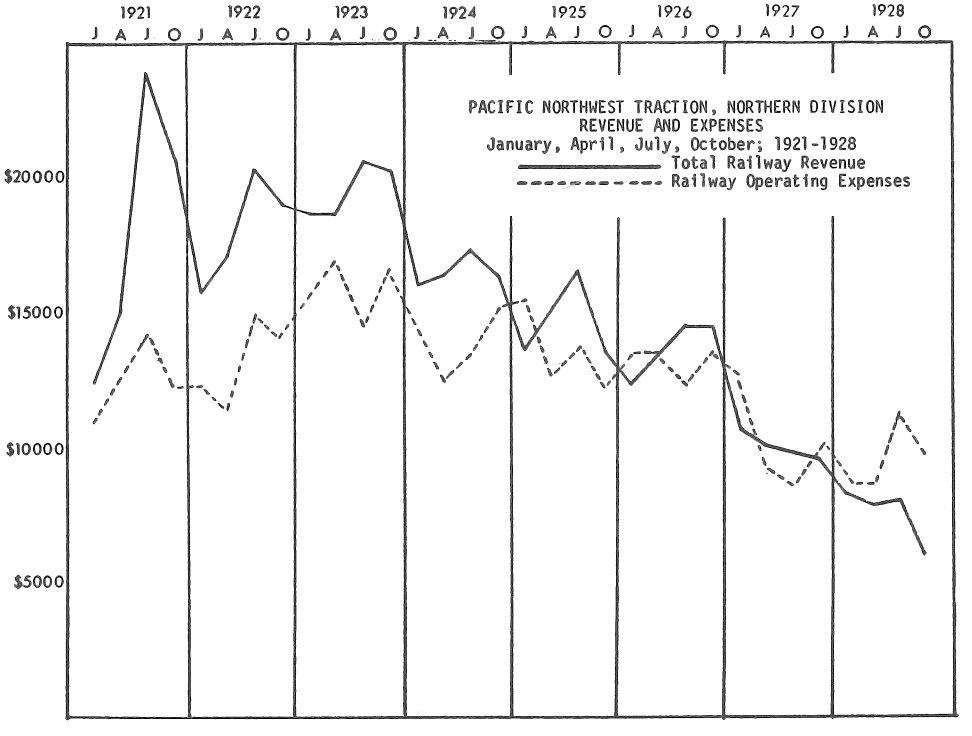
Once again freight revenues failed to meet expectations. The movement of shingles, lumber, oats and grain, potatoes and hog fuel brought in most of the earnings. A newer category of freight was tin cans for the condenseries and canneries in Skagit County, but this commodity fluctuated in proportion to the season and the strength of the canned milk and vegetable markets.

Although the Northern Division's interurban service was looking more and more like a poor risk, Boston continued to pour money into railway improvements. During the summer of 1924 work was begun on filling the long Clayton Bay overpass which carried the line over the Great Northern and down onto the Samish Bay trestle. An electric dredge was leased and moored several hundred yards offshore to provide fill material. The job was not completed until December.

Work on replacing the wooden bridge over Chuckanut Creek with a modern steel structure was also planned for 1924. Filling of the approaches had been completed the previous year, and cement footings were poured but the shipment of steel for the superstructure from Chicago was repeatedly delayed. Extremely cold weather after the arrival of the steel in November was to delay the entire project until the next year. It was finally completed in March, 1925.



Map 13: The Pacific Northwest Traction Company, 1923. (Source: Pacific Northwest Traction Co., "Route of the Pacific Northwest Traction Company and Stage Connections," 1923.)


1921
1922
1923
1924
1925
1926
1927
1928
J A J O J A J O J A J O J A J O J A J O J A J O J A J O
$20000
$15000
$10000
$5000
PACIFIC NORTHWEST TRACTION, NORTHERN DIVISION
REVENUE AND EXPENSES
January, April, July, October; 1921-1928
Total Railway Revenue
Railway Operating Expenses

GRAPH 5

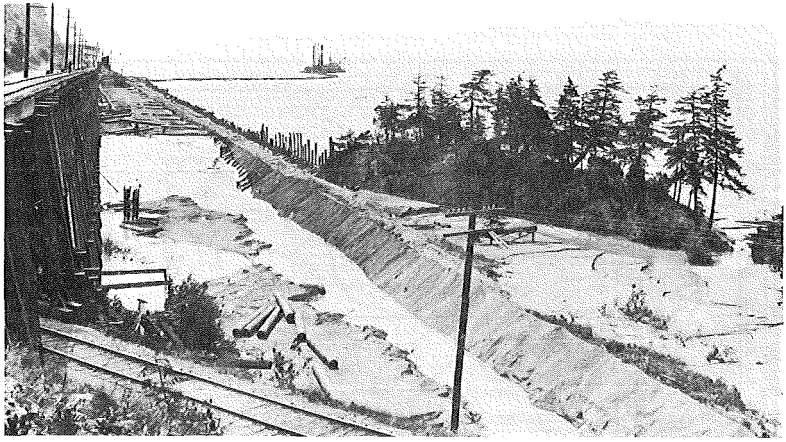


Figure 42. Filling the Clayton Bay overpass in 1924. The dredge used to dig up fill material is visible in the center of the photograph. (Puget Power Collection, CPNS)

The introduction of the through bus service in 1921 had put a severe strain on the small Mount Vernon station which the renovation in October of that year had only partially alleviated. The problem was compounded by the addition of the Sedro-Woolley stage service, so during the summer of 1924 the terminal was replaced by a new and larger building. Most of the new terminal was built on pilings over the Skagit River adjacent to the older building, which was converted for the use of the light and power department. In addition to being much more spacious, the new terminal was at the same level as the interurban tracks on the levee (or "revetment" as it is known locally), so passengers did not have to climb or descend stairs when changing between buses and trains.

Two weeks after the new terminal was opened, Pacific Northwest Traction underwent another reorganization. The Boston office had decided to transfer the light and power department to the new Northern District (formerly Bellingham Division) of Puget Sound Power and Light at Bellingham. The transfer involved all of the power business for the Skagit Valley which Pacific Northwest Traction had been building up since 1912. The power and light department had been the company's primary source of income. The electrification of industries, farms and homes had, unlike the interurban, grown steadily for twelve years. The loss

of the power business to Puget Sound Power and Light and the assignment of the highly successful Bus Division to the Everett office left the Northern Division holding the short end of the financial stick.

The last of the interurban's misfortunes for 1924 occurred at 7:20 A.M. on December 15. Car #75, after departing Bellingham at 7:00 A.M. as the second southbound train, rounded the sweeping curve south of Chuckanut Station on the Gravel Pit fill and encountered a washout. The motorman tried to stop the car, but to no avail. The car's momentum carried it over the washout before it derailed, the rear end hanging over the gap. Eight passengers and three employees had barely scrambled to safety when the car slid back into the washout and was almost completely destroyed.

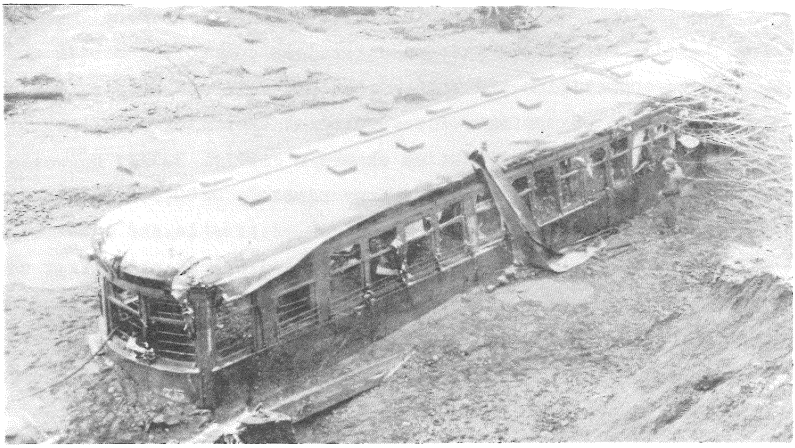


Figure 43. Car #75 at the bottom of the Gravel Pit washout, December 15, 1924. (Puget Power Collection, CPNS)

The traction company, in a report written immediately after the accident, blamed the washout on the failure of a dam on Fragrance Lake some 800 feet above the interurban tracks. The dam had been built "with no permit and with no reliable engineers to supervise the construction," by a Bellingham real estate firm. Weakened by several days of heavy rain, the dam gave way and carried with it not only the interurban's roadbed but also portions of the Pacific Highway and the Great Northern tracks. Ironically, the 6:00 A.M. car carrying the section foreman, whose duty it was to inspect the line for washouts, had passed safely the hour before. It was speculated that if car #75 had arrived minutes earlier it

could have passed safely over the fill, and had it arrived any later, would have gone directly into the washout with certain loss of life.[17]

The Final Decline: 1925-1930

The interurban accident brought Pacific Northwest Traction an understandable amount of negative publicity. It also caused the successful replacement of train service by stages operating on the Old Samish Road for the nine days the main track was being repaired.

Another result of the accident was that in the legal proceedings which followed, some pertinent and previously unknown facts about the line's history were revealed. Among these were:

1) At no one time during these 13 years had the receipts been sufficient to take care of operating expenses, taxes, depreciation and a reasonable return on the investment.
2) Steadily decreasing passenger receipts due to automobile and stage competition had reduced the net earnings and in 1924, the actual percentage of return after deducting all charges and reasonable depreciation showed a loss of 3.37%.
3) During the 2 previous years approximately $300,000 had been spent in rebuilding the 4-1/2 miles of trestle and other bridges, and this expenditure was made by the directors only after careful consideration as to the possible affect [sic] the abandonment of the railway might have on public relations.[18]

The last statement, then, partially explains why Stone and Webster continued to operate the interurban at a loss. The successful light and power business was subsidizing the electric railway business until Pacific Northwest Traction's more lucrative bus operations could be expanded to replace the interurbans. The only problem was convincing the public that bus transportation was safer, faster, and more reliable. It was toward this end that Stone and Webster directed much of its energy from 1925 onward.

The success of the stage service from Mount Vernon to Sedro-Woolley and during the washout interruption of rail service encouraged Stone and Webster to make further changes in the operation of Pacific Northwest Traction during 1925. In February, the rail service between Burlington and Sedro-Woolley was discontinued completely after eleven months of reduced operations. Later in the year all of the fixtures of the Sedro-Woolley branch were sold, including the rails, which went to the Puget Sound and Baker River Railway.

On April 16, 1925, Pacific Northwest Traction reached an agreement with Pacific Stages Ltd. of Vancouver, British Columbia, which allowed the Canadian buses to make connections at the Bellingham terminal. The following month, Pacific Northwest Traction began a through bus service between Seattle and Bellingham, with connections at Bellingham for Vancouver. Another phrase in the shift to all bus transportation, the new service for the first time put Pacific Northwest Traction buses in direct competition with the company's interurbans.[19]

The introduction of Seattle-Vancouver service was accompanied by a change in the organization of Pacific Northwest Traction. The separate Interurban Motor Company name was dropped, and a Bus Division was created to serve as an equal partner to the Railroad Division. To increase public awareness of the integration of bus and rail service and spruce up the previously drab appearance of the company's equipment a new standard color scheme was adopted. The new twenty-seven passenger Fageol motor stages which began the service were the first to wear the new colors: a cream top and--appropriately--Boston grey bottom, with a four-inch red band around the middle.

Following the Gravel Pit washout, it had been decided that car #75 could be rebuilt in the Bellingham shops much more cheaply than it could be replaced. In early May the like-new car made its maiden run decked out in the new Pacific Northwest Traction colors. Soon afterwards, cars #77, #78 and #80 were identically painted.

Following the elimination of the Sedro-Woolley rail service passenger revenues slumped, although the introduction of the Seattle-Vancouver service resulted in a small increase during the summer months. During the fall passenger earnings dropped again, the decrease being blamed almost entirely on automobile competition.[20]

Freight earnings too continued to suffer throughout the year. Although the overall lumber market was good, both the Bloedel-Donovan and Clear Lake mills were not shipping much by rail. The movement of tin cans, condensed milk and hog fuel fluctuated with their respective markets, none of which was especially good during this period. Lumber earnings decreased even further when the Larson mill closed during the summer for repairs; a poor shingle market closed the Edison Shingle Mill for part of the summer; and the Clear Lake Lumber Company, long one of the interurban's best freight customers, went into receivership during September. Also during September the monthly report noted that most of the

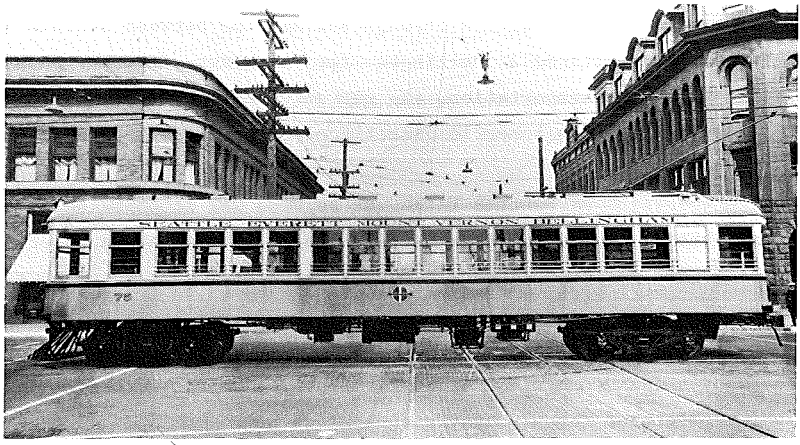


Figure 44. The new Pacific Northwest Traction colors made their first public appearance in May, 1925, on a completely rebuilt car #75. (Puget Power Collection, CPNS)

Skagit condenseries were getting their hog fuel from points on the Great Northern rather than from the interurban.

In another area of competition with the Great Northern, Pacific Northwest Traction reduced its express rates from four to twenty per cent in April, 1925. The monthly report stated that "This reduction was made necessary to meet reduced rates of the American Railway Express Company, and through quicker service to obtain a portion of the through Seattle-Bellingham business."[21] Thus, by 1925 the interurban was competing directly with the Great Northern for both long distance passenger and express service--two functions the line had never been designed for, and, had it not been for the buses, for which the interurban would have been ill-equipped.

In May, 1926, Pacific Northwest Traction revised its agreement of the preceding year with Pacific Stages of Vancouver, British Columbia. The new agreement gave both companies the right to operate one round trip each daily on a through basis between Seattle and Vancouver, eliminating the necessity of changing buses at Bellingham. This was, of course, in addition to the previously-established service. The agreement included an exchange of depot and garage facilities. The round trip fare between the two cities was established at

$8.00.[22] The service was so successful that it was expanded to five direct round trips in July.

Pacific Northwest Traction's railway passenger revenues continued their decline during 1926. The introduction of the through Seattle-Vancouver service and its July expansion proved far more popular with the travelling public, chiefly because it eliminated the bothersome changing from train to bus and back. And, as the popularity of the bus increased for long distance travel, so did the public acceptance of the private automobile for short hauls.

While the bus and private automobile eroded more and more of the interurban's passenger earnings, the motor truck was doing the same to freight revenues. The movement of fuel oil, tin cans and condensed milk all decreased during 1926 as shippers began utilizing the cheaper and more flexible truck. The only business that increased for the interurban during the year was the hog fuel account with the Skagit County Dairy Association. Following the closure of the Clear Lake mill, the interurban began supplying the dairymen from the Bloedel-Donovan waterfront mill at Bellingham, as it once had in the past.

In spite of the grim outlook for Pacific Northwest Traction's freight department, more money was spent on improving this service during 1926. The original interurban heavy freight locomotive, #250, was completely rebuilt in the Bellingham shops. The cab was extended and extra concrete ballast was added to improve traction and stability.

During the summer of 1926, a new double-trucked line car was constructed at Bellingham. On top of the car, a unique pneumatically operated tower was built to provide access to overhead lines. The inside was fitted out as a complete workshop for line maintenance. In addition to the new line car and rebuilt freight locomotive, Pacific Northwest Traction also rebuilt ten flatcars during the year in anticipation of increased freight business.

Encouraged by the success of the through Seattle-Vancouver service, Stone and Webster introduced in January, 1927 a new schedule which would result in the final collapse of railway operations on the Pacific Northwest Traction line. This was the establishment of hourly service between Bellingham and Seattle, with seven trips each way by motor coach and seven by an interurban and bus combination. Through buses left Bellingham at 7:00, 9:00 and 11:00 A.M., and at 1:00, 3:00, 5:00 and 8:00 P.M. Interurbans departed Bellingham at 8:00 and 10:00 A.M., 12:00 noon, and 2:00, 4:00 and 6:00 P.M., with bus connections at Mount Vernon and the interurban connection at Everett. Both means of transport required four hours, and tickets were good on either buses or interurbans.[23]

To provide the new service, Pacific Northwest Traction had constructed in the Everett shops a new type of bus--the "Parlor Observation Coach." Built on a Fageol chassis and powered by a six-cylinder engine, the new coaches were identical to earlier buses except for a raised "observation compartment" at the rear. The new buses attracted nationwide attention, and proved tremendously popular with the public, owing a great deal to the scenic nature of the routes upon which they were employed.

In describing the new service, the Stone and Webster Public Service Journal observed: "Through service, which has been inauguarated [sic] by the company in line with its policy of meeting the public demand, will to a large extent eliminate the inconvenience of transfers, and is expected to prove very popular, especially with tourists."[24] It should be first noted that public demand played a major role in the expansion of bus service in Whatcom and Skagit counties. Secondly, this is the first mention of tourists since 1912--an indication of the tremendous growth of tourism in the Northwest during the 1920's and a further indication of head-on competition with the steam railroads for tourist dollars.

Figure 45. A new "parlor observation coach" of Pacific Northwest Traction on the Pacific Highway in 1927. (Puget Power Collection, CPNS)

The parallel operation of trains and buses proved to be the death blow to Pacific Northwest Traction's railway passenger earnings. After all, why go by train when a one-hour wait (or earlier departure) would save changing to a bus

at Mount Vernon and back to a train at Everett? In addition, the management strongly encouraged bus travel. Robert S. Wilson has noted:

> . . . all publicity. . .favored the buses. Rail schedules in some cases were not even posted in terminal waiting rooms. Inquiry at ticket windows brought grudging admission that 'we do have a train for Everett (or Seattle) at such-and-such a time,' coupled immediately with a suggestion that the traveler would find the company's bus schedules and service much more attractive. Within the cars themselves there appeared placards proclaiming: 'Highways are Pleasant Ways--Travel by Bus.' Needless to say, the buses carried no reciprocal ads for the rail service.[25]

The gradual transition of Pacific Northwest Traction from trains to buses did hit one snag, however. Following the February, 1927, addition of a local Bellingham to Burlington bus (to the through Bellingham to Seattle service) there was a minor uprising among some Skagit County residents. Most feared that, should interurban operations cease completely, their taxes would be raised to improve highways for buses. At a public meeting officials of Pacific Northwest Traction alleviated these fears and pointed out that the bus service would ultimately be to everyone's advantage.[26]

Following the February introduction of through and local bus service, the operation of trains accounted for sixty per cent of the Northern Division's passenger revenue. By mid-summer, earnings on the trains had plunged to the point that vacant seats overwhelmingly outnumbered passengers (see Graph 4). In July, car #77 was transferred to the Southern Division and the train schedule was further reduced.

Freight income remained low but stable during 1927. Reduced shipment of wood slabs and hog fuel from Bellingham were responsible, coupled with the demise of the Puget Sound and Cascade Railway at Clear Lake and subsequent loss of the gasoline and oil contract with that company. One bright spot was the use of Pacific Northwest Traction flat cars to carry trucks and the company's buses over part of the Pacific Highway. For several months in the spring, the replacement of the highway bridge at Inspiration Point at Bellingham's southern city limit necessitated loading trucks and buses on flat cars and ferrying them between Grandview and South Bellingham. Like the parlor observation buses, this innovation attracted nationwide attention and heralded modern "piggy-back" truck/train service.

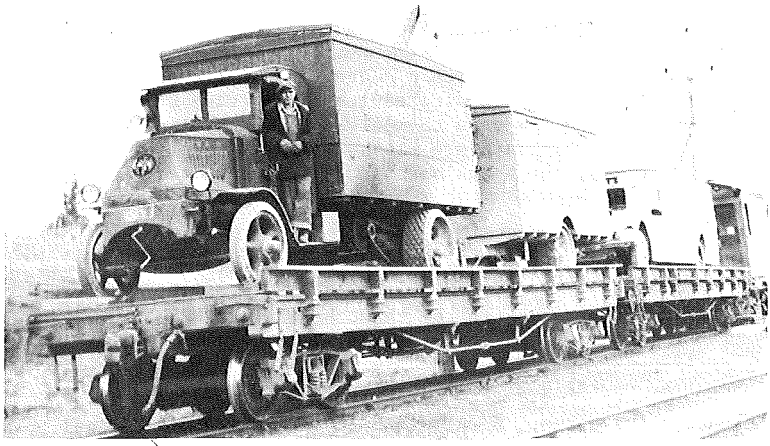


Figure 46. The express car, #251, "piggybacks" a truck, trailer and company bus during the closure of the Pacific Highway in 1927. (Puget Power Collection, CPNS)

Following Pacific Northwest Traction's new emphasis on bus service and the subsequent decline of railway passenger revenue, the interurban right of way began to deteriorate again. On July 3, 1928, car #78 derailed on the curve north of Inspiration Point, injuring several people but causing only minor damage to the car. In referring to the necessity of making badly needed improvements on the railway, the monthly report said "It [had been] proposed to carry this along during the balance of the year but due to the reaction of public sentiment on account of the derailment it was deemed advisable to rush this work at the present time."[27]

The public's confidence in Pacific Northwest Traction's railway operations was shaken even more on September 14, when car #75 derailed on the Samish Bay trestle at Rocky Point and plunged nose-first into the mud. Extensive repairs were required to both the interurban car as well as the trestle. Both of these accidents were given front-page treatment in local newspapers, causing further public skepticism about the safety of the interurban.

A third event related to the poor condition of the Pacific Northwest Traction tracks proved to be the interurban's downfall. On October 10, 1928, the

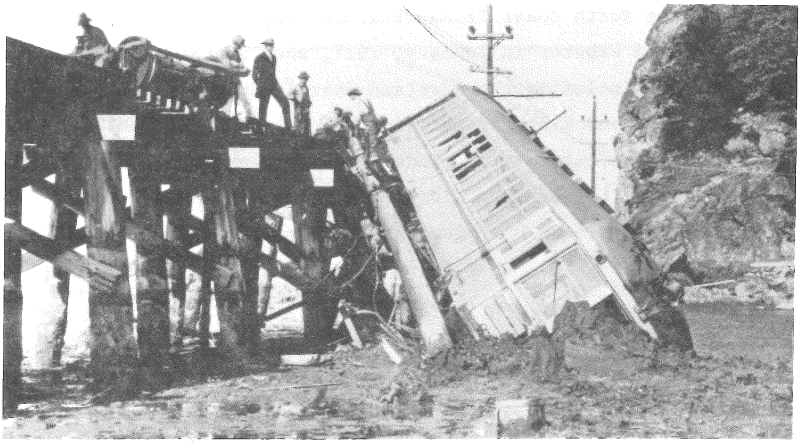


Figure 47. The derailment of car #75 at Rocky Point in September, 1928. (Puget Power Collection, CPNS)

Skagit River bridge was condemned as unsafe and the interurban ceased all passenger operations. The local bus service between Bellingham and Burlington was simply extended to Mount Vernon, while the through buses operated as before. Freight operations, meanwhile, continued between Burlington and Bellingham.

Although it would seem that Stone and Webster had been laying the groundwork for completely replacing interurban rail service with buses, and that the condemnation of the Skagit River bridge merely presented a good excuse, there does exist some evidence to the contrary. While Pacific Northwest Traction operated freight service on the truncated northern portion, work was rushed on repairing the Skagit Bridge--work which was not completed until December, 1929, and which was also tremendously expensive. A former Pacific Northwest Traction conductor, A. B. Loft of Mount Vernon, has indicated his belief that the company planned to resume rail service upon completion of the bridge repairs.[28]

It is quite possible, however, that the events on Wall Street during September, 1929, had a negative influence on Stone and Webster's plans for resumption of rail service. At any rate, the rail line was officially abandoned on June 1, 1930. The abandonment affected only the freight handling which had resumed full operation following the completion of bridge repairs in December,

1929. Passenger service by rail never resumed, owing to the success of the substituted bus service.

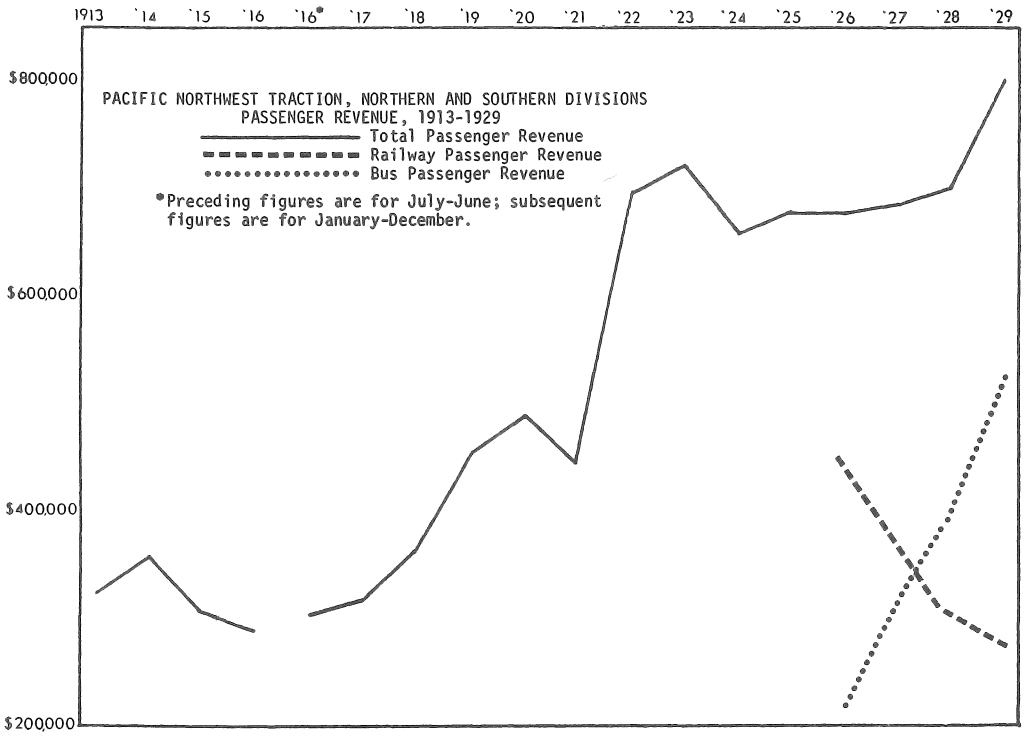
Effective the date of rail abandonment, Pacific Northwest Traction's buses became part of the North Coast Transportation Company. North Coast had been formed by Stone and Webster in January, 1927, when a number of Washington stage lines were merged, including the Portland-Seattle Stage Company, the Stage Division of the Puget Sound Electric Railway (which had, incidentally, ceased rail operations in December, 1928), the Tacoma Bus Company, and the North Coast Transportation Company. The Northern Division's rolling stock was transferred to Everett, where the Southern Division operated trains until 1939.

Summary

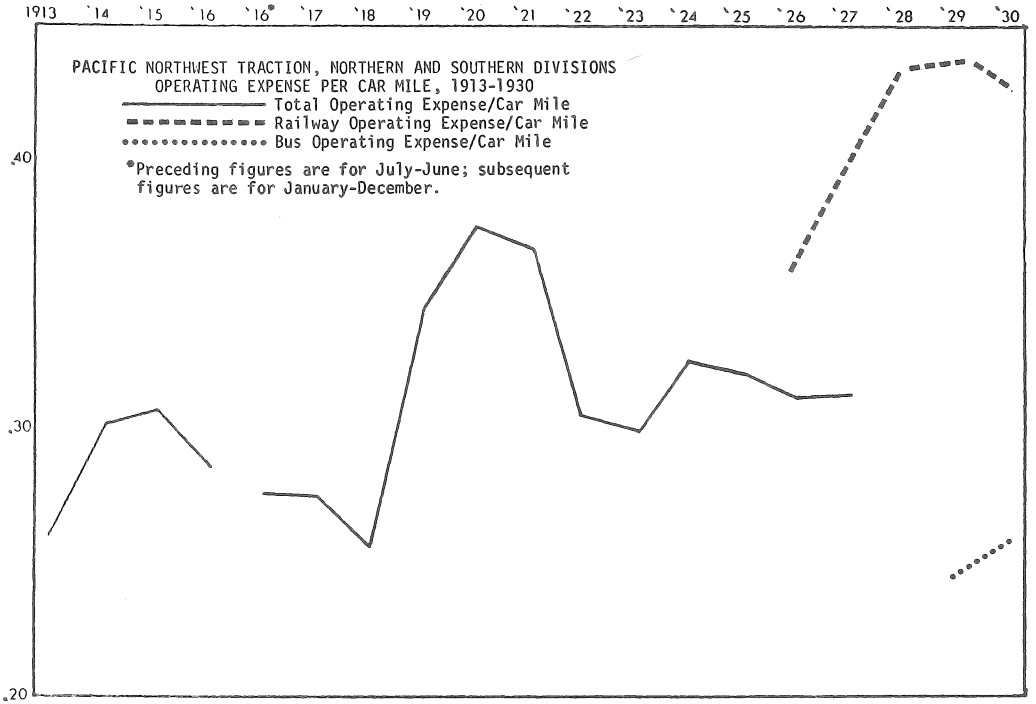
When all of the factors which led to the final collapse of Pacific Northwest Traction are considered, there is one which stands out unmistakably: the unanticipated success of the motor vehicle in its three primary forms--automobile, truck and bus--in usurping the local, door-to-door, short-haul freight, passenger and pleasure business which the interurban had been designed to provide. The combination of the success of the motor vehicle with the results of the First World War, which retarded electric railway construction while accelerating technological progress on the internal combustion engine, proved to be fatal for the interurban.

The failure of Stone and Webster to construct the rail link between Everett and Mount Vernon was responsible for the demise of the Northern Division nine years sooner than the Southern. Had this link been built, the interurban could perhaps have lasted a little longer, particularly if local freight handling had been emphasized. As short-haul business on the two separated interurban segments dried up due to automobile and truck competition, Pacific Northwest Traction was forced to use buses for long-haul business, which in turn put it directly into competition with the Great Northern. The success of the bus for long-distance travel as well as local service foreshadowed the decline of the steam (and later diesel) railroads, a decline which has continued to the present.

Some of the economic factors for the abandonment of electric railway service may be seen in Graphs 6 and 7. In graph 6, Pacific Northwest Traction's total passenger revenues for both Northern and Southern divisions are plotted, along with bus passenger revenue and interurban passenger revenue from 1926 (when these began to be recorded separately). In a similar fashion, Graph 7


1913
'14
'15
'16
'16*
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
$800,000
$600,000
$400,000
$200,000
PACIFIC NORTHWEST TRACTION, NORTHERN AND SOUTHERN DIVISIONS
PASSENGER REVENUE, 1913-1929
Total Passenger Revenue
Railway Passenger Revenue
Bus Passenger Revenue
*Preceding figures are for July-June; subsequent figures are for January-December.

GRAPH 6


1913 `14 `15 `16 `16* `17 `18 `19 `20 `21 `22 `23 `24 `25 `26 `27 `28 `29 `30
PACIFIC NORTHWEST TRACTION, NORTHERN AND SOUTHERN DIVISIONS
OPERATING EXPENSE PER CAR MILE, 1913-1930
Total Operating Expense/Car Mile
Railway Operating Expense/Car Mile
Bus Operating Expense/Car Mile
*Preceding figures are for July-June; subsequent figures are for January-December.
.40
.30
.20

shows the total operating expenses of Pacific Northwest Traction compared to the separate operating expenses of the bus and interurban divisions. These examples serve well to illustrate the economic reasons behind the abandonment of rail service.

The unification of the Stone and Webster intercity transportation empire under the North Coast banner was actually only a part of a much larger reorganization of bus lines which affected the entire West Coast. In 1930, the Greyhound Bus Company took over the seventeen bus lines owned by the Southern Pacific Railroad, and Portland became the dividing line between the two rival transportation companies. Stone and Webster chose to consolidate its Northwest properties under the North Coast name to meet this challenge, and in the interest of economy and better service, to substitute bus service for the unprofitable interurbans whenever possible. North Coast's function as a bus line, therefore, allowed ". . . its interurban lines [to become] appendages of steadily decreasing importance."[29]

CHAPTER VIII NOTES

[1]Stone and Webster, Public Service Journal, Vol. 28 (January, 1921), p. 77.

[2]Puget Sound Power and Light, Puget Sound Electric Journal, June, 1921, p. 4.

[3]Stone and Webster, Public Service Journal, Vol. 28 (March, 1921), p. 282.

[4]Stone and Webster, Public Service Journal, Vol. 29 (August, 1921), p. 150.

[5]Puget Sound Power and Light, Puget Sound Electric Journal, June, 1921, p. 11.

[6]Puget Sound Power and Light, Puget Sound Electric Journal, January, 1922, p. 10.

[7]Stone and Webster, Public Service Journal, Vol. 30 (February, 1922), p. 135.

[8]Puget Sound Power and Light, Puget Sound Electric Journal, August, 1922, p. 25

[9]Puget Sound Power and Light, Puget Sound Electric Journal, July, 1922, p. 25.

[10]Pacific Northwest Traction, Financial Report (Northern Division), August, 1922.

[11]Pacific Northwest Traction, Financial Report (Northern Division), January, 1923.

[12]Pacific Northwest Traction, Financial Report (Northern Division), March, 1923.

[13]Pacific Northwest Traction, Financial Report (Northern Division), August, 1923.

[14]Pacific Northwest Traction, Financial Report (Northern Division), January, 1924.

[15]Pacific Northwest Traction, Financial Report (Northern Division), March, 1924. Unfortunately, these Pacific Northwest Traction Bus Division earnings were reported with the Everett branch railway totals, so no figures exist for a comparison.

[16]Pacific Northwest Fraction, Financial Report (Southern Division), March, 1924.

[17]Pacific Northwest Traction, "Statement of Facts Relative to Interurban Accident on December 15, 1924," pp. 2-3.

[18]Ibid., p. 1.

[19]Although both bus and interurban service were offered between Mount Vernon and Sedro-Woolley from March, 1924 to February, 1925, they ran over different routes. The bus went via Clear Lake while trains went through Burlington.

[20]Pacific Northwest Traction, Financial Report (Northern Division), December, 1925.

[21]Pacific Northwest Traction, Financial Report (Northern Division), April, 1925.

[22]Pacific Northwest Traction, Annual Report, 1926.

[23]Puget Sound Power and Light, Puget Sound Electric Journal, January, 1927, p. 11.

[24]Stone and Webster, Public Service Journal, Vol. 40 (March, 1927), p. 366.

[25]Robert S. Wilson, "The Rise and Fall of P. N. T.," Interurbans, June, 1949, p. 5.

[26]Stone and Webster, Public Service Journal, Vol. 40 (April, 1927), p. 97.

[27]Pacific Northwest Traction, Memorandum to George Newell from H. Sewall, October 22, 1928. (Financial Report, September, 1928).

[28]A. B. Loft, personal interview, March, 1974.

[29]Swett, "Pacific Northwest Traction Company," p. 5.

CHAPTER IX

THE DECLINE OF THE BELLINGHAM STREET RAILWAYS: 1913-1930

The 1912 reorganization of Stone and Webster's Puget Sound properties had created the Puget Sound Traction, Light and Power Company to manage the street railway systems. The Whatcom County Railway and Light Company thus became the Bellingham Division of the new company. The Bellingham Division shared its offices with the Northern Division of Pacific Northwest Traction in the Pike Building, but retained the old Whatcom County Railway and Light office at Bay and Holly for freight and express operations (until 1919).

After 1912 the street railways played a much smaller role in the growth of Bellingham than they had in the early years. In 1913 the addition of a one-half mile extension from Broadway and Girard north to Illinois Street brought the city's street railway system to its maximum physical size of 13.88 miles of main track. Although this extension was of considerable importance in opening up the area between the Fountain District and Cornwall Park for residential building, it was becoming obvious that ease of access by private automobile would soon supplant proximity to streetcar lines as a determining factor in new home location.

Puget Sound Traction, Light and Power: The Bellingham Division, 1913-1920

The first full year of combined street and interurban railway operations was full of promise for the Bellingham Division. The tremendous harvest of 1912 had pulled the city from a mild depression and the local economic picture was the brightest it had been for almost a decade. Street railway earnings in 1913 were the highest ever: $190,494, or an average revenue per citizen (for a population of 27,850) of $6.84.[1]

The years prior to World War I were a period of solid growth for Bellingham, as has been noted in an earlier chapter. Street railway traffic was boosted noticeably by the increase in Alaska fishing and packing operations of Pacific American Fisheries at South Bellingham, the reopening of all the waterfront lumber mills after a stagnant lumber market began to revive, and the dramatic increase in agricultural production in the Nooksack and Skagit valleys. Uncertainty over the situation in Europe prompted a decline in the Eastern lumber market

during 1914, however, and this, combined with the serious depression in British Columbia, sent Bellingham into another economic slump which would last until 1917.

Unlike the comparatively numerous sources of transportation revenue which Pacific Northwest Traction boasted, the street railway received only passenger, special car (charter and funeral use) and mail revenue after 1912. All of the Bellingham freight business was transferred to the interurban company, as their freight equipment was better suited to this heavier type of work. The Bellingham Division did profit from renting most of its freight equipment to the interurban, as well as the rent of power and running rights for the portion of the line that both companies shared. A disadvantage to this arrangement was that if Pacific Northwest Traction's freight business was poor--and during the war years before 1917 it was--both companies suffered. The interurban lost freight revenue and the street railway was deprived of a corresponding amount of track, power and rolling stock rent.

Figure 48. A Whatcom County Railway and Light freight locomotive moving Great Northern cars from the Larson Mill to McKenzie Street. After 1912, this type of freight movement was handled entirely by the interurban line. (Puget Power Collection, CPNS)

The Bellingham Division's passenger service, already severely depressed by the effect of uncertain wartime conditions on Bellingham industry, was further reduced during 1915 by a surge of automobile competition. Where previous

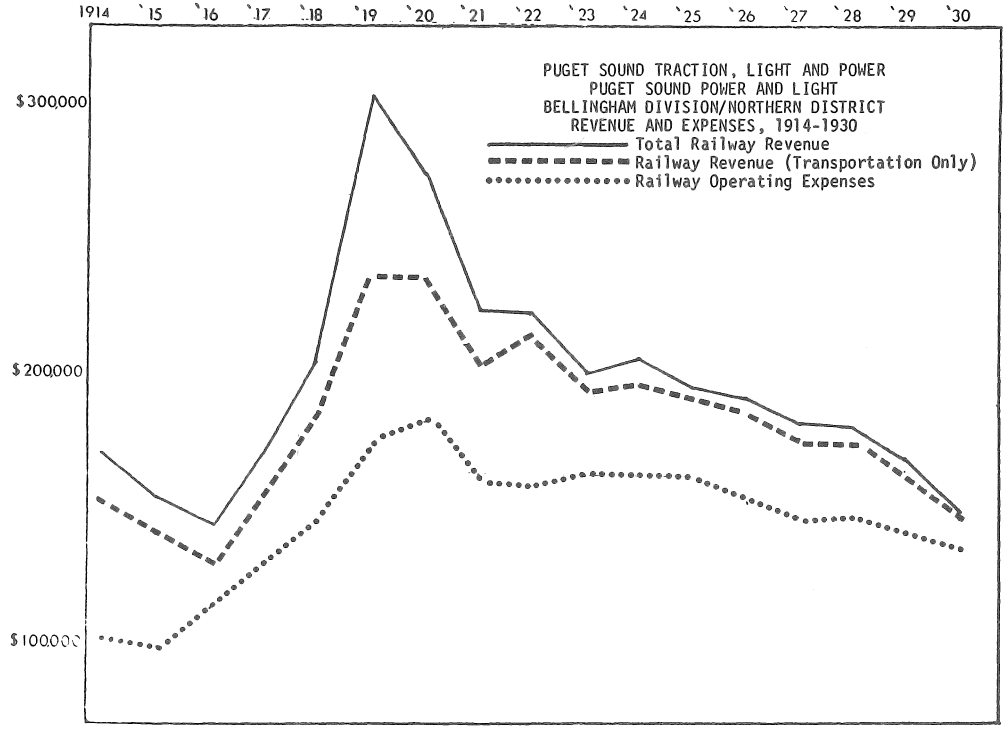
monthly reports to Boston had cited business conditions as the prime reason for traffic loss, the March report stated: "Part of this loss is due to jitney competition, but we believe the majority of it is due to the increased number of automobiles in use throughout the city."[2] It was further estimated that the eight jitneys in service in Bellingham at this time were costing the company approximately $700 a month in lost income. The problem was compounded by the worst salmon run in the history of the area, which sharply reduced the number of Pacific American Fisheries cannery employees riding the streetcars.

The following year, 1916, was even worse for the street railway business. The severe snow storm in January of that year hurt passenger business, but at the same time aroused public opinion against the jitney operators, some of whom had raised fares from five cents to one dollar to take advantage of the situation. Jitney drivers further antagonized the railway by driving along the tracks behind the snow-sweeping car, causing the work to have to be redone.[3] Total transportation revenue for 1916 dropped to $144,617 as a result of the weather, jitney competition and business conditions. The line would not do this badly again until the final plunge of the early 1930's.

Bellingham began to revive from this slump during the summer of 1916 as lumber orders began to roll in again from the East. The beginnings of what would become a full-fledged shipbuilding boom became apparent as Pacific American Fisheries started work on three wooden vessels at its South Bellingham yards. A severe shortage of ocean shipping and rail cars for moving local lumber delayed the arrival of the boom, but by 1917 the city was bursting with new activity.

The war years had much the same effect on the street railways as they had on the interurban: traffic increased substantially, but labor, materials and supplies became scarce, prices rose astronomically and there was a lack of available capital for maintenance of cars and tracks. Because of the delayed entrance of the United States into the war, the shortages and increased prices occurred before the traffic increase, as is discernible in Graph 8. This same situation faced practically all of the street railway systems in the country, and in attempting to keep the lines operating at a profit some radical innovations were introduced to an industry that had changed very little since the 1890's. In the Stone and Webster empire the emphasis was to be placed on increased fares and the use of one-man cars wherever possible.

Bellingham's street railways, like most others, used two-man cars prior to 1917. One was the motorman, who operated the car, while a conductor collected


1914
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
'30
$300,000
$200,000
$100,000
PUGET SOUND TRACTION, LIGHT AND POWER
PUGET SOUND POWER AND LIGHT
BELLINGHAM DIVISION/NORTHERN DISTRICT
REVENUE AND EXPENSES, 1914-1930
Total Railway Revenue
Railway Revenue (Transportation Only)
Railway Operating Expenses

GRAPH 8

fares. Rising wages and shortages of labor prompted Stone and Webster to seek an alternative to this relatively inefficient system. In 1916, Charles O. Birney, the firm's car design engineer,

> . . . produced plans for a short, single-truck car about 28 feet long, weighing 6.5 to 9 tons--about a third of the weight of a standard car. It was to be a one-man car. . . equipped with a 'dead man control,' whereby the circuit breaker was automatically cut out when the motorman's hand left the controller handle. The trade at first called them 'safety cars,' but over the years they became unambiguously known as Birney cars.[4]

Stone and Webster was enthusiastic about the possibilities of the new cars, and Bellingham and Everett were chosen as the two points in the Puget Sound Traction, Light and Power system to test them.[5] The Bellingham Division in late 1916 placed into operation three single-man cars on the Courthouse-York Addition line--one of the more lightly-travelled segments of the system. By January, 1917, the line was reporting an "abnormal increase due to the . . . three single men [sic] cars. . . compared to two [two-man] cars a year ago."[6] Although business conditions improved steadily through 1917 as more and more labor was employed at the shipyards, lumber mills and canneries, the drastic increase in passenger revenue on the Courthouse line is mentioned almost monthly even though this line did not directly serve any of these waterfront industries! In May, single-man operation was put on ten minute headway on this line (as opposed to fifteen minutes before), and on the 27th of the month the main line was converted to single man operation.

The success of single-man operation on the Bellingham lines and the experience gained in building and converting this type of car were to have far-reaching significance for Puget Sound Traction, Power and Light, for it made the Bellingham car shops a center of safety car construction for other divisions. During the summer of 1917 the Bellingham shops began building fourteen new safety cars, some of which would utilize the trucks and motors of the old single truck cars inherited from the company's predecessors. Twelve new safety cars were ordered from the American Car Company of St. Louis.[7] As new safety cars were completed, older cars were sent to other divisions: the following year four of the old double truck cars originally bought by Whatcom County Railway and Light, cars #76, #77 (St. Louis Car Company, 1906), #79 and #80 (American Car Company, 1910), were sent to Seattle.[8] By October the only line in Bellingham not converted to safety cars was the Lake Whatcom line.

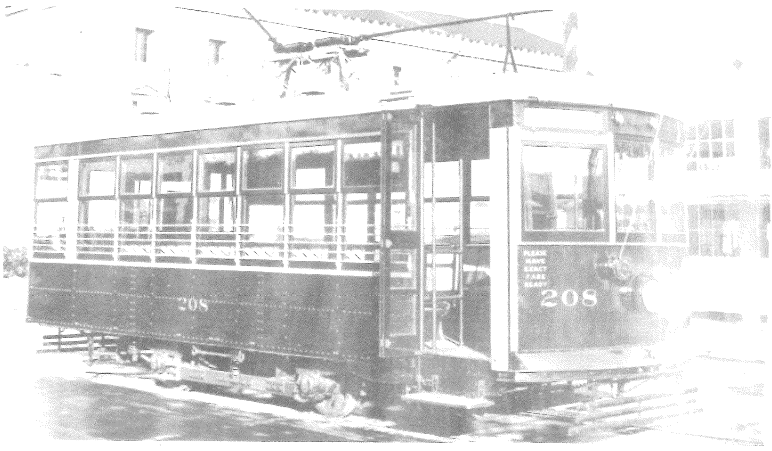


Figure 49. A typical Puget Sound Traction, Light and Power "safety car," #208, on Magnolia Street. (Puget Power Collection, CPNS)

Bellingham was largely spared from the bitter controversy over the second of the previously mentioned plans of Stone and Webster to increase street railway profits during the war years--an increase in railway fares. In other parts of the United States, attempts by street railways to increase fare from the traditional nickel met stiff public resistance. Railway companies argued that since inflation brought on by the war had increased prices for everything else, especially labor and supplies, they were justified by increasing fares to make up for these increased expenditures. An editorial in the November 1916 Public Service Journal railed against the opponents of a fare increase, citing that "the nickel" had become a "catch phrase" when mentioned in terms of streetcar fares, while other things which had traditionally cost only a nickel--the "nickel loaf" of bread, for instance--had long since been forgotten. The editorial concluded: "The five-cent fare has been so much discussed that we have come to regard it as cosmic; as fixed by the law of creation."[9]

On November 4, 1918, an ordinance passed by the Bellingham City Council allowed the traction company to increase its fares to six cents. The earlier cardboard tickets were discarded in favor of a metal ticket which could be purchased at seventeen for a dollar. The rate for children's school tickets remained unchanged.

The increase of passenger revenues which began during the 1917 boom continued through 1918, mostly as a result of the improved business conditions and the better service provided by the new cars. Operating expenses also rose during the year because of wartime inflation and the necessity of repairing some of the rougher sections of the line. (The lightweight safety cars did not ride as smoothly over these sections as had the heavier double truck cars.) Besides expenses incurred by repairing sections of track, the car shops were kept busy building additional safety cars. The November fare increase came too late to have much effect on 1918 passenger revenues, although it definitely would the following year. Also, the arrival of the influenza epidemic at the end of the year depressed the expected holiday earnings.

The last year of the great Puget Sound wartime boom was 1919, a year which saw the earnings of the Bellingham Division reach their highest point before beginning the long decline to collapse. The year got off to a rather slow start because of the influenza epidemic but passenger traffic continued to increase after this had subsided. Passenger revenue increased substantially during the year because of the new six cent fare and the continuation of activity in the local shipyards. The Bellingham Division had lost its source of special car revenue by this time, however, for the funeral car was leased to Pacific Northwest Traction to be rebuilt for use on the Sedro-Woolley line.

In an unexplained move which was evidently caused by internal financial necessity within the Puget Sound Traction, Light and Power Company, the Bellingham Division purchased twenty-nine safety cars from the Western Washington Power Company of Seattle,[10] then turned around and leased these cars to the Tacoma Railway and Power Company. The rental of these safety cars increased the Bellingham Division's total railway revenues by some $3500 per month.[11] In June, 1919, an additional forty-six safety cars were transferred (on paper) from Seattle to Bellingham, then leased to the Puget Sound International Railway and Power Company of Tacoma.[12] By August, 1919, the Bellingham Division was bringing in over $6300 per month in car rentals, which accounts for the sudden increase in total railway revenues shown in Graph 8.

The sudden end of the war in November, 1918, did not have an immediate effect on the industrial boom in Bellingham. It was not until the summer of 1919 that the closure of the shipyards began a noticeable slowdown in economic activity. Even so, there was not an immediate unemployment problem as there was still a demand for labor to perform work that had been delayed by the war.

Foremost among these projects were a large number of road and street improvements. To the amazement of the Bellingham Division, street railway revenues continued to rise during late summer and early fall despite the closure of the shipyards and the subsequent loss of commuters.

The lumber industry was not as affected by the loss of shipyard contracts as many observers had believed, and Puget Sound mills operated to capacity as late as the summer of 1920 keeping pace with Eastern, Midwestern and Oriental demands. As was invariably the case when orders were so heavy, a rail car shortage developed again which limited somewhat the degree of prosperity for the lumber concerns. The car shortage did not ease until the fall of 1920 when the lumber market finally began the long-expected decline. The Everett report to Boston for October drily observed: "The car shortage has been greatly relieved, but now that there are no [lumber] orders this ceases to be a factor."[13] By December a third of the mills in the state were closed and lumber prices were far below the wartime average.

Although 1919 was the financial high point for the Bellingham street railways, this was due primarily to the lease-juggling of safety cars. Passenger revenues in 1920 slightly exceeded those of the previous year, so from a passenger standpoint 1920 was actually the line's best year. It is also an excellent point to stop and look at the physical characteristics of the street railway at this watershed year.

The Bellingham Division of Puget Sound Traction, Light and Power in 1920 operated almost exactly the same track mileage it had in 1913: 24.54 miles, including spur track and the 9.33 miles operated jointly with Pacific Northwest Traction.[14] Twenty-four standard safety cars, two closed double truck cars, and six semi-convertible cars[15] handled the street railway schedules within Bellingham, while another sixty-one were leased to Tacoma Railway and Power, and ten more to the Puget Sound International Railway. The Bellingham Division also owned two line maintenance cars, one express car and two flat cars. The remainder of the line's original freight equipment had been leased to the interurban company since 1913, including two freight locomotives and a number of flat cars. The street railway also owned three gravel dump cars which were temporarily leased to Pacific Northwest Traction for its trestle filling projects during the early 1920's. The funeral car leased to the interurban for service on the Sedro-Woolley line had been purchased outright in 1919.

Seven different routes were operated by the Bellingham Division in January, 1920:

1) Main Line: from Squalicum Creek to Harris Avenue via Eldrige, Holly, Elk and 11th.

2) York Addition-Courthouse Line: from James Street to Illinois Avenue via Gladstone, Humboldt, Lakeway Drive, Holly, Prospect, Ellsworth, "G", Girard and Meridian.

3) Garden Street Line: from downtown Bellingham to Knox Street in South Bellingham via Holly, Garden and 16th.

4) North Street Line: from downtown to St. Clair Street via Dock and North.

5) Harris Avenue Line: from 4th Street to Lindsay Street via Harris, 23rd, Donovan, 32nd, Cowgill and 33rd.

6) Sehome Wharf Line: from downtown to the Chicago, Milwaukee and St. Paul Railway wharf at Pine Street via Dock Street.

7) Lake Line: from downtown to Silver Beach on Lake Whatcom via Dock, Kentucky, Woburn, Lakeway, Electric and Alabama (this portion of Alabama is today North Shore Drive).[16]

All of these routes were operated by one-man safety cars with the exception of the Lake Whatcom line and limited use of a two-man car on the Main line. The latter was replaced by a one-man car the following year. The table illustrates the relative importance of each line to the Bellingham Division.

TABLE 3

OPERATION OF STREETCAR ROUTES, JANUARY 1920

Route	Passengers Carried	Cars Operating	(Average)
Main	134,496	6	
North	68,318	3	
York	67,237	3	
Lake	52,469	2.5	(two-man)
Garden	27,488	2	
Harris	10,717	1	
Sehome Wharf	2,312	1	
Main	1,339	.5	(two-man)
	364,176	19	

SOURCE: Puget Sound Traction, Light and Power, Financial Report, January, 1920

Although it would no longer determine the pattern of residential expansion in the growth of the city of Bellingham, the street railway did make solid contributions to the industrial boom of the war years. Perhaps the most important was the way the streetcars provided inexpensive and reliable service between outlying residential areas and the waterfront industries, allowing laborers in shipyards, canneries and lumber mills to commute from relatively pleasant suburban areas rather than have to concentrate in cheap multi-family dwellings in the urban core.

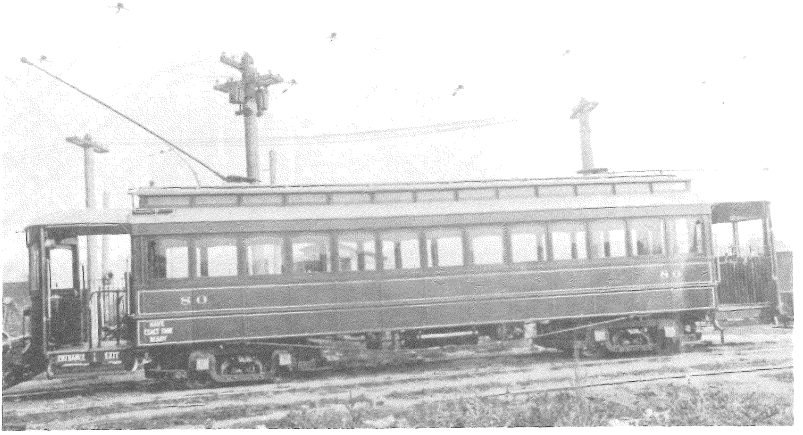
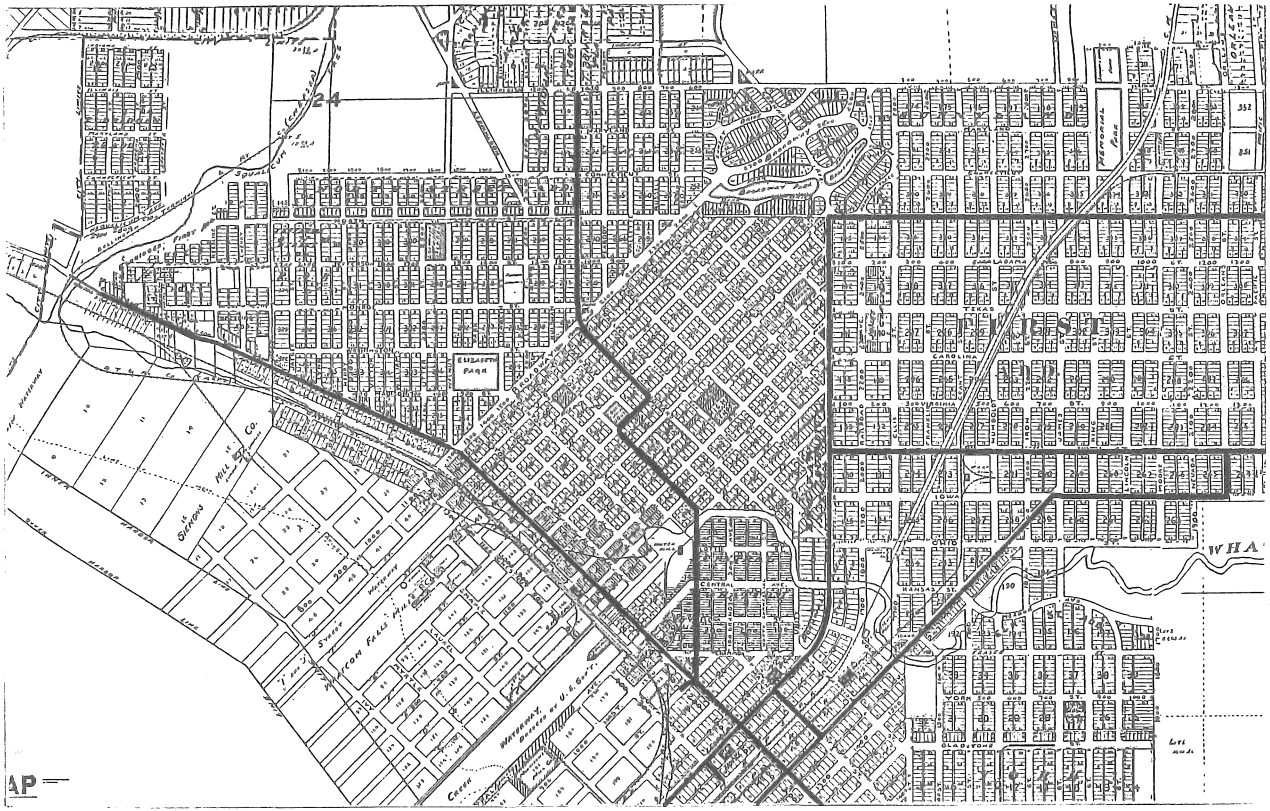


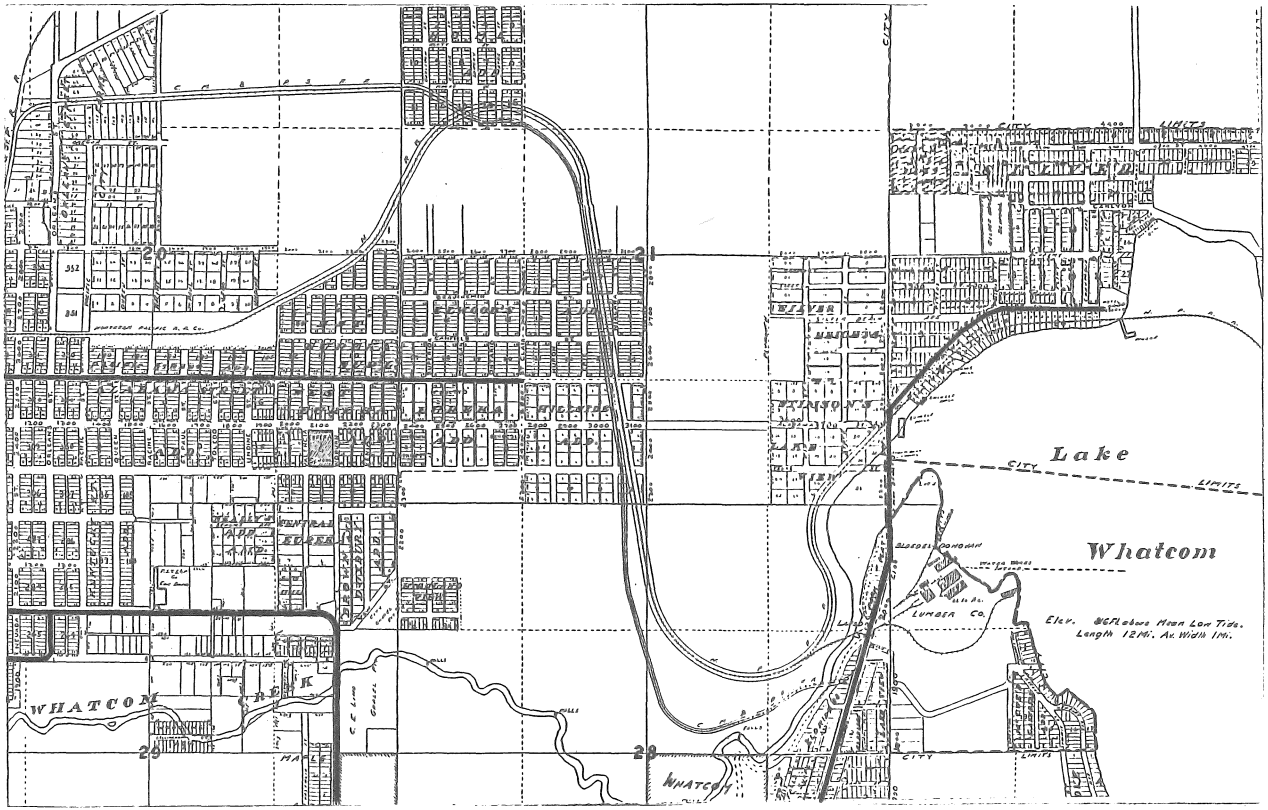
Figure 50. One of the last two-man cars in the Bellingham fleet, #80 was used on the Lake line until the late 1920's. (Puget Power Collection, CPNS)

Puget Sound Power and Light: The Bellingham Division, 1921-1924

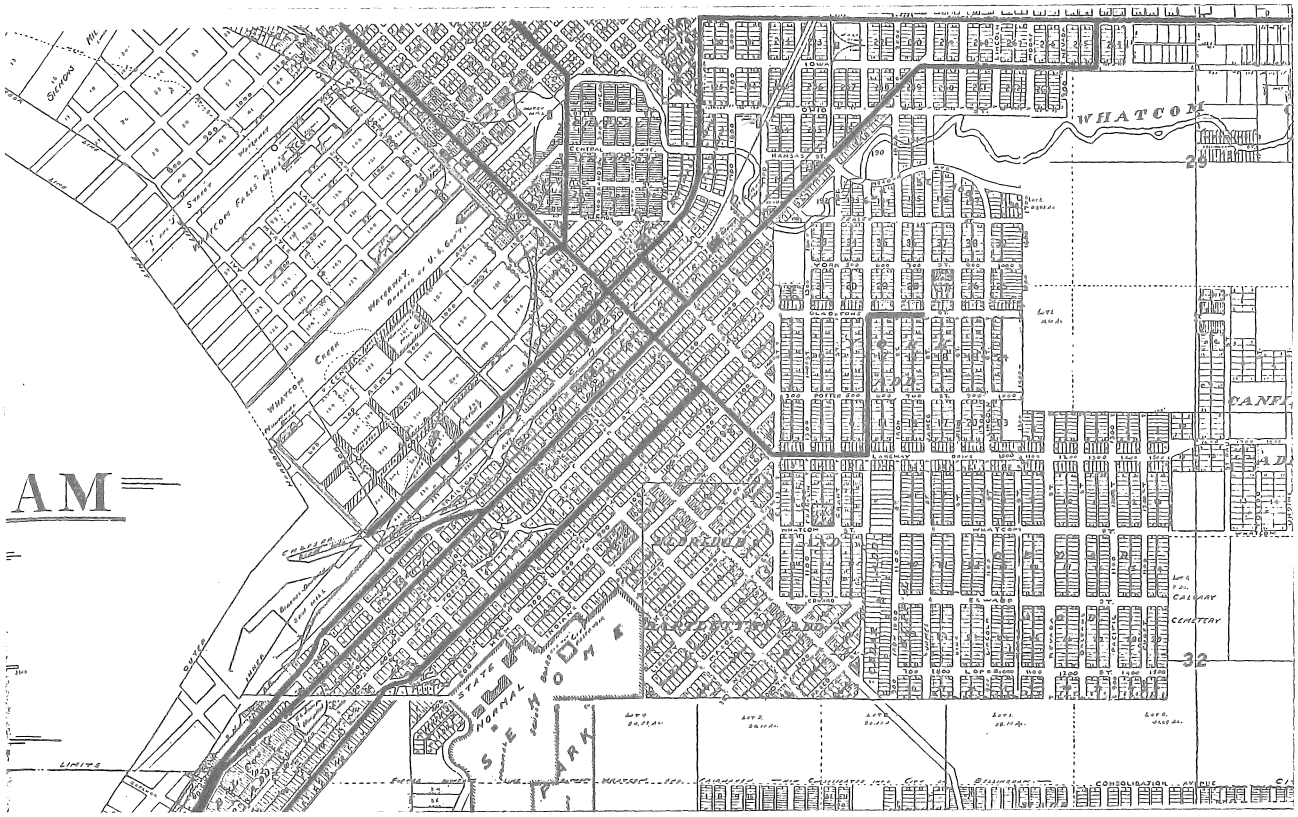
The Bellingham Division entered 1921 with a new name. In the first of several company reorganizations that were carried out during the next decade by Stone and Webster, the parent Puget Sound Traction, Light and Power Company became the Puget Sound Power and Light Company. The dropping of the "Traction" reflected the company's success with the electric power business, and heralded a period when the railway divisions would gradually become neglected stepsisters to the light and power divisions.



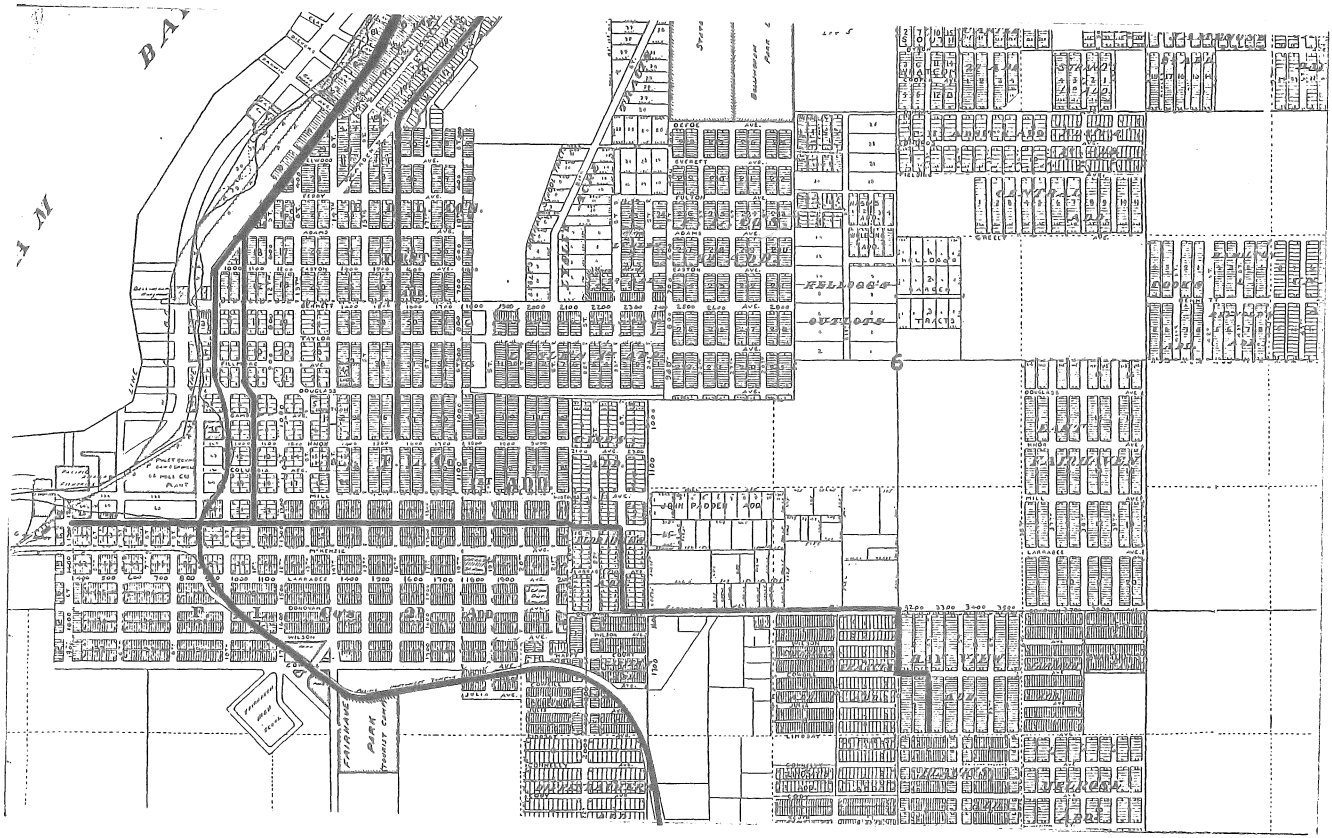
Map 14: Puget Sound Power and Light, Street Railway Lines in North Bellingham, 1922.
(Source: C. M. Adams, "Map of the City of Bellingham," 1922.)



Map 15: Puget Sound Power and Light, Lake Whatcom Line, 1922.
(Source: C. M. Adams, "Map of the City of Bellingham," 1922.)



Map 16: Puget Sound Power and Light, Street Railway Lines in Central Bellingham, 1922.
(Source: C. M. Adams, "Map of the City of Bellingham" 1922.)



Map 17: Puget Sound Power and Light, Street Railway Lines in South Bellingham, 1922. (Source: C. M. Adams, "Map of the City of Bellingham," 1922.)

By January, 1921 the expected postwar depression was well under way. The Public Service Journal reported that the weakness of the lumber market and the elimination of practically all rail shipments had forced all but one of the large Bellingham mills to close. Farm prices were down, especially milk, which at $1.80 per hundred pounds was the lowest in many years.[17] As had come to be a characteristic of the local economy, the only industry still operating at maximum capacity during a depression was the cement plant, a fact largely attributable to the numerous road projects begun after the war.

Another industry which deserves mention during this period was the Bellingham Coal Company mine, located in the northwest corner of the city on Squalicum Creek. The rebirth of the local coal industry after several decades of neglect was spurred by a wartime shortage of petroleum. The mines began producing coal in late 1918, and miners commuting to work made up a significant proportion of the passenger traffic on the York-Courthouse line. Even during the depression of the early 1920's, the mine produced to capacity, approximately 500 to 600 tons of coal per day.[18]

Passenger revenues on the Bellingham Division's lines fell from their wartime peak during 1921, managed a small increase in 1922 as the lumber market recovered from the brief depression, then fell again in 1923. From 1922 on, the decline in street railway revenue was attributable to competition from the private automobile rather than to economic fluctuation. Indeed, the entire decade was a period of unprecedented growth for the Pacific Northwest, but like the interurban, the street railway failed to keep pace with this growth.

Much of the increase in automobile travel was attributable to an aggressive policy of encouraging tourism in Northwest Washington. Work began in 1920 on a scenic highway between Glacier and Mount Baker to attract tourists, and the construction of the Chuckanut Mountain segment of the Pacific Highway was intended to have the same result. American and Canadian customs officers reported that in 1921, 77,499 automobiles crossed the border. Some 15,000 of these were described as being "tourist vehicles."[19] In May, 1922, a ferry service was begun between Anacortes and Sydney, British Columbia, which was so successful that the Canadian Pacific Railway got into the act the following summer with a 50 automobile, 250 passenger ferry between Victoria and Bellingham.

The success of the motor bus in interurban transportation following its introduction to the Stone and Webster empire in 1921 soon led to the use of buses as "feeders" to the street railway systems. Everett was the first to

integrate buses into its streetcar system. On December 1, the Colby Avenue line was converted to bus operation, and despite snow and cold weather the bus proved a tremendous success. Encouraged by this reception, the Bellingham Division leased a fifty-horsepower White bus from the Puget Sound International Railway in July, 1923, and placed it in operation on Meridian Street between the end of the streetcar tracks at Illinois Street (the York-Courthouse line) and the coal mine. A demand for service in this area had existed since the mine was opened in 1918 but Puget Power did not wish to risk extending the street railway any further until the potential of the bus as a feeder could be proven. The success of the Everett city buses as well as those of the Pacific Northwest Traction Company had sealed the fate of the street railway.

Passenger revenues on the Bellingham Division in 1924 were slightly better than the preceding year--$198,694 compared to $198,128[20]--but it was the last increase the line would ever see. It resulted from a combination of booming lumber business and a fare reduction: twenty tickets for one dollar beginning in May, 1923, as opposed to fifteen per dollar before.[21]

In July, 1924, the Puget Sound Power and Light Company again reorganized its Western Washington properties. As the Baker River hydroelectric project began to take shape, plans were made to connect the power transmission lines of Whatcom and Skagit Counties to the rest of the Puget Power system. Each of the regional offices became a district with a geographical name. Hence, the Bellingham office became the headquarters for the Northern District, Seattle the Central District, Everett the Northeastern District, Grays Harbor the Southwestern District, Tacoma the Southern District, and Wenatchee the Eastern District. After 1924, the Northern District was primarily an electric power company, with the street railway operated more as a public service than anything else. In the format of the company's operating reports to Boston, railway data was moved to the last section of the report, while the more important first pages detailed the light, power, gas and bus operations.

Puget Sound Power and Light: The Northern District, 1925-1930

There is relatively little to be said about the Northern District's last fifteen years of streetcar operation. In the first place, the private automobile by 1925 had entirely eliminated the street railway's role in influencing the growth of Bellingham since almost all of the new residential areas built

during the 1920's were beyond the limits of the streetcar tracks. In addition, the change in format of company operating and financial reports previously mentioned reduced any references to railway operations to the absolute minimum. After 1925, the operating reports show only monthly car-miles and number of passengers. Financial reports are similarly terse, giving only basic revenue figures instead of the more detailed computations of earlier years. And the local manager's report which accompanied the financial report--previously a mine of information about street railway operations--hardly mentions them at all, except for an occasional reference to the damage private automobiles were inflicting upon his estimates of passenger revenues.

Summary

The last streetcar to operate on the Northern District's Bellingham line ran on December 31, 1938. Thereafter the various routes pioneered by the Bellingham Bay Electric Street Railway, Fairhaven Street Railway, Lake Whatcom Electric Railway, Fairhaven and New Whatcom, Northern Railway and Improvement, Whatcom County Railway and Light and the railway divisions of Puget Sound Power and Light were taken over by buses and the electric railway era in Northwest Washington came to an end.

That the streetcars were not replaced any sooner than 1938 by buses, as had been the case elsewhere on Puget Sound, is a fact attributable chiefly to the Great Depression. Although Puget Power realized that buses would be much cheaper to operate than the aging streetcars, the necessary capital to make the shift was not available until the late 1930's. In addition to these economic factors, it should also be noted that the streetcar and the private automobile were somewhat incompatible modes of transport. Although the problem was serious in the 1920's, by the 1930's the collision rate between streetcars and automobiles had assumed staggering proportions, causing the line many legal problems as well as financial ones.

Finally, there were social and cultural influences working against the street railway during the 1920's and 1930's. As Leslie Blanchard so aptly describes it;

> The forces. . .working against the street railway were legion: the appeal of the novel and chic as against the staid and old-fashioned [;] the obvious convenience of the automobile in those days as yet innocent of traffic jams. . . and polluted air; and, above all, the silent revolution that the motor car was effecting in almost every aspect of American life. . .The trolley car and the world associated

> with it, once full of glamor and luster and adventure symbolized by the gay electric park and the open breezer of warm and nostalgic summer evening memory, had long since faded into the grubbily utilitarian light of common day.[22]

Blanchard goes on to quote a "little ditty" popular during the late 1920's which, perhaps more than anything, sums up the public's attitude toward the streetcar:

> Any girl can be gay in a classy coupe,
> In a taxicab all can be jolly,
> But the girl worth while is the one who can smile
> When you're taking her home in the trolley.[23]

CHAPTER IX NOTES

[1]Cheever, "Electric Railroads in Whatcom County," p. 14. Neither the Financial Reports nor Operating Reports for 1913 can be found among the records of Puget Sound Traction, Power and Light--a serious loss considering the importance of this particular period. Statistical information in this chapter begins with 1914 as a result.

[2]Puget Sound Traction, Light and Power, Financial Report (Bellingham Division), March, 1915.

[3]Stone and Webster, Public Service Journal, Vol. 18 (March, 1916), p. 193.

[4]Hilton and Due, The Electric Interurban Railways in America, p. 86.

[5]Blanchard, The Street Railway Era in Seattle, p. 90.

[6]Puget Sound Traction, Light and Power, Financial Report (Bellingham Division), January, 1917.

[7]American Car was acquired by the J. G. Brill Company in 1902. As the westernmost Brill factory, it supplied many street railway cars to western lines, including the Bellingham Division and its predecessors. In 1915 American's St. Louis plant was the first to build Birney cars, although other companies later held franchises for their construction.

[8]Blanchard, The Street Railway Era in Seattle, pp. 140-141.

[9]Stone and Webster, Public Service Journal, Vol. 19 (November, 1916), p. 326.

[10]The Western Washington Power Company operated a street railway between Greenwood and Ballard in Seattle. See Cheever, The Development of Railroads in the State of Washington, Vol. 2, p. 79.

[11]Puget Sound Traction, Light and Power, Financial Report (Bellingham Division), January, 1919.

[12]Puget Sound Traction, Light and Power, Financial Report (Bellingham Division), July, 1919. The Puget Sound Electric Railway was formerly the Seattle-Tacoma Interurban Railway, and bore the same relationship to the Tacoma street railway as did Pacific Northwest Traction to the Bellingham Division of Puget Sound Traction, Light and Power.

[13]Stone and Webster, Public Service Journal, Vol. 27 (October, 1920), p. 282.

[14]Puget Sound Traction, Light and Power, Financial Report (Bellingham Division), January, 1920.

[15]A semi-convertible car was one in which the upper and lower window sashes could be removed during summer months. Used primarily on the Lake line, this type of car had proven more adapted to the local climate than the early open-sided convertible or "California" type cars.

[16]Puget Sound Traction, Light and Power, Operating Report (Bellingham Division), January, 1920.

[17]Stone and Webster, Public Service Journal, Vol. 28 (January, 1921), p. 77.

[18]Stone and Webster, Public Service Journal, Vol. 28 (May, 1921), p. 434.

[19]Stone and Webster, Public Service Journal, Vol. 30 (March, 1922), p. 264.

[20]Puget Sound Power and Light, Financial Report (Bellingham Division), December, 1924.

[21]Puget Sound Power and Light, Operating Report (Bellingham Division), May, 1923.

[22]Blanchard, The Street Railway Era in Seattle, p. 117.

[23]Ibid., p. 117.

CHAPTER X

SUMMARY AND CONCLUSIONS

The electric railway occupies a unique and frequently overlooked position in the development of transportation in the Pacific Northwest. Electric street and interurban lines were a technological steppingstone between steam railroads and the earliest motor vehicles. On Puget Sound, where geographical features such as heavy timber, rugged topography and sheltered deep water favored water transport until the beginning of the twentieth century, these electric railways were also an important phase in the shift to dependence on land transport.

The first electric street railways in this study area were begun by Bellingham Bay entrepreneurs seeking to: 1) promote sales of their real estate holdings in outlying areas, and 2) give the settlements a modern-appearing urban transit system to encourage outside industry and capital investment. Actual revenue to be accumulated from passenger and freight movement appears to have originally been of secondary importance to these first two factors.

The local organizers of the street railways were forced to seek Eastern capital to back their ventures, and when the bottom fell out of the 1890 railroad boom with the "Panic of 1893," the Bellingham Bay lines were left in the hands of the General Electric Company of Schenectady, New York. The administration of the consolidated Bellingham lines was handled by Northern Railway and Improvement, a General Electric subsidiary which was acquired by the Stone and Webster Management Association of Boston in 1902.

From 1902 to 1912 the Bellingham street railway was operated by Stone and Webster as the Whatcom County Railway and Light Company. With the introduction of Eastern control their lines were modified and extended into previously unserved areas of the city. As it had during the first decade of street railway operation, the extensions made during the period from 1902 to 1913 exhibited a strong influence in the pattern of residential expansion in Bellingham. Most prominent among these "streetcar suburbs" (as they have been so aptly described by Sam B. Warner, Jr.) were Lakeway, Happy Valley, Silver Beach, the west side of Sehome Hill, most of the area between Broadway and Squalicum Creek, the Alabama/North Street corridor from Cornwall Avenue to Alabama Hill, and the York Addition.[1]

The street railway not only influenced the physical growth of Bellingham but its political administration as well. When the first street railway was

proposed in 1890, there were four separate settlements on Bellingham Bay. The merger of the two northernmost--Whatcom and New Whatcom (formerly Sehome)--in 1891 was a direct outgrowth of the cooperation fostered by building the Bellingham Bay Electric Street Railway to connect the communities. Similarly, the 1903 vote to merge Whatcom with rival Fairhaven owed a great deal to the spirit of mutual dependence brought about by the operation of the Fairhaven and New Whatcom Railway.

The success of the street railways led to the extension of electric lines into rural areas and ultimately to the connection of urban areas by larger and faster electric cars called interurbans. Between 1900 and 1914, Whatcom and Skagit counties were virtually hotbeds of interest in the construction of interurban lines. Farmers of the Nooksack Valley and Skagit Valley were especially interested in building interurbans in order to get their farm produce to the nearest steam railroad and then to market. The construction of the Bellingham and Skagit Railway in 1911-1912 represented an attempt by Stone and Webster to funnel the agricultural bounty of the Skagit Valley through Bellingham, the nearest seaport and major regional railroad center. Plans to build north from Bellingham to tap the rich Nooksack Valley were shelved at the outbreak of World War I.

Stone and Webster spared no expense in their construction of the Bellingham and Skagit, which was renamed Pacific Northwest Traction Company in early 1912. However, their failure to connect the Bellingham-Mount Vernon segment with the Seattle-Everett portion of the new line because of a war-caused lack of capital doomed the line from the beginning. Like most other Northwest industries, the interurban did well during the latter part of the war, but over the long run it was financially unsuccessful. The Puget Sound Power and Light Company, which administered Stone and Webster's Washington properties, continued to operate the line at a loss until 1930 when rail operations were ended.

As had been the wish of its builders, Pacific Northwest Traction's Northern Division had greatly accelerated agricultural, industrial and residential growth along its route. Of these three types of growth, that of agriculture was the most influenced by the interurban. Most notable was the rapid spread of dairy farming along the Pacific Northwest Traction right of way, attributable chiefly to the interurban's ability to transport fresh milk to nearby condenseries in a matter of hours. Also of importance was the spread of fruit and berry growing and packing in Skagit County and the beginning of commercial oyster raising in Samish Bay, all of which relied on the cheap and frequent rail service offered by the interurban.

In terms of industrial growth, the interurban's freight service directly supported the various logging camps on Chuckanut Mountain and the Edison and Blanchard shingle mills. The line also rendered service to the larger Bellingham mills by handling loaded railcars and providing a market for mill waste lumber in Skagit County by selling it to the condenseries for fuel. By providing access to Chuckanut Mountain gravel pits the interurban served the growing concrete industry at Bellingham and Concrete, and was instrumental in providing materials for the county road building project of the 1920's.

The building of the interurban opened the area along the shore of Chuckanut Bay for residential use, and made the tiny communities of Edison and Allen local commercial centers for the surrounding farm residents. On a larger scale, the coming of the electric railway forever ended the relative isolation of the farms to the north and west of Skagit River by providing them with easy access to the commercial centers of Bellingham and Mount Vernon. Not only did the interurban provide these rural areas with commercial contacts but also with social and cultural ones: schools (up to and including the Normal School at Bellingham), libraries, churches, cultural events--all were now less than an hour from any point on the line. Thus, the Pacific Northwest Traction Company played an early and major role in the great social revolution of the twentieth century--a role which after only a few short years was surrendered to the automobile.

The decline of Pacific Northwest Traction's Northern Division was a result of the gradual usurpation of the line's short-haul passenger and freight business by private automobile and trucks. As early as 1914 the motor truck was handling a large part of the fresh milk business begun by the interurban, and by 1916 "jitneys" were making inroads on the line's Skagit County passenger revenues. By 1920 a combination of private automobile, trucks and buses had almost completely taken over the short-haul business, forcing Pacific Northwest Traction into adopting buses and shifting emphasis to long-haul passenger and freight service. This move placed the traction company in direct competition with the steam railroads, leading to "rate wars" which further reduced electric railway revenues. During the 1920's the bus service became more and more popular with the travelling public and Stone and Webster chose to finally abandon the unprofitable interurban service in 1930 and shift to buses to better compete with the steam railroads. The wisdom of this decision is currently reflected in the poor state of railroad passenger service all over the United States.

The dramatic increase in the ownership of private automobiles during the 1920's and, in particular, the use of these automobiles for commuting to work, had a similar effect on the street railways of Bellingham. Following the successful adaptation of motor buses for city use in Everett, Puget Power began using buses as "feeders" to street railway lines in Puget Sound cities during the late 1920's. As public acceptance of buses increased, as the traction companies realized that the buses provided better, more flexible service at less cost, and as the automobile and streetcar proved to be something less than compatible modes of transit, the main downtown streetcar lines were replaced by buses and the tracks either torn up or paved over. Ironically, it was in most cases the street railway company which had paved the downtown streets which in turn were used by the automobile.

In recent years soaring petroleum prices, overcrowded city streets and unacceptably high levels of atmospheric pollution have caused transportation planners to take a second look at the advantages that were offered by the now defunct electric railways. In Detroit--North America's "Motor City"--three seventy-five year old Brill single-truck streetcars are being refurbished to operate in the downtown hotel and convention district. The reasons are largely economic: "The trolley system is cheap compared to highways or other transportation systems," states Detroit city planner Alex Pollack. "The whole system would cost less than six General Motors buses."[2]

In addition to being functional, the old cars are expected to serve educational and historical purposes as well, in much the same fashion as the cable cars of San Francisco. In the case of Detroit, "Revitalizing the streetcar system. . . was like 'going into the garbage pail to pick up on a good thing that was thrown out in the past.'"[3]

In Seattle, where many of the downtown electric streetcar lines were replaced with rubber-tired electric buses (still called "trolleys," incidentally) in the 1940's, fuel expenses and pollution problems are forcing the city to take a closer look at expanding the electric trolley fleet. Setttle's Metro Transit has even gone so far as to buy back a 1940 Brill electric coach which in 1963 had been sold to an electric transit museum! Metro plans to add another 28 miles of trolley route to the present 30 miles by 1978, and is accepting bids for 125 new trolley buses.[5]

A more recent development in Seattle has been the decision to install a traditional tracked streetcar line by 1979, in the waterfront area.[16] Although primarily

an exercise in nostalgia rather than economics, these streetcars would nonetheless help to ease the traffic and parking problems in this crowded portion of the city. Current plans call for the line to utilize 1.5 miles of abandoned railroad track adjacent to the Alaskan Way Viaduct between South Washington Street and Broad Street. Two 50-year old streetcars have been purchased from the city of Melbourne, Australia, and are being shipped to Seattle. Given the role of streetcars in Seattle's history, it is extremely unfortunate (in my personal opinion) that replicas of original streetcar types could not be used, but the cost would be prohibitive.

There has also been in recent years a resurgence of interest in interurban railways. The prime example is the construction of the Bay Area Rapid Transit (BART) line in the San Francisco Bay area. The BART system is not electrically powered, but a similar system built in the Pacific Northwest would probably be for economic reasons.

In the larger cities of the Eastern Seaboard, the function of the electric interurban has in many cases been taken over by diesel railroads such as the Penn Central. Some are electrically powered, however, most notably the Reading Railroad commuter lines in Philadelphia. The Reading recently added a 1.8 mile extension near the suburb of Hatboro that is the first new electric railway built in the United States since before World War II.[5]

It is becoming more obvious with each passing year that the electric street and interurban railways, which were abandoned so hastily in favor of the motor vehicle, may once again return (although in more modern form) to provide the answers for mass urban and interurban transit in the Puget Sound region as well as elsewhere in the 1980's.

CHAPTER X NOTES

[1]Although the streetcar line ran from Cornwall Avenue to St. Clair Street at the foot of Alabama Hill via North Street, it is today Alabama Street which is the main thoroughfare. North Street east of Interstate 5 is little more than an alleyway. The reason that Alabama became the main route is because an eastward continuation of that street offered a much easier grade to automobiles than a similar extension of North Street.

[2]"Downtown Detroit to Use Revitalized Trolley System," Seattle Times, July 23, 1975, p. E-19.

[3]Ibid.

[4]"1940 Trolley Coming Back to Work," Seattle Times, June 5, 1975, p. G-8.

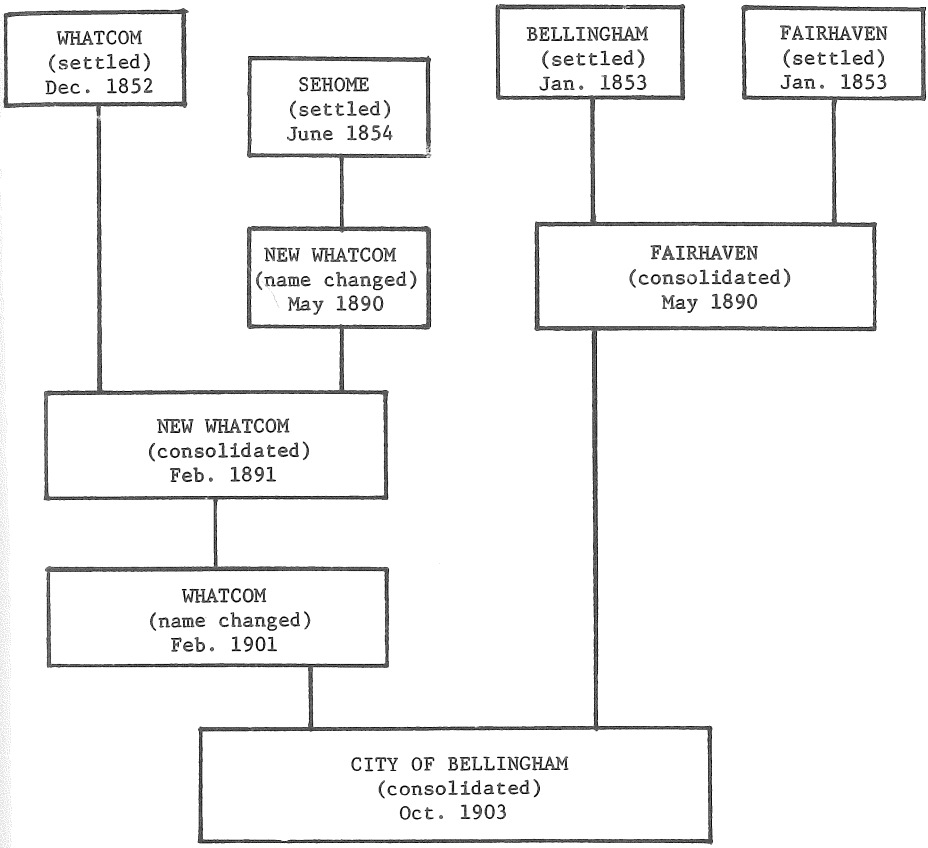
[5]"Trolley System Revitalized," Seattle Times, October 21, 1976, p. C-8.

[6]"Waterfront Streetcars Named Desire for Summer," Seattle Times, December 12, 1972, p. A-14.

[7]Sam Ward (Engineer, Reading Railroad), informal interview held aboard Reading electric interurban car during run from Philadelphia to Hatboro, September 6, 1974.

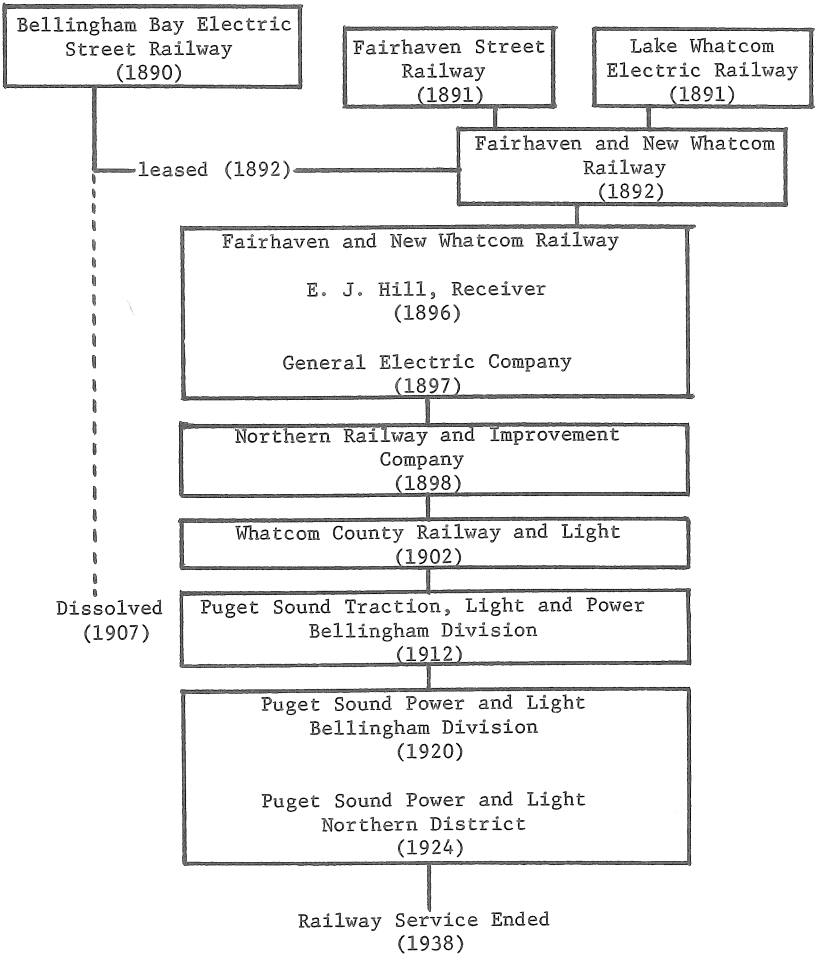
APPENDIX A

MUNICIPAL EVOLUTION OF THE BELLINGHAM BAY SETTLEMENTS



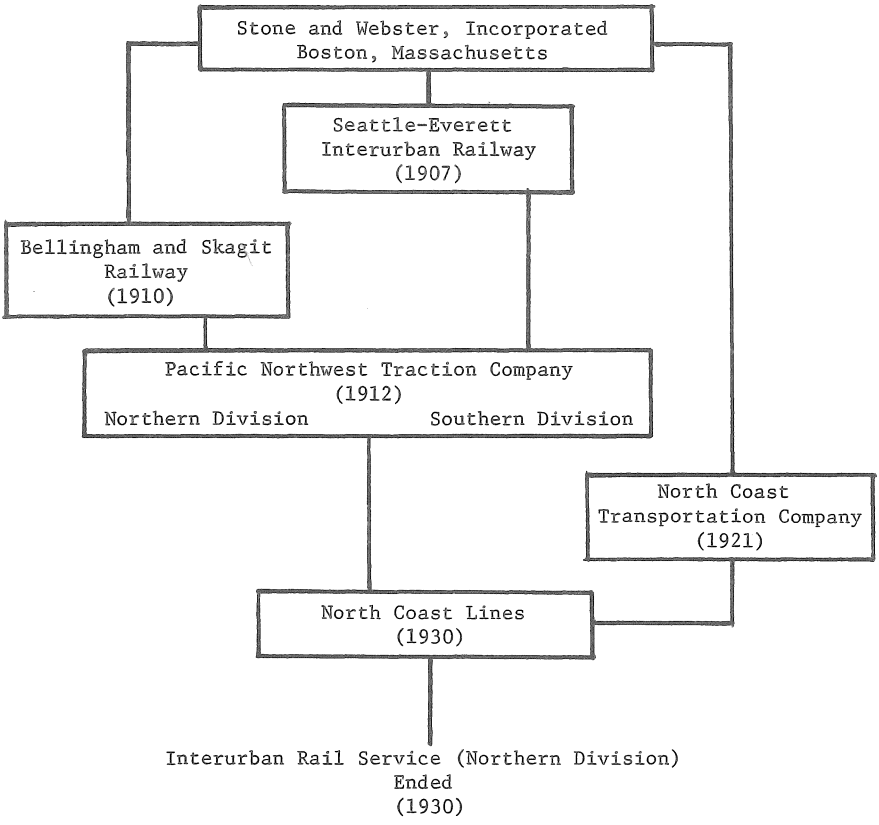
APPENDIX B

CORPORATE EVOLUTION OF BELLINGHAM STREET RAILWAYS



APPENDIX C

CORPORATE EVOLUTION OF THE BELLINGHAM-MOUNT VERNON INTERURBAN



APPENDIX D

A GEOGRAPHY OF SURVIVING ELECTRIC RAILWAY FEATURES
IN WHATCOM AND SKAGIT COUNTIES: 1978

It is unfortunate that only a fraction of what was once a major transportation system remains to be seen by the interested student of local history and economic development. But during the depression years of the 1930's and war years of the 1940's, little thought was given to any preservation of what was generally considered to be an archaic system of transit. Terminals and waiting stations were put to other uses or torn down, rails were sold for scrap and electric cars were either bought by other railroads or simply left to rot after being stripped of usable equipment. However, a few things do remain to remind us of the days when the "trolley" was in its glory--all it requires is an observant eye and a little legwork.

As might be expected, practically nothing remains of the three original Bellingham street railways built in 1890-1891. However, there are several places where rails and pavement of their successors--Whatcom County Railway and Light, Puget Sound Traction, Light and Power, and Puget Sound Power and Light--may still be seen.

Until the 1975 repaving of Eldridge Avenue, a pothole at Broadway revealed the rails of the old "Main line" route pioneered by the Bellingham Bay Electric Street Railway. In old Fairhaven, the tracks of the line of the Fairhaven Street Railway are still visible on 11th Street between Douglas and Harris--one of the few places in the city where no effort has yet been made to pave them over. Also, the brick paving originally placed between the streetcar tracks runs up the center of Harris Avenue between 8th and 14th Streets, and the actual rails may still be glimpsed at strategically located potholes such as that at 12th and Harris.

Across from the Bellingham Post Office, on the east side of the Prospect-Dupont Street bridge, the approaches to the old streetcar bridge across Whatcom Creek can be seen. As noted in the text, this bridge connected with Ellsworth Street rather than Dupont so the streetcar rails emerge from under the pavement, then stop abruptly at the edge of the ravine.

The route to Silver Beach pioneered by the Lake Whatcom Electric Railway and its immediate successor, the Fairhaven and New Whatcom, is relatively easy to

trace due to the relatively undeveloped nature of much of the line. The railroad tracks in the center of Kentucky Street from Grant to Pacific were originally those of the Lake Whatcom Electric, and were purchased by the Chicago, Milwaukee, St. Paul and Pacific after Puget Power ended streetcar operations. Incidentally, the rounded curb on the southeast corner of Cornwall and Kentucky allowed a smoother curve for streetcars turning onto this line.

The sixty-foot wide right of way granted the Lake Whatcom Electric Railway from the end of Kentucky Street (then at Pacific Street) to Silver Beach is now occupied by the portion of Kentucky Street east of Pacific Street, and Woburn Street. Between Iowa and Fraser, Woburn Street is not paved, and remains almost exactly as it was when the street railway used the route. The supports of the old bridge over Whatcom Creek are still visible on this segment of line. The right of way departs Woburn Street about 1/4 mile north of the Bellingham City Parks Nursery and swings east along the southern margin of Bayview Cemetery. From here it parallels the north side of Lakeway Drive to Electric Avenue. The remainder of the route to the wharf at Lake Whatcom is today occupied by Electric Avenue (a name derived from the streetcar line) and North Shore Drive.

Only four buildings associated with the street railways have survived in Bellingham. One is the large wooden building on Kentucky Street, built as a combination steam power station and car barn by the Lake Whatcom Electric Railway in 1892. Following the removal of the power plant in 1910, the structure was used as a car barn by both the street railways and the interurban. It is presently used as a stable by the Bellingham Riding Academy. The 1908 brick power station at 203 York Street still stands, and is occupied by McKain's Glass, while the adjacent brick power station at 201 York--built in 1910 to replace the old wooden building at the same site--is now used by Construction Supply Company. A small brick transformer building at 205 York, built in 1912, now houses Griffith Printing Company.

The wood frame building at Bay and Holly which served as offices and freight depot for Whatcom County Railway and Light was replaced during the 1920's by the building today known as Bay Street Village. The sandstone Pike Building at State (Elk) and Holly, once the headquarters for Puget Sound Traction, Light and Power and the Pacific Northwest Traction Company, no longer stands--the site today is a vacant lot.

A considerable amount of the Pacific Northwest Traction Company's right of way remains, particularly on the northern portion of the line between South

Bellingham and Clayton Bay. In downtown Bellingham, the only relics of the interurban include the previously mentioned car barns on Kentucky Street and the York Street power stations, the combination bus and interurban terminal on State between Magnolia and Holly (which is today, somewhat ironically, an automobile parts store) and the building at State and Magnolia which presently houses the Puget Power offices and the Greyhound Bus terminal. The latter was built by Puget Power in 1929, and was originally intended to combine the power, railway (street and interurban) and bus departments in one modern building. The acquisition of North Coast Lines by Greyhound in 1948 explains today's joint occupance of the building.

From Ivy Street to old Fairhaven the Pacific Northwest Traction right of way follows the broad west shoulder of the Boulevard, South State Street, 10th and 9th Streets, then runs along Padden Creek and the south side of the Valley Parkway. At 24th Street the line swings south to the Old Samish Highway. Here, just 600 feet east of Chuckanut Drive, stood the huge wooden bridge over Chuckanut Creek called Hibridge. On either side of the creek bed in Arroyo Park may be seen the remains of the concrete piers that supported the steel bridge which replaced the wooden one in 1925.

From Chuckanut Creek south to Clayton Bay the old right of way is easily followed through the dense undergrowth. Almost all of the original cuts and fills are visible, impressing the observer with the quality of construction and the reasons for its tremendous expense. At Clayton Bay the line crosses Chuckanut Drive and descends to sea level--this path is heavily used now for access to the beach below. The overpass at the Great Northern (today's Burlington Northern) tracks is gone but the sandy fill dredged up in 1924 extends almost 1500 feet south of the overpass site.

From Clayton Bay to Blanchard the line has almost completely disappeared. Only an occasional set of pilings remains to indicate the former presence of the long overwater trestle. After 1930 Puget Power continued to use the old trestle's power poles for transmission purposes but damage from teredos to the immersed wood was so great that the powerline was later moved ashore. Some old poles do remain between Pigeon Point and Blanchard, however.

South of Blanchard the Pacific Northwest Traction right of way parallels Chuckanut Drive into Burlington. The exact location is marked by Puget Power's electrical power poles. The line's entrance to and exit from Burlington on Walnut Street is also marked clearly by power lines. South of Burlington the

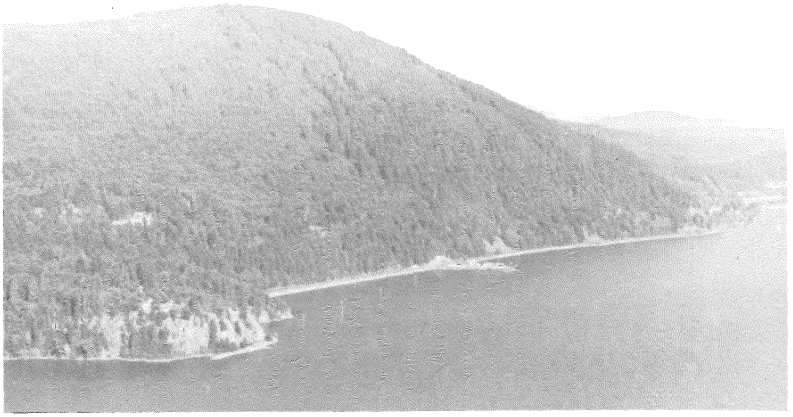


Figure 51. Abandoned power poles mark the route of the Samish Bay trestle south of Pigeon Point. (Photograph by Author)

poles traverse newer residential areas where the fairgrounds and the Darigold condensery were located. The concrete piers of the Skagit River interurban bridge are the most obvious remaining features of the interurban in Skagit County. These are located between the Riverside Drive bridge and the Burlington Northern bridge.

South of the Skagit River the right of way is today occupied by Urban Avenue--a corruption of the word "interurban." The line then parallels the west side of the Burlington Northern as far as Fulton Street where it branches off on 1st Street. The original Pacific Northwest Traction tracks are still visible from Fir Street to the site of the Mount Vernon depot, and are still used by the Mount Vernon Terminals Railway. These tracks occupy the center of 1st Street, traverse the parking lot at Main and Division, then proceed down the middle of Main Street to the intersection with Kincaid Street. The site of the interurban terminal is now occupied by a drug store, while the area which was the loop track is now the south end of the revetment parking area. (The continuation of tracks south of Kincaid Street is an extension added at a later date by the steam railroad.)

The Burlington depot at Walnut and Victoria is no longer at its original location--the building was moved intact to Sedro Woolley for use by the Northern Pacific. The Burlington site is now occupied by the Washington State Parks

Figure 52. Concrete pilings are the only remnants of the Skagit River bridge built by Pacific Northwest Traction. (Photograph by Author)

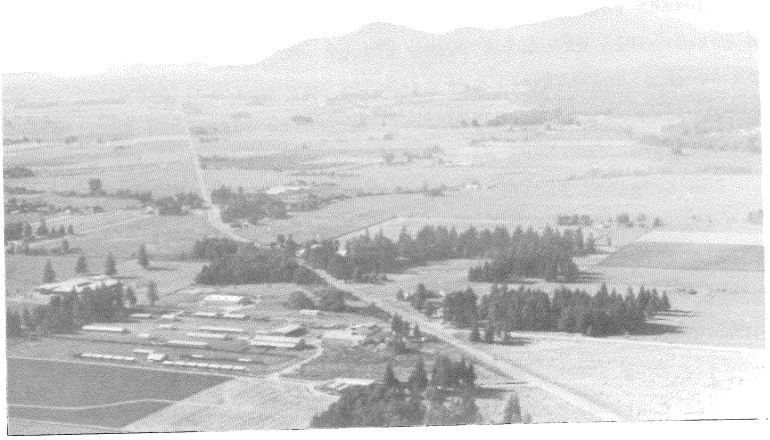


Figure 53. Pacific Northwest Traction route from Blanchard to Burlington paralleled today's Chuckanut Drive. This aerial view looks northwest from Allen toward Edison. (Photograph by Author)

office, although the adjacent power substation remains (in more modern form). The Victoria Street portion of the Burlington-Sedro Woolley line has been paved over, but part of the tracks and brick paving can be seen at Oak Street immediately east of the Burlington Northern tracks.

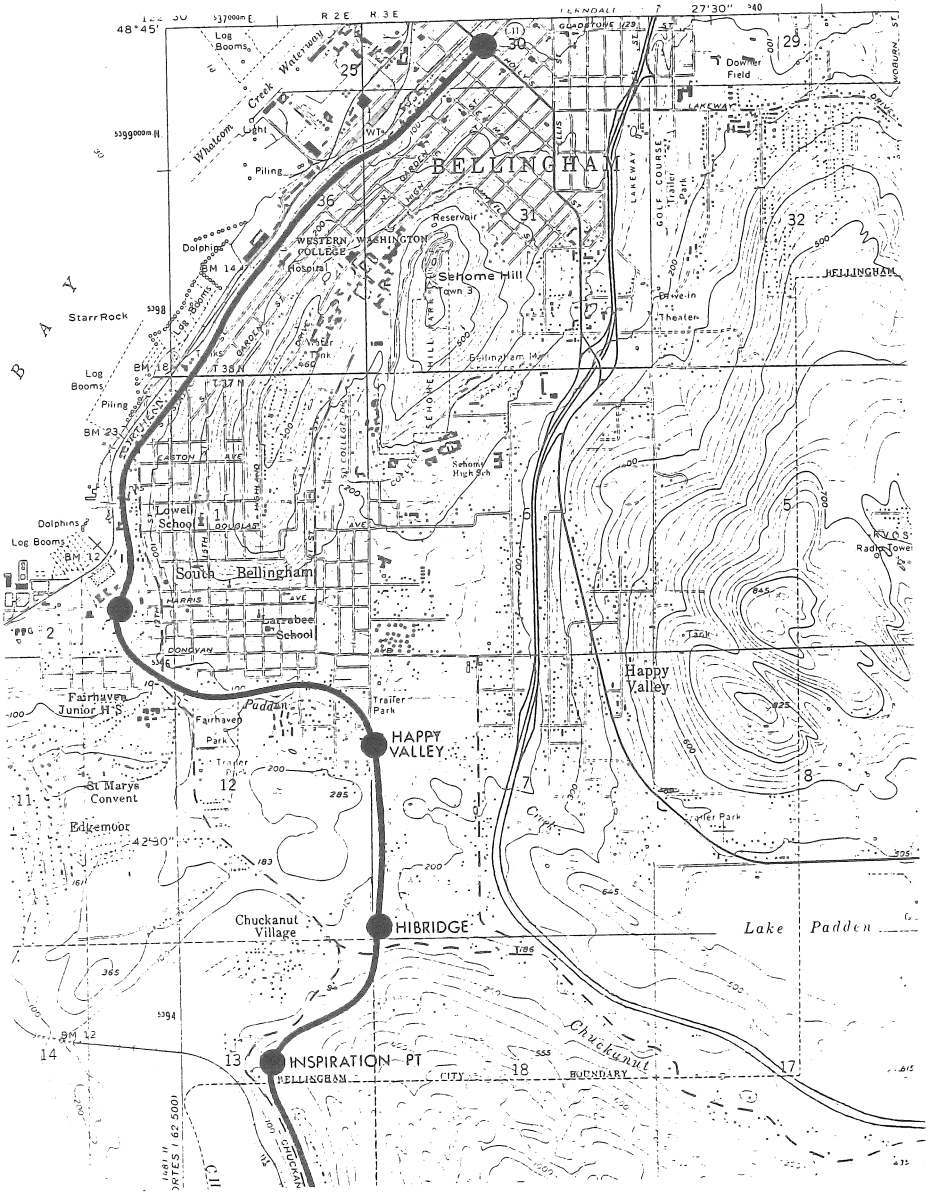
The Sedro Woolley branch of the Pacific Northwest Traction line has almost completely disappeared. The right of way occupies the strip of land between State Highway 20 and the Burlington Northern Railroad, and is marked by a power line. The entrance of the interurban into Sedro Woolley on Woodworth Street has similarly been obscured. Another power substation marks the location of the old Sedro Woolley depot at Rita and Woodworth. Nearby stands the abandoned Burlington depot building.

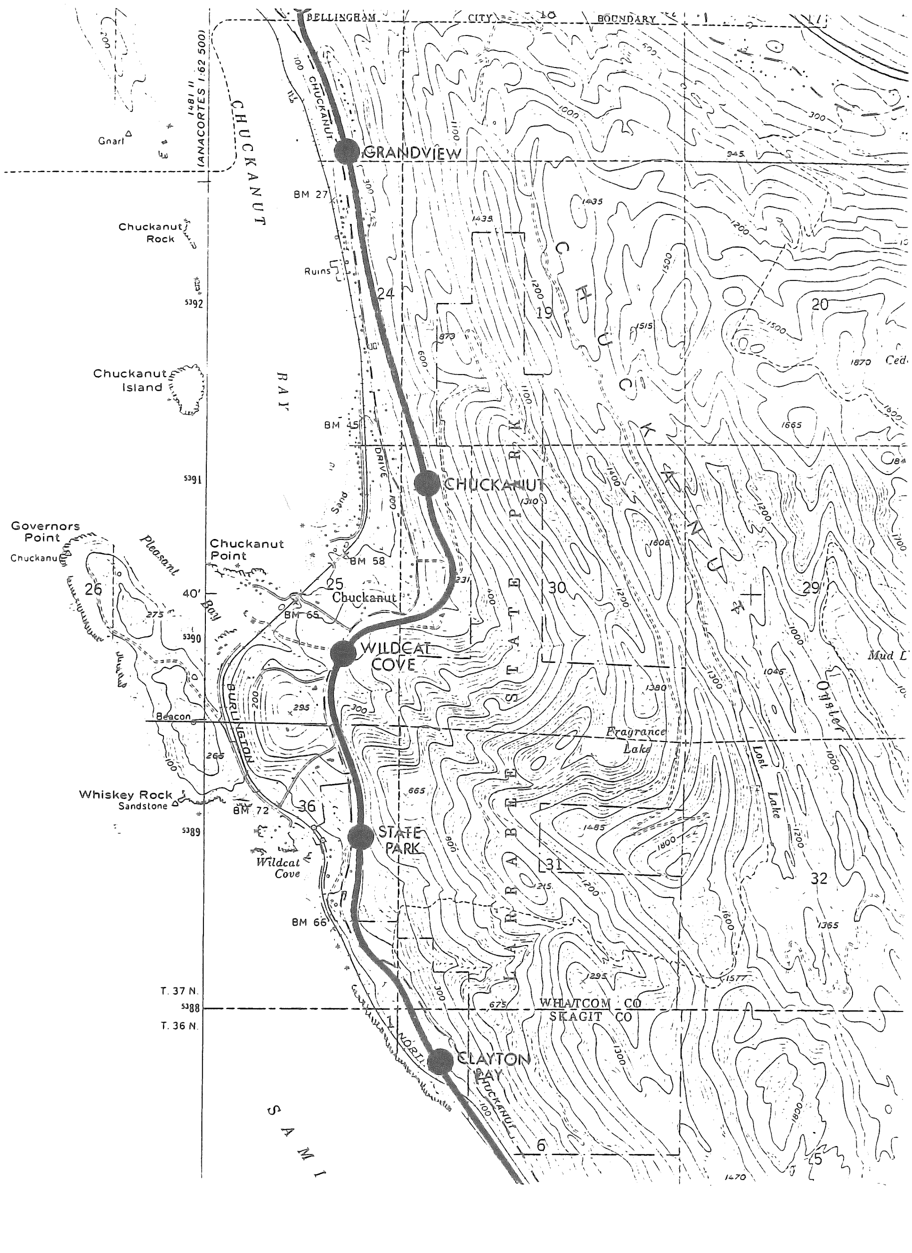
Figure 54. The Burlington interurban depot, now located in Sedro Woolley. (Photograph by Author)

In recent years there has been developed a plan to convert portions of the old Pacific Northwest Traction right of way into a multi-use bicycle, hiking and horseback trail. This plan is centered on the roadbed between old Fairhaven and Larrabee State Park, which, unlike the Skagit County sections on the line, has remained largely undisturbed. It is to be hoped that this historical right of way, a prominent feature of the development of modern transportation in Whatcom and Skagit counties, can thus be once again utilized by the people of this area as it was by an earlier generation.

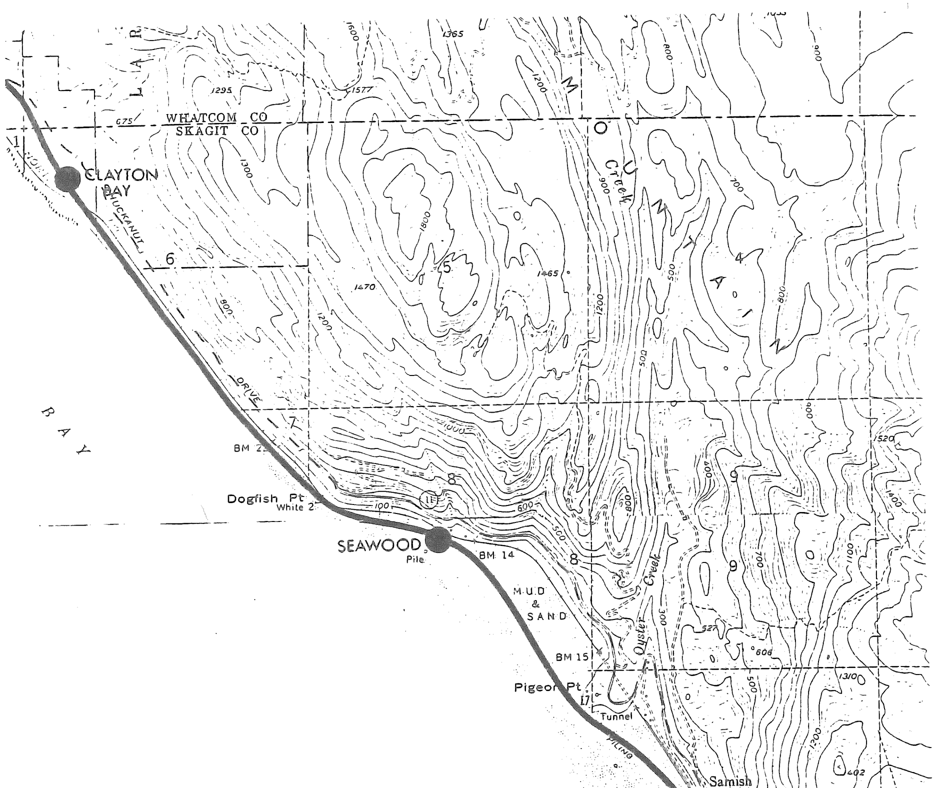
APPENDIX E

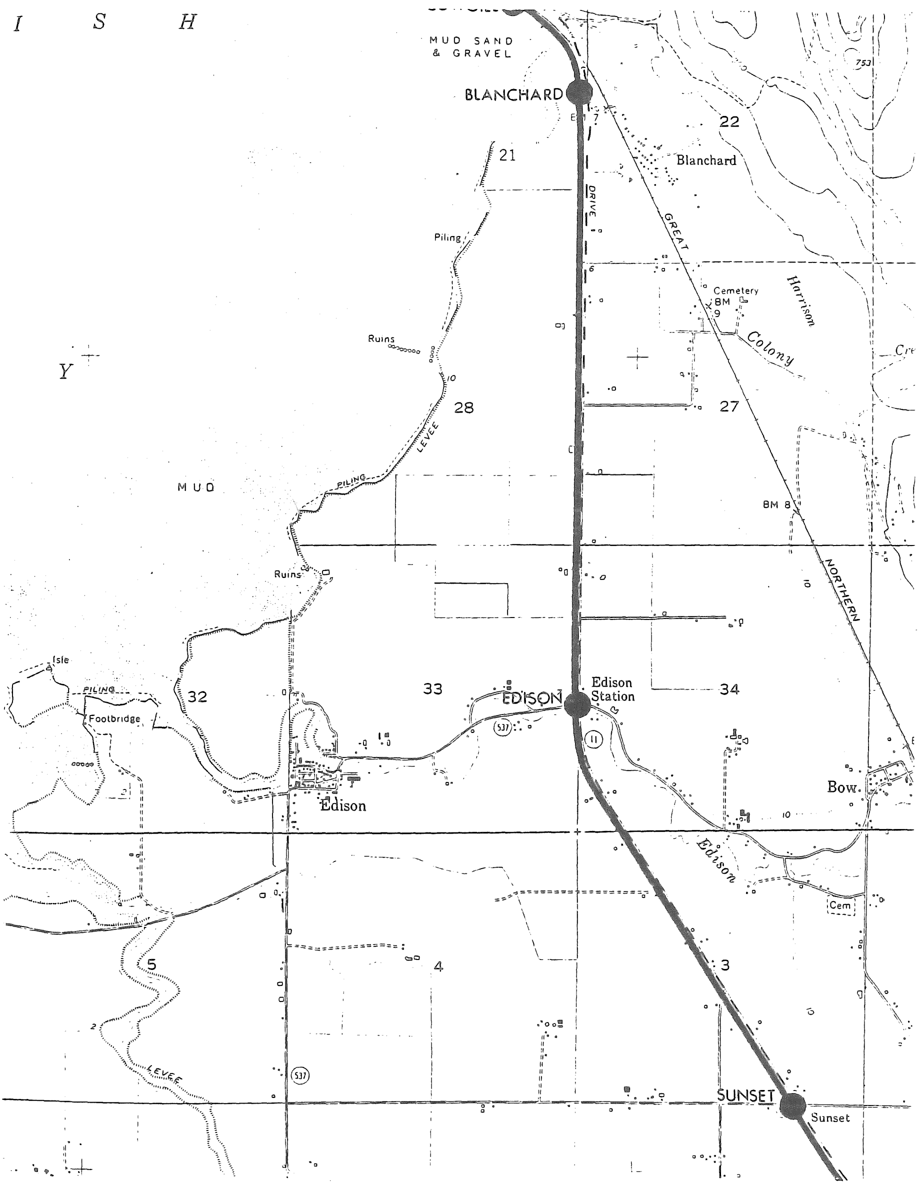
ROUTE AND STATIONS OF THE PACIFIC NORTHWEST TRACTION COMPANY (NORTHERN DIVISION) SUPERIMPOSED ON MODERN U.S.G.S. TOPOGRAPHIC MAPS

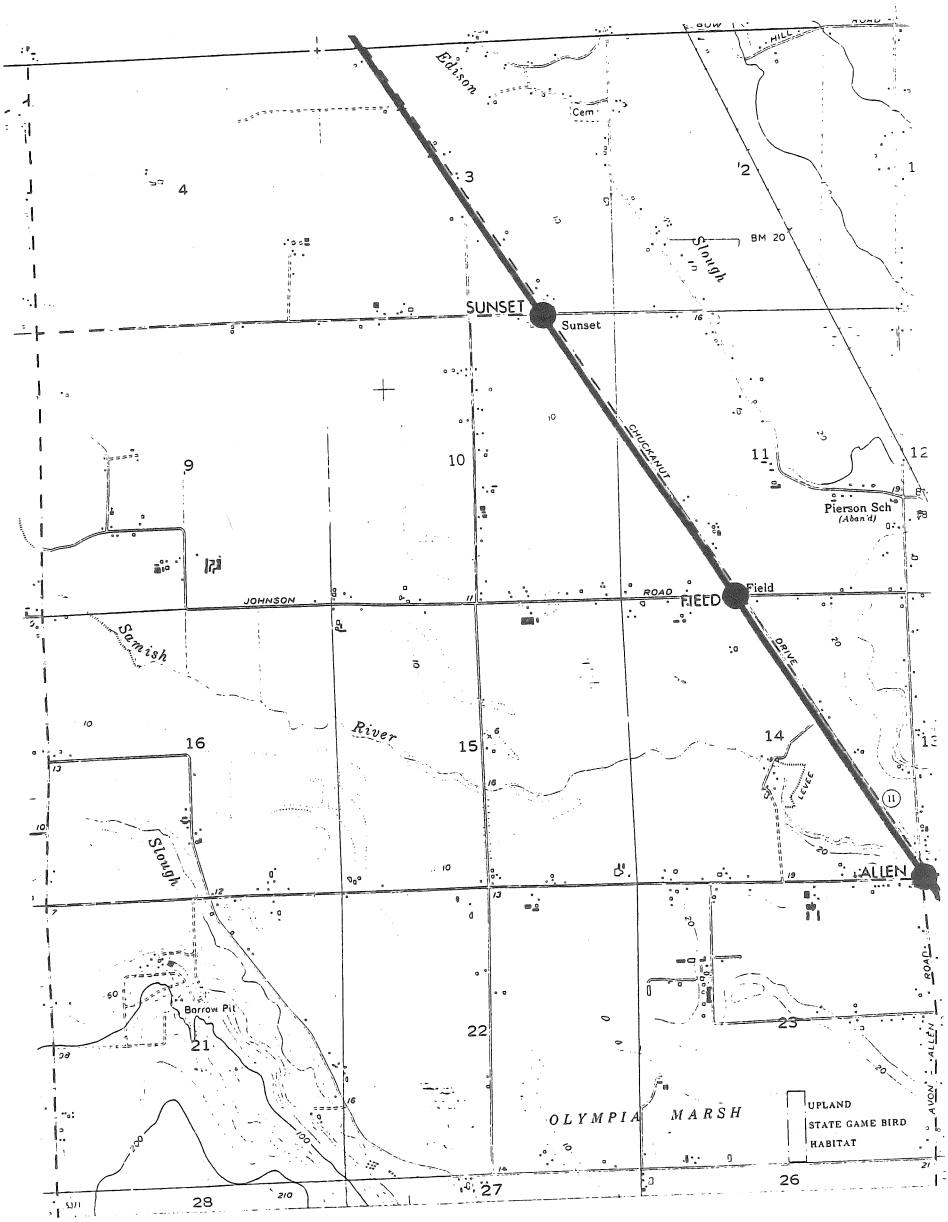

BELLINGHAM
Whatcom Creek
Waterway
Log Booms
Piling
Light
Wtr.
Dolphins
BM 14
Starr Rock
BM 16
BM 23
BM 12
Lowell School
South Bellingham
Larrabee School
Fairhaven Junior H.S.
Fairhaven Park
Trailer Park
Padden
HAPPY VALLEY
St Marys Convent
Edgemoor
Chuckanut Village
HIBRIDGE
INSPIRATION PT
BELLINGHAM CITY
BOUNDARY
Lake Padden
Happy Valley
Chuckanut
Western Washington College
Hospital
Reservoir
Sehome Hill
Sehome High Sch
Bellingham Intl
Drive-in Theater
Golf Courses
Lakeway
Downer Field
Gladstone
Alabama
Donovan
Douglas
Harris
Easton
Broadway
Cornwall
Ellis
Lakeway
Woburn
Division
Orchard
Taylor
Garden
Forest
Cedar
Elk
Dupont
Grant
Ohio
Texas
Alder
Maple
Oak
Walnut
Cherry
Pine
Locust
Chestnut
Magnolia
Holly
Kentucky
Virginia
Indiana
Illinois
Iowa
Kansas
Nevada
Utah
Arizona
Colorado
Montana
Idaho
Oregon
California
Wyoming
Dakota
Minnesota
Wisconsin
Michigan
Ohio
Pennsylvania
New York
Vermont
New Hampshire
Maine
Massachusetts
Rhode Island
Connecticut
New Jersey
Delaware
Maryland
West Virginia
Virginia
North Carolina
South Carolina
Georgia
Florida
Alabama
Mississippi
Louisiana
Arkansas
Missouri
Tennessee
Kentucky
Indiana
Illinois
Iowa
Kansas
Nebraska
Oklahoma
Texas
New Mexico
Arizona
Colorado
Utah
Nevada
Wyoming
Montana
Idaho
Oregon
California
Alaska
Hawaii
Puerto Rico
Virgin Islands
Guam
American Samoa
Northern Mariana Islands
Commonwealth of the Northern Mariana Islands
Federated States of Micronesia
Republic of Palau
Republic of the Marshall Islands
Republic of Kiribati
Republic of Nauru
Republic of Tuvalu
Republic of Fiji
Republic of Vanuatu
Republic of the Solomon Islands
Republic of Papua New Guinea
Republic of Indonesia
Republic of the Philippines
Republic of Singapore
Republic of Malaysia
Republic of Brunei
Republic of Thailand
Republic of Cambodia
Republic of Laos
Republic of Vietnam
Republic of China
Republic of Korea
Republic of Japan
Republic of Mongolia
Republic of Russia
Republic of Kazakhstan
Republic of Uzbekistan
Republic of Turkmenistan
Republic of Tajikistan
Republic of Kyrgyzstan
Republic of Afghanistan
Republic of Pakistan
Republic of India
Republic of Nepal
Republic of Bhutan
Republic of Bangladesh
Republic of Sri Lanka
Republic of the Maldives
Republic of Iran
Republic of Iraq
Republic of Syria
Republic of Lebanon
Republic of Israel
Republic of Jordan
Republic of Saudi Arabia
Republic of Yemen
Republic of Oman
Republic of the United Arab Emirates
Republic of Qatar
Republic of Bahrain
Republic of Kuwait
Republic of Turkey
Republic of Greece
Republic of Cyprus
Republic of Malta
Republic of Italy
Republic of San Marino
Republic of Vatican City
Republic of Slovenia
Republic of Croatia
Republic of Bosnia and Herzegovina
Republic of Serbia
Republic of Montenegro
Republic of Kosovo
Republic of Albania
Republic of North Macedonia
Republic of Bulgaria
Republic of Romania
Republic of Moldova
Republic of Ukraine
Republic of Belarus
Republic of Lithuania
Republic of Latvia
Republic of Estonia
Republic of Finland
Republic of Sweden
Republic of Norway
Republic of Iceland
Republic of Ireland
Republic of the United Kingdom
Republic of France
Republic of Monaco
Republic of Andorra
Republic of Spain
Republic of Portugal
Republic of Morocco
Republic of Algeria
Republic of Tunisia
Republic of Libya
Republic of Egypt
Republic of Sudan
Republic of South Sudan
Republic of Ethiopia
Republic of Eritrea
Republic of Djibouti
Republic of Somalia
Republic of Kenya
Republic of Uganda
Republic of Rwanda
Republic of Burundi
Republic of the Democratic Republic of the Congo
Republic of the Congo
Republic of Gabon
Republic of Equatorial Guinea
Republic of Cameroon
Republic of Nigeria
Republic of Niger
Republic of Chad
Republic of Central African Republic
Republic of South Africa
Republic of Namibia
Republic of Botswana
Republic of Zimbabwe
Republic of Zambia
Republic of Malawi
Republic of Mozambique
Republic of Madagascar
Republic of Mauritius
Republic of Seychelles
Republic of Comoros
Republic of Mayotte
Republic of Reunion
Republic of Saint Helena
Republic of Ascension
Republic of Tristan da Cunha
Republic of Falkland Islands
Republic of South Georgia and the South Sandwich Islands
Republic of Antarctica
Republic of Bouvet Island
Republic of Heard Island and McDonald Islands
Republic of Australia
Republic of New Zealand
Republic of Norfolk Island
Republic of Christmas Island
Republic of Cocos (Keeling) Islands
Republic of Papua New Guinea
Republic of Indonesia
Republic of the Philippines
Republic of Singapore
Republic of Malaysia
Republic of Brunei
Republic of Thailand
Republic of Cambodia
Republic of Laos
Republic of Vietnam
Republic of China
Republic of Korea
Republic of Japan
Republic of Mongolia
Republic of Russia
Republic of Kazakhstan
Republic of Uzbekistan
Republic of Turkmenistan
Republic of Tajikistan
Republic of Kyrgyzstan
Republic of Afghanistan
Republic of Pakistan
Republic of India
Republic of Nepal
Republic of Bhutan
Republic of Bangladesh
Republic of Sri Lanka
Republic of the Maldives
Republic of Iran
Republic of Iraq
Republic of Syria
Republic of Lebanon
Republic of Israel
Republic of Jordan
Republic of Saudi Arabia
Republic of Yemen
Republic of Oman
Republic of the United Arab Emirates
Republic of Qatar
Republic of Bahrain
Republic of Kuwait
Republic of Turkey
Republic of Greece
Republic of Cyprus
Republic of Malta
Republic of Italy
Republic of San Marino
Republic of Vatican City
Republic of Slovenia
Republic of Croatia
Republic of Bosnia and Herzegovina
Republic of Serbia
Republic of Montenegro
Republic of Kosovo
Republic of Albania
Republic of North Macedonia
Republic of Bulgaria
Republic of Romania
Republic of Moldova
Republic of Ukraine
Republic of Belarus
Republic of Lithuania
Republic of Latvia
Republic of Estonia
Republic of Finland
Republic of Sweden
Republic of Norway
Republic of Iceland
Republic of Ireland
Republic of the United Kingdom
Republic of France
Republic of Monaco
Republic of Andorra
Republic of Spain
Republic of Portugal
Republic of Morocco
Republic of Algeria
Republic of Tunisia
Republic of Libya
Republic of Egypt
Republic of Sudan
Republic of South Sudan
Republic of Ethiopia
Republic of Eritrea
Republic of Djibouti
Republic of Somalia
Republic of Kenya
Republic of Uganda
Republic of Rwanda
Republic of Burundi
Republic of the Democratic Republic of the Congo
Republic of the Congo
Republic of Gabon
Republic of Equatorial Guinea
Republic of Cameroon
Republic of Nigeria
Republic of Niger
Republic of Chad
Republic of Central African Republic
Republic of South Africa
Republic of Namibia
Republic of Botswana
Republic of Zimbabwe
Republic of Zambia
Republic of Malawi
Republic of Mozambique
Republic of Madagascar
Republic of Mauritius
Republic of Seychelles
Republic of Comoros
Republic of Mayotte
Republic of Reunion
Republic of Saint Helena
Republic of Ascension
Republic of Tristan da Cunha
Republic of Falkland Islands
Republic of South Georgia and the South Sandwich Islands
Republic of Antarctica
Republic of Bouvet Island
Republic of Heard Island and McDonald Islands
Republic of Australia
Republic of New Zealand
Republic of Norfolk Island
Republic of Christmas Island
Republic of Cocos (Keeling) Islands

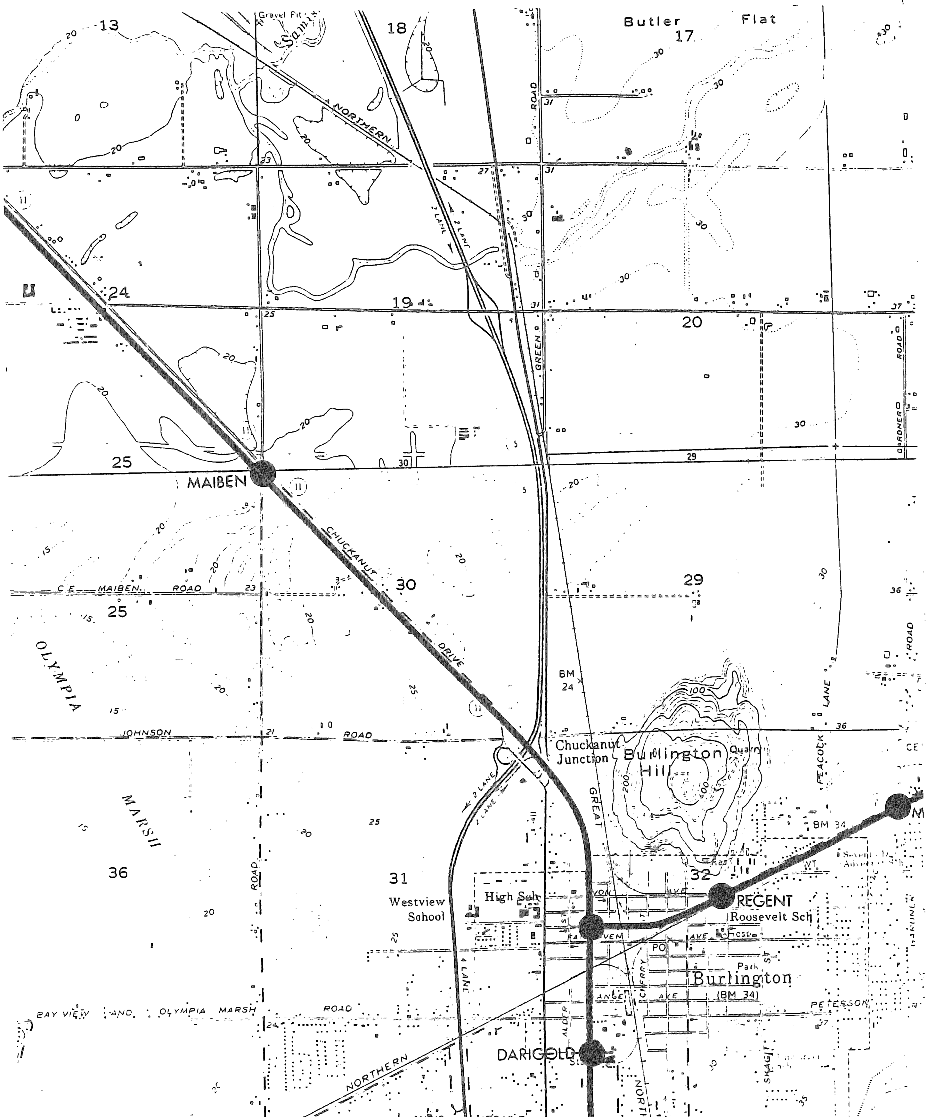


BELLINGHAM CITY BOUNDARY
GRANDVIEW
CHUCKANUT
WILDCAT COVE
STATE PARK
CLAYTON BAY
CHUCKANUT BAY
CHUCKANUT DRIVE
(ANACORTES 1:62 500)
Gnarl
Chuckanut Rock
Ruins
BM 27
BM 5
BM 58
BM 65
BM 72
BM 66
Chuckanut Island
Governors Point
Chuckanut
Chuckanut Point
Pleasant Bay
Sand
Beacon
BURLINGTON
Whiskey Rock
Sandstone
Wildcat Cove
LARRABEE STATE PARK
Fragrance Lake
Lost Lake
Oyster
Mud L
WHATCOM CO
SKAGIT CO
T. 37 N.
T. 36 N.
NORTH CHUCKANUT
SAMI

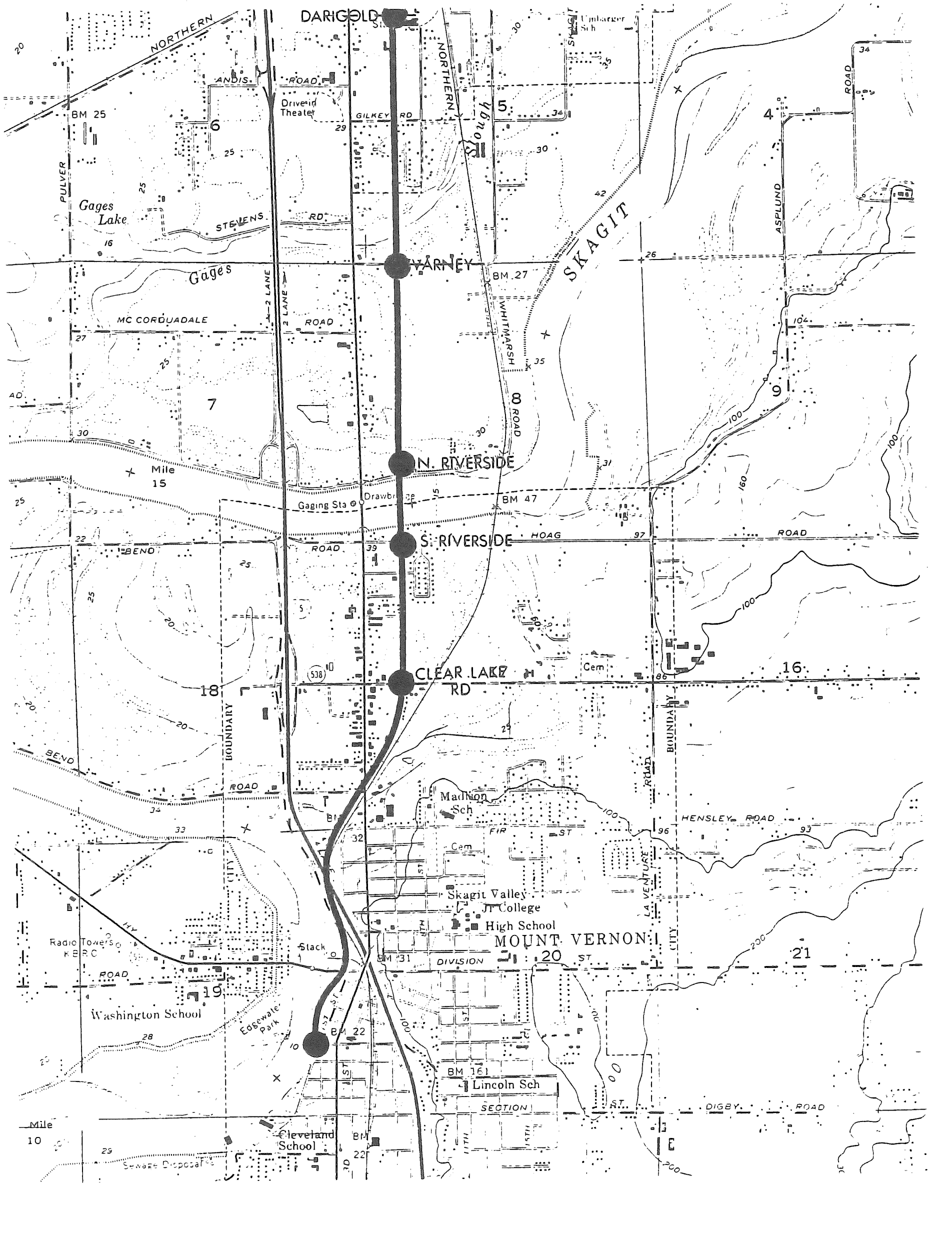

WHATCOM CO
SKAGIT CO
CLAYTON BAY
CHUCKANUT
DRIVE
BAY
BM 22
Dogfish Pt
White 2
SEAWOOD
Pile
BM 14
MUD & SAND
Oyster Creek
Creek
BM 15
Pigeon Pt
Tunnel
Samish
SAMISH
Pile
MUD
CHUCKANUT
BM 17
Windy Pt
COWGILL
MUD SAND & GRAVEL
BLANCHARD
S A M I S H

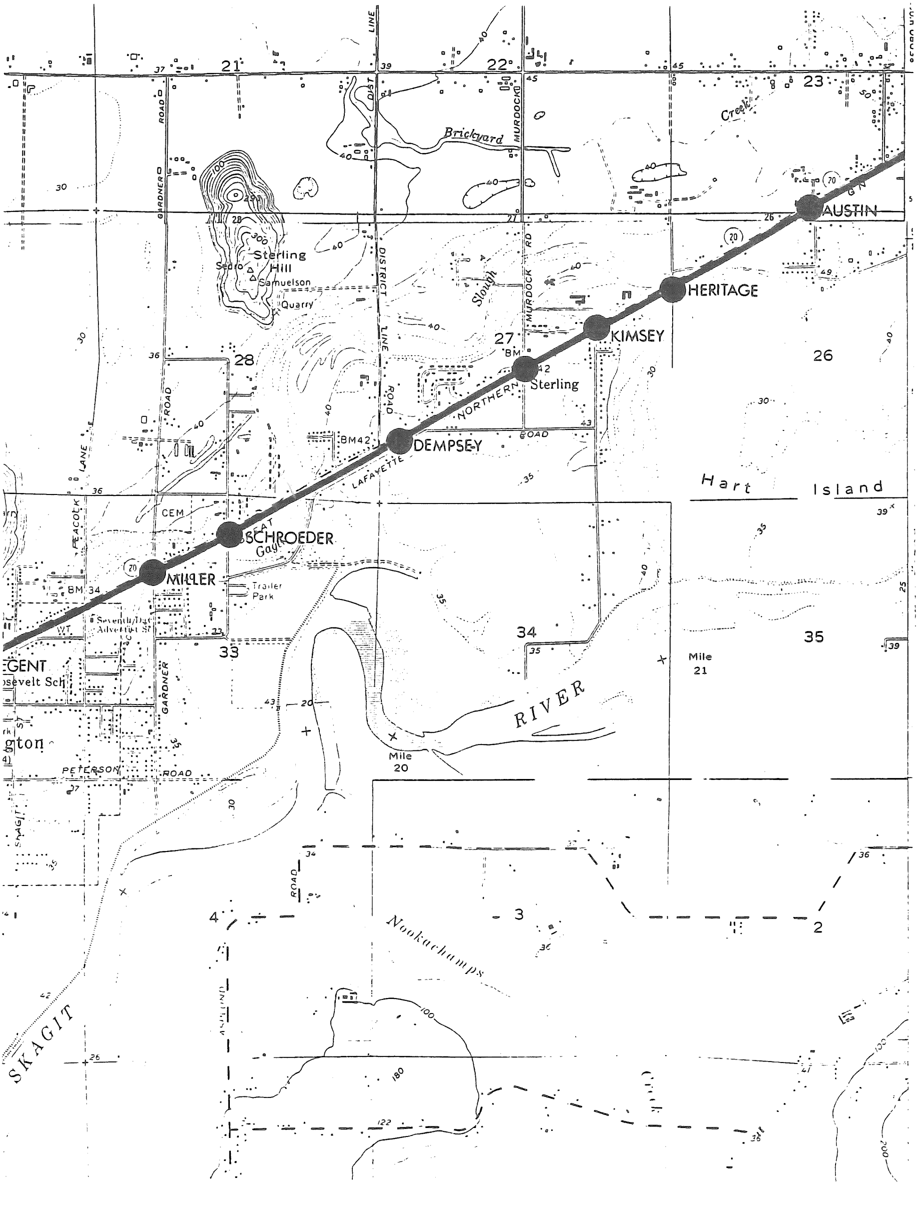

I S H
Y
MUD SAND & GRAVEL
BLANCHARD
Blanchard
21
22
DRIVE
GREAT NORTHERN
Piling
Cemetery
BM 9
Harrison
Colony
Ruins
28
27
LEVEE
PILING
MUD
BM 8
Ruins
Isle
PILING
Footbridge
32
33
EDISON
Edison Station
34
Edison
Bow
Edison
Cem
5
4
3
LEVEE
SUNSET
Sunset


Edison
Cem
SUNSET
Sunset
Slough
BM 20
CHUCKANUT
DRIVE
Pierson Sch
(Aban'd)
JOHNSON
ROAD
FIELD
Field
Samish
River
Slough
LEVEE
ALLEN
Borrow Pit
OLYMPIA MARSH
UPLAND
STATE GAME BIRD
HABITAT
ALLEN
ROAD
AVON



MAIBEN
CHUCKANUT DRIVE
Chuckanut Junction
Burlington Hill
REGENT
DARIGOLD
Burlington
OLYMPIA
MARSH
Butler Flat
Westview School
High Sch
Roosevelt Sch
JOHNSON ROAD
C E MAIBEN ROAD
BAY VIEW AND OLYMPIA MARSH ROAD
GREAT NORTHERN
PEACOCK LANE
GREEN ROAD
GARDNER ROAD
ANDIS ROAD
Drive-in Theater
Gravel Pit
Quarry


DARIGOLD
VARNEY
N. RIVERSIDE
S. RIVERSIDE
CLEAR LAKE RD
NORTHERN
GILKEY RD
Drive in Theater
Gages Lake
STEVENS RD
MC CORDUADALE ROAD
WHITMARSH ROAD
SKAGIT
Mile 15
Gaging Sta
Drawbridge
HOAG ROAD
BEND ROAD
BOUNDARY
Madison Sch
FIR ST
HENSLEY ROAD
Skagit Valley Jr College
High School
MOUNT VERNON
DIVISION ST
Radio Towers KBRC
Stack
Washington School
Edgewater Park
Lincoln Sch
SECTION
DIGBY ROAD
Cleveland School
Sewage Disposal
Mile 10
ASPLUND
PULVER
LA VENTURE
CITY


AUSTIN
HERITAGE
KIMSEY
Sterling
DEMPSEY
SCHROEDER
MILLER
Sterling Hill
Samuelson Quarry
Brickyard
Creek
Slough
NORTHERN
LAFAYETTE
ROAD
MURDOCK RD
DISTRICT LINE ROAD
GARDNER ROAD
PEACOCK LANE
CEM
Trailer Park
Seventh Day Adventist Sch
REGENT
Roosevelt Sch
PETERSON ROAD
Hart Island
RIVER
SKAGIT
Mile 20
Mile 21
Nookachamps
21
22
23
26
27
28
33
34
35
2
3
4

BIBLIOGRAPHY

ARCHIVAL MATERIALS

Company Records

Center for Pacific Northwest Studies. Puget Power Collection. Bellingham Bay Electric Street Railway Company. Agreement with Cosgrove and Lysle, October 29, 1892.

_____. _____. _____. Agreement with Fairhaven and New Whatcom Railway Company, August 30, 1892.

_____. _____. _____. Balance Sheets, 1891-1899.

_____. _____. _____. Contract with Balfour, Guthrie and Company, April 16, 1892.

_____. _____. _____. Judgment #8473, Department #2, Superior Court of the State of Washington, November, 1907.

_____. _____. _____. Lease of Track and Equipment to Northern Railway and Improvement Company, May 11, 1898.

_____. _____. _____. _____, May 11, 1899.

_____. _____. _____. _____, May 11, 1900.

_____. _____. _____. Minutes of Annual Stockholders' Meeting, October 3, 1906.

_____. _____. _____. Minutes of Special Meeting of Board of Trustees, December 6, 1906.

_____. _____. _____. Record of Board of Trustees' Meetings, 1890-1907.

_____. _____. _____. Stock Certificate Book, 1891.

Center for Pacific Northwest Studies. Puget Power Collection. Bellingham and Skagit Railway Company. Cash Record, 1910-1912.

_____. _____. _____. Journal, 1910-1912.

_____. _____. _____. Ledger, 1910-1912.

_____. _____. _____. Minutes of Meetings of the Board of Directors, 1910.

_____. _____. _____. Minutes of Stockholders' Meetings, 1910.

_____. _____. _____. Stock Certificate Book.

Center for Pacific Northwest Studies. Puget Power Collection. Edison General Electric Company. Proposition to Build and Equip Belt Line Electric Railway Company, August 1, 1890.

Center for Pacific Northwest Studies. Puget Power Collection. Fairhaven and New Whatcom Railway Company. Cash Accounts, December, 1896.

_____. _____. _____. Court Order, Superior Court of Whatcom County, March 28, 1896.

_____. _____. _____. Earnings and Expenses of the Fairhaven and New Whatcom Railway Company, February 16, 1892 to August 1, 1894.

_____. _____. _____. Inventory, March 20, 1896.

_____. _____. _____. Inventory of the Lines of the Fairhaven and New Whatcom Railway Company, January, 1897.

_____. _____. _____. Journal, 1892-1896.

_____. _____. _____. Legal Report on Whatcom and Fairhaven Properties, 1902.

_____. _____. _____. Letter, E. J. Hill to Judge John R. Winn, Superior Court of Whatcom County [undated].

_____. _____. _____. Letter, G. C. Hyatt to E. J. Hill, August 11, 1896.

_____. _____. _____. Letter, City of New Whatcom to E. J. Hill, May 29, 1896.

_____. _____. _____. Letter, Harvey Titcomb to E. J. Hill, April 28, 1896.

_____. _____. _____. Operating Account Statement: Earnings and Expenses, January-May, 1893.

_____. _____. _____. Receiver's Report: Earnings and Expenses, March 20-April 30, 1896.

_____. _____. _____. Statement of Earnings, May-November, 1896.

_____. _____. _____. Statement of Earnings, Accounts and Transactions, December, 1896.

_____. _____. _____. Statement of Earnings, Collections and Disbursement, May 1, 1896-December 1, 1896.

_____. _____. _____. Stock Ledger, 1894.

Center for Pacific Northwest Studies. Puget Power Collection. Lake Whatcom Electric Railway Company. Minutes of Board of Trustees' Meeting, February 2, 1892.

_____. _____. _____. Minutes of Stockholders' Meeting, February 3, 1892.

Center for Pacific Northwest Studies. Puget Power Collection. Lynden Electric Railway and Improvement Company. Letter, Lynden Electric Railway and Improvement Company to Harald C. Mitchell, March 5, 1904.

Center for Pacific Northwest Studies. Puget Power Collection. Northern Railway and Improvement Company. Cash Record, March 1, 1898-December 31, 1901.

_____. _____. _____. Journal, March 1, 1898-January 31, 1908.

_____. _____. _____. Letter, Burke, Shepard and McGilvra, Attorneys at Law, to Norman Tucker, April 2, 1897.

_____. _____. _____. Record of Meetings of Stockholders and Board of Directors, February 15, 1898-February 27, 1902.

_____. _____. _____. Stock Certificate Book, April, 1898.

Center for Pacific Northwest Studies. Puget Power Collection. Pacific Northwest Traction Company. Freight Tariff Number 172, November 14, 1922.

_____. _____. _____. Little Journeys by Trolley and Stage: Where to Go, How to Go, July 1, 1923.

_____. _____. _____. Passenger Tariff Number 3, August 9, 1920.

_____. _____. _____. Passenger Tariff Number 8, November 23, 1922.

_____. _____. _____. Passenger Tariff Number 12, March 1, 1925.

_____. _____. _____. "Statement of Facts Relative to Interurban Accident on December 15, 1924."

Center for Pacific Northwest Studies. Puget Power Collection. Whatcom County Railway and Light. Annual Report, 1911.

_____. _____. _____. Common Stock Journal, 1903-1915.

_____. _____. _____. Common Stock Ledger, January, 1903-January, 1904.

_____. _____. _____. Construction Ledger, January, 1908-January, 1912.

_____. _____. _____. Financial Reports, July, 1905-December, 1912.

_____. _____. _____. _____, January, 1909-December, 1912.

_____. _____. _____. Financial Report (Office Copy), January, 1903-December, 1908.

_____. _____. _____. Operating Reports, 1903-1911 (9 vol.).

_____. _____. _____. Preferred Stock Journal, 1903-1913.

_____. _____. _____. Preferred Stock Ledger, January, 1903-January, 1904.

_____. _____. _____. Record [of Stockholders' Meetings], April 1, 1925-January 10, 1938.

_____. _____. _____. Record of Accidents, February, 1924-October, 1938.

_____. _____. _____. Record of Accidents and Fires, February, 1903-November, 1917.

_____. _____. _____. Record of Meetings of Board of Directors, December, 1902-January, 1907.

_____. _____. _____. _____, March, 1907-November, 1910.

_____. _____. _____. _____, March, 1911-April, 1924.

_____. _____. _____. Record of Stockholders' Meetings, November, 1902-May, 1910.

_____. _____. _____. Tax Record, 1903-1915.

University of Washington Archives and Manuscripts. Puget Power Collection. Pacific Northwest Traction Company. Financial Report, 1912-1929, 18 vols.

_____. _____. _____. Financial Report (Northern Division), 1919-1928, 10 vols.

_____. _____. _____. Operating Report, April, 1922-December, 1928, 3 vols.

University of Washington Archives and Manuscripts. Puget Power Collection. Puget Sound Power and Light Company. Financial Report, 1925-1929, 10 vols.

_____. _____. _____. Financial Report (Bellingham Division), 1921-1924, 4 vols.

_____. _____. _____. Financial Report (Northern District), 1925-1931, 6 vols.

_____. _____. _____. Operating Report (Bellingham Division), 1920-1924, 5 vols.

_____. _____. _____. Operating Report (Northern District), 1925-1931, 6 vols.

University of Washington Archives and Manuscripts. Puget Power Collection. Puget Sound Traction, Light and Power Company. Financial Report (Bellingham Division), 1915-1919, 5 vols.

_____. _____. _____. _____, 1915, 1917-1919, 4 vols.

Washington State Archives. Transportation Company Reports to Washington State Public Service Commission. Pacific Northwest Traction Company. Annual Report. . .to the Public Service Commission of the State of Washington, 1912-1930, 22 vols.

Maps

Center for Pacific Northwest Studies. Bellingham Bay Improvement Company Collection. Bellingham Bay Cities and Environs, 1890.

_____. _____. City of Bellingham, 1904.

_____. _____. _____, 1907 (revised 1921).

_____. _____. _____, 1910.

_____. _____. _____, 1912.

_____. _____. _____, 1922.

_____. _____. _____, 1926.

_____. _____. Fairhaven and Vicinity, 1890.

_____. _____. _____, c. 1893.

_____. _____. City of Fairhaven, Washington, 1903.

_____. _____. Town of New Whatcom, 1883.

_____. _____. City of New Whatcom, c. 1900.

_____. _____. _____, _____(updated to November, 1903).

_____. _____. North Bellingham, c. 1904.

_____. _____. City of Whatcom, 1901.

_____. _____. _____, 1903.

_____. _____. Whatcom County, 1902.

_____. _____. _____, 1905.

Center for Pacific Northwest Studies. Howard Buswell Collection. Bellingham Bay, 1856.

_____. _____. _____, _____ (cultural features revised to c. 1885).

_____. _____. _____, 1893.

_____. _____. _____, 1898.

Center for Pacific Northwest Studies. Puget Power Collection. Bellingham and Skagit Railway Company, 1911.

Photographs

Center for Pacific Northwest Studies. Galen Biery Collection. Photographs.

_____. Howard Buswell Collection. Photographs.

_____. P. R. Jeffcott Collection. Photographs.

_____. Puget Power Collection. Photographs of electric railway operations in Northwest Washington, 1890-1930.

BOOKS

Abdill, George B. This Was Railroading. Seattle: Superior Publishing, 1958.

Blake, Henry W., and Jackson, Walter. Electric Railway Transportation. New York: McGraw-Hill, 1924.

Blanchard, Leslie. The Street Railway Era in Seattle: A Chronicle of Six Decades. Forty Fort, Pennsylvania: Harold E. Cox, 1968.

Cheever, Bruce B. The Development of Railroads in the State of Washington, 1860 to 1948. 2 vols. Bellingham, Washington: Western Washington College of Education, 1949.

Daggett, Stuart. Principles of Inland Transportation. New York: Harper and Brothers, 1928.

Due, John F. The Intercity Electric Railway Industry in Canada. Toronto: University of Toronto Press, 1966.

Easterbrook, Donald J. Pleistocene Geology of the Northern Part of the Puget Lowland. Ann Arbor, Michigan: University Microfilms, 1963.

Easterbrook, Donald J. and Rahm, David A. Landforms of Washington: The Geologic Environment. Bellingham, Washington: Union Printing Company, 1970.

Edson, Lelah Jackson. The Fourth Corner. Bellingham, Washington: Cox Brothers, 1951.

Eliot Hurst, Michael E. Transportation Geography: Comments and Readings. New York: McGraw-Hill, 1974.

Fogel, Robert W. Railroads and American Economic Growth. Baltimore: The Johns Hopkins Press, 1964.

Fogelson, Robert M. The Fragmented Metropolis: Los Angeles, 1850-1930. Cambridge, Massachusetts: Harvard University Press, 1967.

Gonzenbach, Ernest. Engineering Preliminaries for an Interurban Electric Railway. New York: McGraw Publishing Company, 1903.

Gotshall, W. C. Electric Railway Economics. New York: McGraw Publishing Company, 1903.

Gutmann, Ludwig. The Motorman and His Duties: A Handbook of the Theory and Practice of Electric Railway Car Operation. Chicago: Wilson Company, 1907.

Hadley, Arthur T. Railroad Transportation: Its History and Its Laws. New York: G. P. Putnam's Sons, 1903.

Hilton, George W. The Cable Car in America. Berkeley, California: Howell-North Books, 1971.

Hilton, George W. and Due, John F. The Electric Interurban Railways in America. Stanford, California: Stanford University Press, 1960.

Hitt, Rodney, ed. Electric Railway Dictionary (1911). New York: McGraw Publishing Company, 1911 [reprinted 1972].

Interstate Publishing Company. An Illustrated History of Skagit and Snohomish Counties. Chicago: Interstate Publishing Company, 1906.

Johnson, Arthur M. and Supple, Barry E. Boston Capitalists and Western Railroads. Cambridge, Massachusetts: Harvard University Press, 1967.

Jones and Jones, Incorporated. A Plan for the Nooksack. Seattle: Jones and Jones, Incorporated, 1973.

Loth, David. Swope of G. E.: The Story of Gerard Swope and General Electric in American Business. New York: Simon and Schuster, 1958.

McKee, Bates. Cascadia: The Geologic Evolution of the Pacific Northwest. New York: McGraw-Hill, 1972.

Meany, Edmond S. History of the State of Washington. New York: MacMillan, 1927.

Middleton, William D. The Interurban Era. Milwaukee: Kalmbach Publishing, 1961.

Miller, John Anderson. Fares Please! From Horse-Cars to Streamliners. New York: D. Appleton-Century, 1941.

Moline, Norman T. Mobility and the Small Town, 1900-1930: Transportation Change in Oregon, Illinois. Chicago: Department of Geography, University of Chicago, Research Paper #132, 1971.

Newell, Gordon R. Ships of the Inland Sea: The Story of the Puget Sound Steamboats. Portland, Oregon: Binfords and Mort, 1960.

Norris, Henry H., ed. Electric Railway Practices: 1923. New York: American Electric Railway Association, 1924.

_____. Electric Railway Practices: 1924. New York: American Electric Railway Association, 1925.

_____. Electric Railway Practices: 1925. New York: American Electric Railway Association, 1926.

_____. Making Transportation Pay: 1926. New York: American Electric Railway Association, 1927.

_____. Popularizing Public Transportation: 1927. New York: American Electric Railway Association, 1928.

O'Dell, Andrew C. Railways and Geography. London: Hutchinson University Library, 1956.

Pease, Charles S. Freight Transportation on Trolley Lines. New York: McGraw-Hill, 1909.

Pierson, William H. The Geography of the Bellingham Lowland, Washington. Chicago: Department of Geography, University of Chicago, Research Paper #28, 1953.

Puget Sound Power and Light Company. Puget Sound Electric Journal, February, 1913-September, 1929.

Richey, Albert S., ed. Selling Transportation: 1928-1929. New York: American Electric Railway Association, 1930.

Roth, Lottie Roeder. History of Whatcom County. 2 vols. Chicago: Pioneer Historical Publishing Company, 1926.

Rowsome, Frank. Trolley Car Treasury. New York: Bonanza Books, 1956.

Skagit County Historical Society. Chechacos All: The Pioneering of Skagit. Mount Vernon, Washington: Skagit County Historical Society, 1973.

John Stephenson Company. Modern Types of City and Interurban Cars and Trucks. Elizabeth, New Jersey: John Stephenson Company, 1905 [reprinted 1972].

Stone and Webster, Incorporated. Stone and Webster: A Brief Account of the History of This Organization and of the Services Developed During 44 Years. New York: Stone and Webster, 1932.

_____. Public Service Journal. 49 vols. August, 1907-July, 1932.

Stover, John F. American Railroads. Chicago: University of Chicago Press, 1961.

_____. The Life and Decline of the American Railroad. New York: Oxford University Press, 1970.

Taafe, Edward J. and Gauthier, Howard L. Jr. Geography of Transportation. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Taylor, George R. and Neu, Irene D. The American Railroad Network, 1861-1890. Cambridge, Massachusetts: Harvard University Press, 1956.

Thompson, Francis R. Electric Transportation. Scranton, Pennsylvania: International Textbooks, 1940.

Thompson, Slason. A Short History of American Railways. Chicago: Bureau of Railway News and Statistics, 1925.

Tremaine, David G. Indian and Pioneer Settlement of the Nooksack Lowland, Washington to 1890. Bellingham, Washington: Center for Pacific Northwest Studies, Western Washington State College, Occasional Paper #4, 1975.

Turbeville, Daniel E. III. An Illustrated Inventory of Historic Bellingham Buildings, 1852-1915. Bellingham, Washington: Municipal Arts Commission, 1977.

_____. "The Development of Land Transportation in the Skagit Valley: A Brief Overview." In Of Man, Time, and a River: The Skagit River, How Should it Be Used?, pp. 62-67. Edited by Roland L. DeLorme. Bellingham, Washington: Center for Pacific Northwest Studies, Western Washington University, Occasional Paper #10, 1977.

Walker, Guy Morrison. The Why and How of Interurban Railways. Chicago: Kenfield Publishing Company, 1904.

Warner, Sam B., Jr. Streetcar Suburbs: The Process of Growth in Boston, 1870-1900. Cambridge, Massachusetts: Harvard University Press, 1962.

_____. The Urban Wilderness: A History of the American City. New York: Harper and Row, 1972.

Webb, Walter L. The Economics of Railroad Construction. New York: John Wiley and Sons, 1912.

Winther, Oscar O. The Transportation Frontier: Trans-Mississippi West, 1865-1890. New York: Holt, Rinehart and Winston, 1964.

PAPERS AND ARTICLES

Cheever, Bruce B. "Electric Railroads in Whatcom County," Trolley Sparks, LXXXVI (September-October, 1949), pp. 11-20.

Eliot Hurst, Michael E. "The Geographic Study of Transportation, Its Definition, Growth, and Scope," Transportation Geography: Comments and Readings. New York: McGraw Hill, 1974, pp. 1-14.

Hickock, John. "Ferrying Buses by Rail," Electric Traction, October, 1930, p. 545.

Jonasson, Jonas A. "They Rode the Trains: Railroad Passenger Traffic and Regional Reaction," Pacific Northwest Quarterly 52 (April, 1961), pp. 41-49.

Lightbody, James. "Beating the Truck at Its Own Game," Electric Traction, January, 1927, pp. 17-19.

Morris, Ray. "Trolley Competition With the Railroads," Atlantic Monthly, XCIII (1904), pp. 730-736.

Smerk, George M. "The Streetcar: Shaper of American Cities," Traffic Quarterly, 21 (1967), pp. 569-584.

Sprague, Frank J. "The Growth of Electric Railways," AERA [American Electric Railway Association Magazine], (October, 1916), pp. 3-38.

Swett, Ira L. "Pacific Northwest Traction Company (North Coast Lines)," Interurbans, Special #7 (June, 1949), pp. 1-9.

Walmsley, Mildred M. "The Bygone Electric Interurban Railway System," The Professional Geographer, XVII (May, 1965), pp. 1-6.

Ward, David. "A Comparative Historical Geography of Streetcar Suburbs in Boston, Massachusetts and Leeds, England: 1850-1920," Annals of the Association of American Geographers 54 (1964), pp. 477-491.

Wilson, Robert S. "The Rise and Fall of P. N. T.," Interurbans, Special #7 (June, 1949), p. 5.

NEWSPAPERS

Bellingham Herald. "Interurban Will Be Considered by Stone and Webster Interests," June 2, 1906.

Bellingham Reveille. "Crews Devour $250 Worth of Food Each Day," May 7, 1911.

Bellingham Reveille. "Spectacular Race Against Time Made," May 7, 1911.

Bellingham Reveille. "Rushing Work on the Interurban," [no date].

Seattle Times. "1940 Trolley Coming Back to Work," June 5, 1975.

Seattle Times. "Downtown Detroit to Use Revitalized Trolley System," July 23, 1975.

Seattle Times. "Waterfront Streetcars Named Desire for Summer," December 12, 1975.

Seattle Times. "Trolley System Revitalized," October 21, 1976.

INTERVIEWS AND CORRESPONDENCE

Clark, Arthur M. Former employee, Bellingham Bay and British Columbia Railroad. Personal interview, May 10, 1976.

Dwyer, F. E., Jr. Stone and Webster Engineering Corporation, Boston, Massachusetts. Personal Letter, June 26, 1974.

Loft, Andy B. Former conductor, Pacific Northwest Traction. Personal interviews, March, 1974-September, 1975.

Potter, Mrs. John M. Personal interview, June 30, 1976.

Teeling, G. C. Director of Public Relations, Greyhound Lines, San Francisco, California. Personal letter, July 23, 1974.

Ward, Sam. Engineer, Reading Railroad. Personal interview, September 6, 1974.

UNPUBLISHED THESES AND DISSERTATIONS

Courtney, Dale E. "Bellingham: An Urban Analysis," M.A. thesis, Department of Geography, University of Washington, Seattle, Washington, 1950.

Elenbaas, Bernice. "The Nooksack Valley: A Regional Geography," M.A. thesis, Clark University, Worcester, Massachusetts, 1946.

Krim, Arthur J. "The Innovation and Diffusion of the Street Railway in North America," M.A. thesis, University of Chicago, Chicago, Illinois, 1967.

Roy, Patricia. "The British Columbia Electric Railway Company, 1897-1928: A British Company in British Columbia," M.A. thesis, University of British Columbia, Vancouver, British Columbia, 1969.

Tremaine, David G. "Indian and Pioneer Settlement of the Nooksack Lowland, Washington, to 1890: A Study in Settlement Geography," M.A. thesis, Department of Geography, Western Washington University, Bellingham, Washington, 1974.

ABOUT THE AUTHOR

Daniel E. Turbeville III is a native of LaGrande, Oregon. He received a B.S. in geography from the University of South Carolina in 1968, and an M.A. in geography from Western Washington University in 1976. From 1974 to 1977 he served as Map Curator at Western, during which time he authored An Illustrated Inventory of Historic Bellingham Buildings, 1852-1915 (Bellingham, Washington: Bellingham Municipal Arts Commission, 1977) and several articles on other Pacific Northwest topics. He is presently working on a Ph.D. in geography at Simon Fraser University in Burnaby, British Columbia.