TECHNOLOGICAL INNOVATION AND THE RISE AND FALL OF URBAN MASS TRANSIT

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This article departs from the usual discussion of the role of urban transit in effecting spatial change and looks instead at how public policy and the conflicting demands of various constituencies contributed to the demise of the urban mass transit industry.[1] Five constituent groups affected urban transit's evolution and eventual decline: transit company employees, business interests, politicians, investors, and, of course, riders. Each of these groups placed its own set of demands upon the transit industry—demands that conflicted and competed with one another. It was this conflict, and not the advent of the private automobile, that resulted in transit's demise.

THE EMERGENCE OF CONSTITUENT DEPENDENCY

American cities, like cities elsewhere, were initially "walking cities"—their scope and breadth were a function of the fact that most of the time, most of the people traveled by foot. The first real revolution in mass transit came in the form of the horse-drawn streetcar, which transported dozens of people at a time for just five cents each. In

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Portland, the first horsecar line was inaugurated in 1872.[2] Like many new innovations, streetcars appealed first to the wealthy; in short order, however, they became indispensable to members of every class. Compared with walking in the rain, snow, and summertime heat, these vehicles offered a convenience and comfort that members of the working class had rarely known. In his diary of 1859, Philadelphian Sidney George Fisher describes the new conveyance in words that riders from all classes must have felt:

> These passenger cars, as they are called, but which are street railroads with horse power, are a great convenience. . . . They are roomy, their motion smooth and easy, they are clean, well cushioned and handsome, low to the ground so that it is convenient to get in or out and are driven at a rapid pace.[3]

The enjoyment and novelty of the streetcar eventually gave way to a day-to-day dependency as riders came to require streetcar service for their trips to work, shopping, and entertainment. Dependency, in turn, evolved into a sense of entitlement, with the various constituents demanding what they saw as their due from transit. As the quotation below illustrates, within a few decades, the sense of wonder and enchantment with the new means of urban transport was transformed into disgruntlement from unmet expectations:

> For filth, dilapidation, and a general appearance of squalor and slovenliness some of the streetcar lines of this city cannot be surpassed in the civilized world. Ladies and gentlemen are compelled to sit down on seats sticky with nastiness, breathe loathsome air, and look out of cracked windows that are splashed with dirt from one end to the other. Some of these cars are washed only by rain.[4]

Between 1880 and 1910, members of a variety of constituencies developed a dependency on transit, placing conflicting demands on the industry that left its management overburdened and unable to respond to the challenges of the early twentieth century. The riders who used mass transit were among the most dependent of these constituent groups, particularly as decentralization put a distance between work and home; urbanites demanded safe, convenient, fast, and affordable transportation. Transit company employees made up another constituency. Their livelihood came from a labor-intensive industry that, unlike most other industries, was characterized by "rush hours"—peak periods during which the demands of the job were heaviest, separated by long stretches of slow or "off" time, when many employees went unpaid. Industry managers also expected transit employees to work long hours at physically grueling tasks, simultaneously greeting and serving a demanding and often disgruntled public.[5]

Yet another constituent group was the triumvirate of city boosters, financiers, and real estate interests. These individuals and consortiums speculated in mass transit, investing in it heavily and depending on it to provide customers, homebuyers, or investment dividends. Incorporators of Portland's Transcontinental Street Railway Company, the city's third streetcar company, founded in 1882, represented the typical street railway promoter of the late nineteenth century and exemplified this constituent group. In one way or another, nearly all of them had ties to banking or real estate. William S. Ladd, for example, had opened Portland's first bank and later served as mayor. His investments included holdings in the Oregon Telegraph Company, the Oregon Iron & Steel Company, and the Auburn Canal Company. In addition, he would soon become a major investor in real estate, with holdings including land in now-exclusive Oswego, Eastmoreland, Laurelhurst, Ladd's Addition, and Burlingame.[6] Ladd was among many who perceived transit as a useful device for boosting real estate sales and values.

City officials, politicians, and bureaucrats also had expectations of mass transit, constituting yet another constituency. Philip Wasserman was mayor when the first horsecar franchise was granted in Portland. In his inaugural address of September 1871, Wasserman made it clear that it was in the city's best interest to grant the franchise in order to compete in the burgeoning northwest economy and to stake a place as a city to be taken seriously as a commercial center. The mayor was also aware, however, that the city needed to guard against being taken advantage of by a potential transit monopoly and that it must therefore require of the streetcar company certain fees and obligations.[7] Politicians also understood the power of a platform that included support for low transit fares and abundant service. Early on, city politicians endorsed route extensions, service improvements, and maintenance of the low five-cent fare. As is discussed in greater detail later, these requirements were frozen into law from the time of the earliest streetcar franchises.

Executives and owners of the streetcar companies made up yet another of transit's constituencies. Financed by local and outside investors, the streetcar companies were not in business to serve as a public utility whose main purpose it was to provide transportation, employment, taxes, and grist for city boomers and boosters. Owners wanted a return on investment. However, the demands of the other constituencies—riders, employees, real estate speculators, and so on—competed not only with one another but with the profit-seeking motives of transit investors. The resulting conflict left transit companies unable to provide adequate service. Although many point to the growing popularity of the automobile as the cause of transit's decline, it was in fact this conflict among these competing elements—along with a failure of public transportation policy—that resulted in the ultimate demise of urban mass transit. The widespread adoption of the automobile only hastened a decline that was already under way.

INNOVATION AND MONOPOLY

ELECTRIC TRACTION, URBAN GROWTH, AND THE DEPENDENCY ON TRANSIT

The period between the 1880s and World War I was one of the country's most dynamic periods of urban and economic development. A primary factor responsible for this growth was the expansion of the urban mass transit system, which accelerated with the electrification of transit in the early 1890s. In Portland, as in many other areas, geographical expansion was not merely the result of the political consolidation of nearby urban centers. These annexations would not have been practical had not the means for physically uniting the various smaller cities existed. Here, as elsewhere, urban expansion relied on the introduction of the electric trolley on a massive scale.

Indeed, in Portland, urban consolidation occurred in mid-1891, a little over a year and a half after the Willamette Bridge Company began to run electric cars over the Steel Bridge, establishing a direct streetcar connection between the west and east sides of the Willamette River. In addition, just one month before the Portland annexations became effective, the city's first major streetcar company merger took place. By 1893, the entire streetcar system was electrified, and expansion of electric lines to the farthest reaches of the city proceeded steadily over the next decade and a half. Before the city's transit system was electrified, Portland's boundaries had increased by only three square miles as a result of annexation. From the time of electrification in 1889 until 1915, an additional fifty-seven square miles were added through annexation, and about half of that was within only two years of initial electrification.[8]

The city's expansion did nothing to alleviate congestion in the core. Whereas most cities had a tendency to expand outward,[9] the center-focused arrangement of streets, bridge approaches, and radial transit routes contributed to increasing congestion in the city's center. Congestion only grew worse as distant suburbs were connected to the center by interurbans and steam train lines.

Early Weaknesses in Public Transit Policy

By the 1890s, congestion had created a central core that was chaotic, unattractive, harried, and often dangerous. City leaders responded to the disorder in their urban centers with the City Beautiful movement that sought to open up the congested center with wide, diagonal boulevards that would help disperse activities and people. These efforts at city planning at best de-emphasized and at worst ignored the role of mass transit. In Portland, as elsewhere, turn-of-the-century boulevard planners paid scant attention to the role of mass transit in their plans for the City Beautiful. A sentence or two in the city plan would allude to the fact that mass transit would still exist in the City Beautiful, running somewhere along the widened streets or, perhaps, above or below them—but the planners made no attempt to outline the form and function of the city's transit system. Instead, even in this period, before widespread automobile ownership, the emphasis among city leaders, planners, and traffic engineers was on planning for the automobile, which they perceived as holding the greatest promise for transporting the greatest number of people. Their hope was that automobiles would soon become affordable to all, providing clean, fast, personal, and private transportation—making mass transit obsolete.[10] As a result, early city plans looked to the automobile and to the wide, open road as the key to the future livability of the city; the streetcar was all but invisible in many early plans.

In Portland, in the absence of clear, articulated direction from city officials or from local planners, transit policies emerged haphazardly, frequently as a result of conflict between the private transit companies and the demands of the competing constituencies—the riders, transit employees, city officials, and those with a financial investment in the transit companies. Stockholders expected a return on their investment, but the tradition of the five-cent fare—frozen in place by original franchises—yielded meager, if any, profits for the transit company.[11] As riders became increasingly dependent on mass transit, their expectations of service levels increased: more and more people expected frequent, fast, and comfortable service. Such service levels were difficult to maintain on the old five-cent fare, particularly on routes in sparsely populated suburbs, where ridership was light. In Portland, fares eventually increased as transit employees demanded wage increases, but the new fares proved insufficient to finance wage increases and service improvements while at the same time yielding profits for investors.

Despite these difficulties, Portland city officials, planners, and other policy actors such as business leaders and newspaper editors continued to assume that urban transportation should remain in the hands of private enterprise. The consensus among Portland city leaders was that private ownership and operation would result in the best transportation system and that the city's involvement in transportation policy and planning ought to be limited to regulation of the private companies. As Cheape notes in assessing urban transport in Boston during this period, a "faith in competition as a method of control continued to shape policy."[12]

TRANSIT REDEFINED: NEW TECHNOLOGIES AND UNIFICATION

The public's faith in the effectiveness of competition began to dwindle, however, as the exigencies of electric transit technology led to major consolidations of companies that had previously been competitors. These consolidations effectively eliminated the regulatory mechanism of competition.

Because of its massive scale and the expense of installing trackage, electric overheads, and costly vehicles, the electric streetcar system required a much higher initial capital investment than the old horsecars and, along with this, unprecedented coordination and organization. The new technology also worked best with a new vision of urban transit by private investors, one that saw a city served by a unified transit system as opposed to uncoordinated and competing lines. Transit investors hoped also to capitalize on real estate expansion, which provided further enthusiasm for unification.

Portland's experience with consolidations before 1900 was similar to that of many other cities. Here, incorporators of the City & Suburban Railway Co. had technological innovation—and the increased profits therefrom—as the primary reason for creating Portland's first consolidated railway in 1891. Incorporators of the second consolidated company, the Portland Consolidated Street Railway, wanted to provide streetcar service to their own real estate holdings; since this unification took place in 1892, electrification of the entire system was naturally a concomitant goal.

FINANCING THE CONSOLIDATIONS: ELECTRIC POWER AND THE HOLDING COMPANY

In Portland, local men with crucial ties to financial institutions, business, and city politics had directed the initial consolidations of transit companies. But as the size of the consolidated system grew, local entrepreneurs alone could not continue to finance these larger undertakings.

Local investors began to take an interest in selling to outsiders around the time that Portland was preparing for its first exhibition, the Lewis & Clark Centennial Exposition, to be held in 1905. Several of the local owners of the Portland Consolidated Railway Co. were members of the exposition board of directors. They considered the upcoming event an excellent opportunity both to expand existing transit lines and to showcase the transit system to potential investors. The Portland owners finally sold a majority share to E. W. Clark & Company of

Philadelphia, investment bankers who already held a minority interest in the city's electric power company, Portland General Electric (PGE). The Clarks seized this opportunity to expand their interests in Portland and to take advantage of the boom that was expected to result from the Lewis & Clark Exposition. New York bankers J. and W. Seligman participated in the nearly total buyout.

From the beginning, it was apparent to the Clarks—who had no public utility holdings other than in Portland—that it was in their best interest to affiliate the Portland transit companies (city lines and interurbans) with PGE. Such affiliations were common between transit and electric power utilities throughout the country during the first decade of the twentieth century. The rationale was to create a holding company with which to orchestrate further utility investments, as well as to boost and balance power loads, thereby lowering unit costs.[13] By January 1907, Portland's interurban lines, street railway lines, and light and power company were all subsidiaries of the Portland Railway Light & Power holding company (PRL&P), controlled by the Philadelphia Clarks. The holding company also eventually controlled many other subsidiary utilities in Oregon. In Portland, as in many other cities where such affiliations were taking place, the ultimate goal was total control by one primary holding company of as many local utilities—gas, water, power—as possible.

With the elimination of competition as a major regulatory mechanism in Portland, the growth of the megalithic transit monopolies appeared to be unstoppable. The stage was set for a more active role by both the city and state in the regulation of the companies—and hence in transit policy in general—as a response to popular demands for reform, rationality, restriction, and retaliation.

TAMING A MONOPOLY: REFORM THROUGH REGULATION

The consolidated monopolies that arose during the years surrounding the turn of the century became easy targets for reformers opposed to big business. The transit industry had been the subject of much criticism for a number of years, but this criticism had typically revolved around service issues such as discourteous motormen, accidents, slow and infrequent service, and uncomfortable, overcrowded conditions. These were valid complaints, but with the great consolidations, riders, politicians, and the media came to interpret these inadequacies in service as an abuse of power resulting from the profit-hungry machinations of transit monopolists.

In reality, overcapitalization of the industry resulting from its overeager expansion had created many of these problems. By 1906, the average street railway carried about $115,000 of securities per mile of operating track;[14] by 1910, the overall debt figure for most companies ran at about 50 percent of their total assets.[15] In 1910, PRL&P was carrying about $107,000 in total debt per mile of operating track—just slightly below the national average. Even then, however, its funded debt ran at 58 percent of its total assets, which was somewhat higher than average. By 1912, moreover, the company's debt had increased by 29 percent to $137,500 per operating mile. Its funded debt now equaled a startling 64 percent of total assets.[16]

Adding to both the public relations problem and the heavy debt load was the fact that, despite day-to-day management by local men who were considered important members of the Portland community, the ultimate control of the city's transit system lay with outsiders; that is, the Philadelphia Clarks. But even in areas where financial control remained locally based, such as Massachusetts, Chicago, and Los Angeles, the overall impression of powerful trusts, unscrupulous syndicates, elaborate pyramid financing schemes, and giant, untouchable corporations led to vociferous calls for reform.

THE REFORM AGENDA IN PORTLAND

In Portland, the agitation for change was more moderate than in many other cities; the new requirements imposed on the company came relatively late and were in general less stringent than in some other cities. In addition, there was virtually no talk of municipal ownership of transit during this early wave of reform, as there was in several other cities, such as nearby Seattle.[17]

Several factors account for the moderate nature of Portland's initial reforms. One factor is that Portlanders did not yet perceive the city's transit system to be as overwhelmingly unsatisfactory as the transit systems in the larger, more congested cities, where transportation and mobility in general were severely strained. Certainly, Portlanders had reason to complain, but they did not yet perceive the situation as a crisis or an emergency.

Another factor accounting for the only moderate reform efforts was that although an eastern syndicate had taken control of Portland's transit system, local men who had been part of the city's transit industry for years remained in charge of day-to-day operations. Portland's business leaders, politicians, and newspaper editors identified the local members of the board as pillars of the community. Chief among these local members was the company's president, Franklin T. Griffith, an attorney for PGE, whom the Clarks had appointed as PRL&P's president in 1913.

Still other factors limited enthusiasm for transit regulation in Portland. Portlanders were not inclined toward the idea of restricting private enterprise. Unlike their northern neighbors in Seattle—who had begun to municipalize their transit system in 1911—Portlanders, and Oregonians in general, remained conservative upholders of the principles of laissez-faire entrepreneurialism.[18] The structuring of local politics also moderated reform efforts. Members of the city council tended to lack focus and cohesion when it came to controversy, preferring to pass contentious issues on to the voters. But, as will be shown, expansion of the consolidated Portland company stimulated local reformist reaction, resulting in an eventual restriction of the company's power.

Reform and the City Charter

Reform through amendment or overhaul of the city charter occurred in Portland between 1903 and 1913, with the city gaining increasing control over transit company affairs. In 1903, the state legislature gave Portlanders the powers of initiative and referendum. In 1907, a new city charter formalized the initiative and referendum process, allowing citizens to initiate any ordinance or amendment through a petition that would subject the measure to a popular vote; they could also petition the city council to submit to them for their approval any ordinance or amendment passed by the council. This included transit franchise ordinances and amendments.

The city charter of 1902 that was put into effect in January 1903 also contained several provisions that indicate the influence of early reformers. One provision was expansion of the city's home rule regulatory powers vis-à-vis the utilities, even to the extent of giving the city power over the companies' fares, which had up to that time been subject to control by the state.

The transfer of fare regulation from the state to the city was an unusual step. In most states, the city regulatory apparatus would come to have much less control over transit company fares and activities than the state. But in Oregon the reverse was true. Oregon's first railroad commission was created in 1887, about the same time as in other states. However, because of Oregonians' hesitancy to overbureaucratize government or impose too much regulatory control over private enterprise, that commission was abolished in 1898. Reformers lobbied successfully for reinstatement of transportation utility control in 1907, when the second state railroad commission was created. By that time, though, control of almost all transit company affairs—including fare regulation—had passed to the city. A three-member state public service commission was created in 1912, superseded by a one-member public utilities commission in 1931. Each of these was increasingly impotent with respect to the city's transit system, although there were ongoing efforts at the state level to assume a larger role in city transit affairs.

Reform Through Franchise Renegotiation

The consolidated PRL&P of 1906 inherited an earlier company's franchise, which had been granted in 1902. Like earlier franchises, the franchise of 1902 imposed a number of stringent and costly obligations on the company, such as limiting the time and length a street could be obstructed while tracks were being laid or maintained, requiring paving by the company between the tracks and for one foot on each side of the tracks, and mandating that the company extend its tracks at a pace commensurate with the expansion of paved streets within the city.

The city intervened in other ways. For instance, the franchise provided for punishment of employees who engaged in “indecent or opprobrious behavior.” It also set the headway—or time between streetcars—at a minimum of every twenty minutes, with operation from 6:00 a.m. to 11:00 p.m., at a maximum speed of twelve miles per hour. The city even allowed other companies to use the grantee’s tracks as long as those companies paid compensation to the grantee—a provision that undermined the notion of “franchise exclusivity.” City officials and policy makers believed that franchise exclusivity negated the concept of free enterprise by eliminating competition and, therefore, warranted extensive regulation. In Portland, however, franchises were not exclusive, yet extensive regulation remained in effect.

These obligations and requirements were considerably increased over those in earlier Portland franchises. In addition to street paving, the company was now required to pay one-fourth of the cost of the construction and maintenance of any bridge or elevated roadway over which it ran. The company was also forced to transfer to the city certain streets it owned. Because the public and city politicians were increasingly suspicious about the financial activities of big business—especially in transportation—the 1902 franchise also required the company to open up its books for a city audit once every five years. In addition to spelling out various service obligations and other requirements, the new franchises also specified the terms of a financial contract. The notion that the streetcar companies must pay for the right to use the city’s streets was manifested in the fact that a franchise was a *purchased license*.[19]

In line with the new city charter, the 1902 franchise also provided for city purchase of the railway property upon the expiration of its franchise, as long as the electorate approved the purchase by a two-thirds vote. In Portland, this clause was little more than a weak bargaining chip for the city. Portlanders would remain opposed to municipal ownership of transit for decades, and the threat of municipal takeover was rarely used. A final provision—and perhaps the single most important item, as far as the public was concerned—specified the streetcar fare. As was the case with most franchises throughout the country, the 1902 franchise limited the fare to five cents "and no more." At the time, this was a fare that both the public and the streetcar company judged reasonable.

The Franchise of 1908

These, then, were the provisions of the franchise that PRL&P inherited in 1906. By 1908, when the light and power division, the interurbans, and the street railways had all been completely absorbed by PRL&P, the company was ready to seek major changes in its franchise. PRL&P officials wanted to increase the area of the city the company could cover with its tracks, enlarging the boundaries allowed by the 1902 franchise, which was already considered a "blanket franchise." Company officials reasoned that the more territory covered by PRL&P franchises, the less likely it would be that any competitor company could gain a foothold.[20] In addition, local company officials and investors still maintained real estate interests in developing areas, which they had every desire to see made accessible by streetcar lines.

This new franchise contained the same general provisions as the 1902 franchise with respect to paving between and to the sides of tracks, bridge construction and maintenance, and so on. The city council added several new provisions, however, which reflected the council members' desire to exert more control over the transit companies. For the first time, the franchise included a clause requiring the company to seek the council's permission before it abandoned any portion of a line; it was then required to remove the abandoned tracks and pave over that part of the street. Also for the first time, the franchise contained a provision that would allow the city to declare a forfeiture of the franchise if the company failed to comply with any of its provisions. Another new feature was specifically service related: the city required company officials to spend a minimum of $4,000 per year on carrying out the work required by the franchise. An additional service-related provision required adequate heating and ventilation in all cars. There also was inserted for the first time a provision giving the council "the power and right at all times to reasonably regulate in the public interest the exercise of the rights and privileges granted by this franchise."[21]

Despite these new restrictions, PRL&P did get the extensive routing that it had requested, although at a price: the company reluctantly agreed to a reduced headway of every fifteen minutes. The most remarkable provision in this franchise was that dealing with the inexplicably low fees the company would pay to the city—ranging from only $500 to $1,500 per year. The most probable explanation for why the city council agreed to these minimal rates is that the members simply felt they had no choice. The low franchise fees were the price the city leaders had to pay in exchange for uninterrupted service, continued extensions into new territory, and the imposition of the new restrictions and service requirements on the company.[22] In addition, as discussed below, they extracted other obligations from the company that compensated for the generosity of the low fees.

In 1911, PRL&P officials again applied for a new franchise. By the time this new franchise was granted in 1913, Portland was entering a period of reform that was more intense than in previous years. Galvanized by public support, city council members introduced the most stringent obligations and requirements to date. The fees required by this new franchise more than compensated for the unusually low level of payments included in the 1908 franchise. In addition to the annual fee, the company was to make an annual payment of $200 per mile of track. It also required free transportation of all police officers wearing stars and of all fire department members in uniform.[23] Then, in 1914, yet a further ordinance required the company to pay three cents per car, in each direction, for each bridge crossing.[24] For that year, bridge fees alone amounted to more than $45,000.[25]

Policy making through regulation on a piecemeal basis was the course chosen by city politicians—with widespread support by the public and lukewarm support by the city's media and businesses. The lack of purposeful direction, along with the restrictive regulation, appeared at the time to address monopoly excesses. In fact, the actions of the council members served to undermine the urban mass transit system itself. By the second decade of the twentieth century, the seeds of decline had already been sown. Now, a failed public policy combined with the demands of competing constituencies to disable the transit industry in Portland and elsewhere in the nation from meeting the challenges it would soon face.

EARLY STAGES OF DECLINE

Despite the difficulties facing PRL&P, by 1915 the company was experiencing an increase in ridership and overall growth by nearly every indicator. Company officials did not foresee the imminent decline of Portland's urban mass transit system because there was every reason for optimism. Despite increased regulations, even the old five-cent fare was still profitable. But, after 1915, the company—already burdened with a heavy debt load, increased service obligations, and a fare fixed at a nickel—had to face even greater challenges: changing economic conditions, competition from rival transport technologies, and increasing demands by members of the various constituencies. By 1924, it was clear that— even before the advent of widespread automobile ownership—the Portland company was unable to meet these and other challenges and was heading into long and steady decline.

CHANGING ECONOMIC CONDITIONS

Several factors in the local and national economy affected the company during the early decades of the twentieth century. Portland faced a depression between 1912 and 1915, which slowed down PRL&P officials' ability to implement service improvements and expansion. The loss of business along interurban routes serving members of the logging industry severely affected the company's financial situation. The entry of the United States into World War I further affected the company's operating conditions, as increased wartime service demands pushed the company to the limits of its capacity. Also, in 1914, PRL&P faced its first serious competitor in the field of light and power production, when the Portland city council—which welcomed the notion of competition for PRL&P—granted a franchise to the Northwestern Electric Company.

Yet another problem facing PRL&P, which left company officials unable to respond to the other challenges they faced, was the fact that the company's debt load was increasing at an alarming rate. By 1912, the company's debt had grown to 64 percent of the value of its assets. Clearly, such a heavy debt figure significantly compromised the company's ability to pay workers and at the same time maintain service levels. Another serious problem resulting from overcapitalization was the inability of PRL&P officials to set up adequate depreciation reserves. As the company's financial situation worsened, it became impossible to replace long-outdated equipment.

The Company's First Valuation

In 1913, Oregon's public service commissioners initiated a valuation study of PRL&P, barely six months after the state legislators had granted them the authority to conduct such valuations. Hearings began in early 1915, and company officials remained optimistic that the final valuation decision would not negatively affect investment in the company.[26] In 1917, the Public Service Commission issued its final valuation of $56 million, which was some $6 million less than what company executives had expected.[27] PRL&P officials were concerned that the lower valuation would have a negative impact on future investments, and these concerns appear to have been warranted. During the period between 1916 and 1918—the three years surrounding the final valuation decision—total investment (notes, bonds, and stocks) in PRL&P (transit and electrical divisions combined) had increased an average of only .01 percent per year. In the three years prior (1913 through 1915), investment had increased an average of 1.22 percent per year.[28]

In 1918, not many months after the Public Service Commission had completed its investigation, members of the city council launched their own investigation of PRL&P's books. From the tone of the council minutes, it appears that this inquiry was initiated in a spirit of retribution against the company, which had just requested and been granted a fare increase from the state.[29] These investigations by both the city and the state heightened the sense of antagonism between the company and its regulators that had come to exist as a result of increased franchise requirements. This antagonism effectively eliminated any hope of constructive cooperation between city and company officials in drafting the city's transportation policy.

COMPETITION FROM RIVAL TECHNOLOGIES: FIGHTING THE JITNEY

The company's burdensome debt load and antagonistic relationship with the city and the state left PRL&P in a somewhat disadvantageous position when it began to face its first serious competitor in the transportation field: the jitney. The jitney—a privately operated multiple-passenger automobile (or even small bus), typically running along a prespecified route—presented significant competition to the transit industry just before World War I. The first jitney-type operations in Portland probably started around 1910, the same year that the city council passed an ordinance fixing fees for "automobiles for hire."[30] Jitneys became a widespread phenomenon after the summer of 1914, when they began operating in Los Angeles and other West Coast cities. By late 1914, the "jitney problem" loomed so large that a PRL&P annual report noted that "the Company is now facing further losses in its railway department, owing to competition from jitney automobiles and motor 'buses,' which have increased rapidly in this part of the country."[31]

Schwantes argues that the rapid increase in the number of jitneys in Portland and elsewhere in the West was due to high unemployment levels that attracted jobless men (and women) to this newly available means of making a living. Especially after the depression that began in 1912, Portland's unemployment rate soared, reaching 20 percent by 1914.[32] Schwantes notes that the jitney was the result of a

> widespread public desire for an alternative to the streetcar and opportunity as represented by the advent of inexpensive automobiles . . . a large pool of unemployed workers, willing to drive them, and a general lack of legal restrictions to commercial operation of rubber-tired motor vehicles.[33]

It was this last feature that was the most unsettling to transit company officials everywhere, who wanted to see restrictions placed on jitneys to prevent them from competition with the street railway industry. As long as the transit industry was regulated, argued industry executives, competition of unregulated jitneys seemed grossly unfair.

In Portland, transit company officials made a strong effort to combat the jitney. Unlike transit officials in other cities, however, those in Portland enjoyed limited success. PRL&P officials, the media, and members of a number of business organizations, including the Portland Chamber of Commerce, endorsed the idea of jitney regulation. Portlanders in general, however, were not convinced that strict regulation of this budding industry was necessary. Members of the city council, who were less inclined to support the interests of big business, put an initiative before the voters requiring only that jitney operators pay a $2 license fee.

Editors of the *Oregon Voter*, a conservative newsweekly and friend of the transit company, proclaimed their outrage. Portland's proposed $2 licensing fee was shown to be the lowest in the country. Fees in California ranged from $25 in Long Beach to $100 in Venice and San Francisco. In addition, California operators paid an annual state license fee of $12.50 per seat, plus an indemnity bond of up to $10,000. In Washington, the annual indemnity bond required was $2,500.[34] In the spirit of revolt against the transit company, Portland voters approved the $2 license fee in 1915, ignoring the example of their neighbors to the south.[35]

In 1917, the *Oregon Voter* expressed disgust at the fact that Portland was one of a few U.S. cities that did not require jitneys to be bonded. Portland's handling of the jitney situation, claimed the *Voter*, was "idiotic, a humiliating confession of administrative incompetence." That June, as a result of efforts by PRL&P officials, city business leaders, and conservative supporters, four separate jitney ordinances were again before the voters—all aimed at reducing competition between the transit company and jitney operators. Voters approved each of the measures, which granted three-year franchises to the city's leading jitney operator, the Portland Trackless Company; fixed jitney fares at five cents; required a $2,500 per-vehicle bond; and specified hours of service and routes. The *Oregon Voter* expressed satisfaction that Portlanders had finally imposed regulation on their jitneys, although the franchise terms were in fact relatively generous.

In 1918, PRL&P was able to announce that "there is no jitney competition in Portland." It was not regulation, however, that eliminated that competition.[36] Jitney regulation remained nominal. Much as Schwantes argues, the jitney disappeared in Portland as unemployment levels declined.

LOCAL 757: LABOR JOINS THE UNION

No sooner had the jitney threat diminished than the transit industry nationwide began to face its first serious labor demands. The labor-intensive nature of the transit industry made wages a crucial variable in the industry's profits. In Portland, between 1915 and 1927—the period for which details of expenses are available—wages alone accounted for approximately 54 percent of operating expenses.[37]

As a labor-intensive industry, the profitability of the street railways depended to a large extent on a tradition of low wages and extended hours. It was in transit management's best interest to hold down labor costs. According to Freeman,

> One way to do this was to reduce the size of the work force relative to the number of passengers carried. . . . Work force reductions, however, were only a secondary means of keeping down labor costs. The main technique was the extreme prolongation of the working week, compensated at subsistence or low wage levels, and worked under harsh conditions and strict discipline.[38]

Despite the long hours, difficult working conditions, and low wages, up until 1917 PRL&P's annual reports noted a lack of worker-management strife. In 1914, management even announced that the "relations of the company with its men continue most cordial" and that employees had just been given a one-cent raise, while increasing the mileage driven.[39] Management boasted to potential investors that the worker tumult found in other cities was not present in the Portland company.

But PRL&P labor may not have had such an optimistic view of things. Many employees were working seven days a week, fifty-two weeks a year.[40] Men worked an average of ten hours per day.[41] Prior to the formation of the union, management took no account of craft specialization; employees were pulled away from one task and assigned to another.[42] Some tasks were easier to perform than others, but each contained its own degree of difficulty, tedium, or danger.

Motormen, who operated the cars, were usually positioned in an open vestibule and required to stand. Conductors collected fares and made change, sold tickets and passes, issued transfers, signaled the motorman when to start and stop, and made reports at the end of the shift with regard to fares collected. They had the most contact with the public and were thus under constant pressure to be courteous.[43] Like motormen, conductors were required to stand. On one-man cars, motormen performed the duties of both the conductor and the motorman.

By 1916, Portland transit shops were operating under what was called the Taylor system, named after the planning and efficiency principles of Frederick W. Taylor.[44] This system entailed a strong degree of regimentation. Because "too much time was lost when they [the workers] were obliged to think about what they should do next," PRL&P management spelled out the duties of individual employees in precise detail. The company created the position of "efficiency foreman," whose responsibility it was to scrutinize what other workers did, how long it took them, what tools they used, and how they handled other work-related tasks. From the efficiency foreman's notes, cards with standardized rules were created, providing a standard set of instructions for each job and the time allowed for its completion.[45]

All employees, especially motormen and conductors, were expected to adhere to a strict set of rules and to perform tasks within specific guidelines. There is no evidence that Portland transit workers could easily evade the stringent guidelines of the Taylor system; most men feared dismissal for a slight infraction. One retired transit worker reported that men who worked the cars were particularly under pressure to keep to a rigid schedule:

> You didn't have time for anything—just going constantly. When you got down to the end you had to change ends. They had what they call a "cow catcher" in front; you had to change that back in front. And change controls—change everything. But they didn't give you any time to do things. . . . You didn't do like they do today. If you didn't have your cap on straight, you were out.[46]

During the spring of 1917, as wartime workers in Portland and elsewhere put in required overtime, union membership spread rapidly throughout the country. No longer could the management of PRL&P hope to stave off unionization. Finally, on October 15, 1917, PRL&P streetcar employees signed an agreement with Local 757 of the Street Railway Employees Union.[47]

Goals of the newly formed union included an eight-hour day and higher wages. Management approved the eight-hour day shortly after Local 757 was formed. As for wages, on May 1, 1917, platform men—who assisted passengers in boarding and unboarding—received an increase of two cents per hour, and other carmen received an additional one cent per hour, effective July 1.[48] Company officials wanted to avoid the union discord prevalent elsewhere in the country; they especially wanted to avoid a strike, for fear it would make the company even more unattractive to potential investors.[49]

THE END OF THE FIVE-CENT FARE

In August 1917, one month after the first round of wage increases had gone into effect, PRL&P filed a request with the state Public Service Commission (PSC) for an increase in its street railway fares. A month later, the company submitted a petition for an increase in fares to the city council as well.[50] Shortly thereafter, the PSC ruled that, based on the previous year's valuation, the company's revenues were indeed inadequate and that the rates charged were unjust; therefore, it determined that the company's streetcar rates should be increased to six cents.[51]

Portland's city council members—strong believers in the concept of "home rule"—expressed resentment at the state's encroachment on a local matter. Members of the PSC, on the other hand, considered the state to be a more impartial and scientific arbiter. City council members, determined to test the doctrine of home rule, brought suit against both the PSC and the transit company. The state supreme court ruled on the side of the PSC, holding that the state did have jurisdiction and that the fare increase was justified.[52]

Emboldened by the supreme court ruling, transit company officials urged the city council to remove the "unfair burdens" of street paving, bridge tolls, and franchise fees. In light of the fact that the supreme court had hinted at the advisability of such relief as a means of mitigating the financial burden of the transit company, the city council agreed to forward the request to the electorate. Voters, however, were not in a generous mood. They struck down the relief measure and at the same time approved a proposal to reduce the amount of bond required of jitney operators.

Despite the electorate's vote of "no confidence" in PRL&P, company officials closed out the decade expressing optimism about the future of urban mass transit. Even the growing availability of the automobile did not appear to be a source of concern to company officials. Indeed, the number of paying streetcar riders had increased nearly 30 percent, rising from seventy-five million in 1917 to ninety-five million in 1918 (see Figure 1). Company president Griffith remarked with confidence that the increases in ridership made it "apparent that the automobile has not displaced the trolley car."[53]

In his annual report to investors, Griffith expressed optimism—fueled by the media and local businessmen—that the end of World War I would mean an increase in the supply of labor and a concomitant lowering of wages. However, he did not anticipate the postwar inflation that led to higher wages. The resulting increase in operating costs reduced the company's earnings, and in August 1919, Griffith appealed once again to the state for a fare increase.

This time the PSC did not immediately grant the increase, but instead reiterated its recommendation that the city remove all public charges against the company—bridge tolls, franchise fees, free carriage of policemen and firemen—and the obligation of paving the track area. The state commissioner concluded that if such relief were granted, the company could avoid another fare increase.

In 1920, members of the city council again sought to bring financial relief to the transit company. Two relief referenda included tax levies to compensate for lost revenues. Voters rejected both of these measures—and even a third that did not call for an increase in taxes went down to defeat. Shortly thereafter, the PSC granted a fare increase from six to eight cents for the single cash fare.

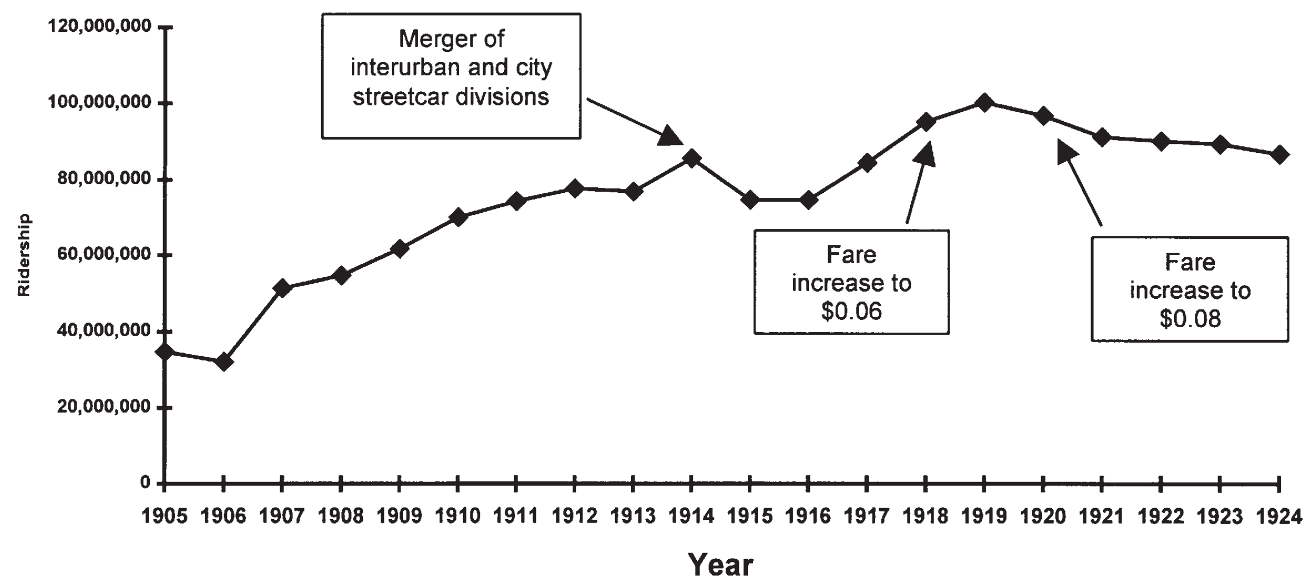

Figure 1: PRL&P Streetcar Ridership, 1905 to 1924[54]

INDUSTRY RESPONSE TO DECLINE

By the early 1920s, transit's decline was under way and irreversible. Several factors had set both the direction and momentum of the decline. Riders demanded not only improvements but service extensions to newly settled suburbs. However, burdensome franchise obligations, a heavy debt load, and labor activism for higher wages and fewer hours made maintenance, service improvements, and route extensions difficult, if not impossible. Rising wages and declining ridership pushed transit operations in Portland and elsewhere toward bankruptcy. Except for the period during World War II, transit's decline was—by the 1920s—well under way. Transit officials in Portland responded to decline in three ways, described by Jones as embattled attrition, elective divestment, and, finally, bankruptcy.[55] Despite each effort, though, the net result was a company—and an industry—in irreversible decline.

EMBATTLED ATTRITION: STRUGGLING TO SURVIVE

As late as 1923, the financial success of the interurban division provided a ray of hope for officials of Portland's beleaguered transit company. President Griffith and the other officials believed that an improvement in logging operations would revitalize local industry, encourage population growth, sustain interurban ridership, and, eventually, stimulate more streetcar patronage. Griffith and his colleagues also believed—like many in the industry—that although sales of automobiles were increasing rapidly, congestion in the city center had reached a saturation point and there would be no significant increase in their use. Despite burdensome regulations, higher wages, a heavy debt load, and the increasing threat of automobile competition, there was still a pervasive belief among transit officials that street railway ridership would increase and overall operations would improve.

Only a few years earlier, company officials had attempted various solutions aimed at keeping the industry afloat. To improve balance sheets, they lobbied regulators for increases in fares and decreases in franchise obligations. They also strove to make the service they offered more competitive with both automobiles and jitneys—before the latter had ceased to be a threat. Portland management realized that the main service features with which the company could not compete vis-à-vis the jitneys were their speed and flexibility. Most jitneys were much smaller than the average streetcar and, not being tied to tracks, could maneuver much more easily. To compete with the speed and frequency of the jitneys, in 1918 the company began to run one-man cars. Twenty-five of these one-man cars were new Birney cars, provided by the federal government during the war.[56] These were lightweight vehicles that ran more smoothly and quickly than the older streetcars.

One-man cars, however, were not met with enthusiasm by the public or by investors, who worried that these vehicles provided inferior and dangerous service. Single-operator vehicles, argued company officials, freed up employees to run more cars at a greater frequency. At the same time, Griffith reported to stockholders that the company saved a small amount in wages—although these savings were in fact minimal because they were offset by increases in the number of car hours worked and increased maintenance due to the operation of more cars.[57]

In addition to putting one-man cars into service, company executives also inaugurated bus service between Oregon City and Portland. Launched in 1917, this bus service did not duplicate jitney routes, which were largely within the Portland city limits. Instead, by running buses to Oregon City, PRL&P preempted development of such service by a potential competitor.[58]

ELECTIVE DIVESTMENT: LETTING GO OF TRANSIT

Neither one-man cars nor limited bus service succeeded in stimulating ridership. Transit's decline continued, fueled by persistent inflation, a heavy debt load, and the city-mandated use of discount ticket books. While inflation led to regular increases in operating costs, the company's high debt load prevented it from setting aside depreciation reserves with which to replace outdated equipment. The use of the discount ticket book added to these difficulties, reducing the fare by 10 percent for about 40 percent of the riders. In 1922, company officials announced that they would be unable to make further route extensions or service improvements.[59]

To separate profitable and unprofitable activities in the minds of investors, company officials attempted to disassociate the railway division from the light and power division. The 1923 annual report boasted a new name for the company: Portland Electric Power Company. Company officials announced to stockholders that they would now be emphasizing the growing light and power division over the declining railways. For the first time, developments in the railway division appeared in the back of the annual report, and news about the light and power division moved to the front. Originally the company's most profitable arm, the railway division had now become a liability. In 1930, company officials initiated the final act of divestment and disassociation, separating the transit division from the light and power division, with each incorporated as a distinct entity.

BANKRUPTCY: THE SALE OF THE CITY'S TRANSIT

The transit industry failed to meet the demands of competing constituencies. Constrained by burdensome franchise obligations and its own heavy debt, industry executives could not respond to workers, who sought higher wages and fewer hours, or to riders, who demanded improved service at low fares. Up to the late 1920s, company officials had tried to respond to these demands. When their efforts proved futile, the officials turned their attention to the growing and profitable light and power division.

Bankruptcy came next. In 1935, the Public Utility Holding Company Act mandated that all electric companies divest themselves of their transit holdings. In Portland, formal divestment was postponed because the company had gone into receivership in 1934 and then again in 1939. The receivership initiated in 1934 precipitated a court-ordered inquiry and subsequent litigation that lasted until 1945. In 1946, the United States District Court authorized the company's trustees to accept a purchase offer from the San Francisco-based Portland Transit Company. This company ran Portland's mass transit system at a great loss and with much public scorn and labor discontent until 1969, when, bearing the name of Rose City Transit, it was sold to the regional transit authority that operates the transit system today, Tri-Met.

CONCLUSION

As a crucial public service, transit acquired a perceived indispensability among a variety of constituencies. Transit's decline resulted, in part, from the conflict between the competing demands of its constituencies—stockholders, labor, riders, and regulatory bodies. The competing demands undermined the industry's ability to respond to such crises as labor activism, economic depression, and competition from the jitney and private automobile. In addition, the industry operated in the absence of what in the late twentieth century might be considered purposeful transit planning and policy making. Instead, city and state regulatory bodies directed transit's fate in a reactive and punitive manner, while early city planners and traffic engineers focused their attentions on infrastructure improvements that would accommodate the automobile.

The punitive nature of regulation was in large part a reformist response to transit industry expansion and monopolization, instigated by the advent of electrical traction in the 1890s. Early expansion had relied on heavy investment and led to overcapitalization, leaving the industry hard pressed to keep up with maintenance and service improvements. This difficulty was compounded by regulatory requirements mandating street paving, bridge repair and construction, frequent service, line extensions into unprofitable low-density areas, fixed fares, discounted ticket books, and payment of burdensome license fees.

Ultimately, the decline of urban mass transit resulted from the conflict between its obligation as a private enterprise and its obligations as a public service utility and employer in a labor-intensive industry. Heavy debt loads had to be managed along with regulators' exacting franchise requirements, labor's wage and hour demands, and calls from both riders and regulators for service improvements and extensions into suburban developments. Transit companies economized where they could—for example, by instituting one-man cars. They also made service improvements—such as implementation of buses and lightweight Birney cars—that they thought would make transit more competitive with the speed and comfort of automobiles.

But in Portland, as in many areas of the country, wages and fares continued to increase, and regulators continued to treat transit as a monopoly, despite the fact that it was no longer alone in the arena of urban transportation. Eventually, management of the consolidated light and power utility that owned and operated Portland's transit system realized the time had come to de-emphasize transit and focus instead on light and power production. This pattern was repeated throughout the country. It was clear to all that the transit business was no longer a profit-making enterprise.

When the private sector retreated from transit provision—either by bankruptcy or divestment—the public sector stepped in, since mass transit had become as much a necessity of urban living as other public utilities, such as water and sewer systems. By 1970, virtually every U.S. city had publicly owned and operated transit systems. New transit technologies—such as light rail—were not far off in the future. But as the twentieth century comes to a close, it remains to be seen whether the technological and structural changes brought to the transit industry during this era of public ownership will prove sufficient to reverse the steady downward trend in transit ridership that has been taking place during the past seventy-five years.

NOTES

1. The role of transportation in establishing a city's spatial order is widely accepted among urban historians, although there is some disagreement about the nature of the relationship between transportation and urban form. Some historians emphasize the relationship between real estate development and the spread of streetcar lines; see Scott L. Bottles, *Los Angeles and the Automobile: The Making of the Modern City* (Berkeley, 1987). Other historians identify factory location as a precursor to transportation routes and, thus, a more important determinant of urban form; see Greg Hise, "Home Building and Industrialization in Los Angeles," *Journal of Urban History* 20 (February 19, 1993), 95-125; and Stephanie W. Greenberg, "Industrialization in Philadelphia: The Relationship Between Industrial Location and Residential Patterns, 1880-1930" (Ph.D. dissertation, Temple University, 1977). Indeed, the interests of real estate promoters and factory owners were sometimes intertwined with those of streetcar and railway promoters; often, the same actors were involved in all three ventures. Whichever of the three actors might be the most "proximate" determinant of spatial change—real estate interests, factory

owners, or streetcar promoters—the streetcar was undeniably the facilitating factor without which spatial change, as it occurred in the United States, could not have taken place.

2. The timing of the institution of the horse-drawn streetcar varied throughout the United States. By 1860, horsecars in cities on the East Coast were carrying millions of people annually. On the West Coast, Portland was an early starter, with its first horsecar running in 1872, whereas Los Angeles' first horsecar line was inaugurated in 1874 and Seattle's in 1883.

3. Quoted in Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York, 1985), 40. See also George Rogers Taylor, ed., "The Diary of Sidney George Fisher, 1859-1860," *Pennsylvania Magazine of History and Biography* 87 (April 1963), 191-2.

4. *New York World* 1886, as quoted in Jackson, *Crabgrass Frontier*, 106.

5. For a thorough discussion of the conditions facing transit workers, see Joshua B. Freeman, *In Transit: The Transport Workers Union in New York City, 1933-1966* (New York, 1989).

6. Kimbark MacColl, *Shaping of a City: Business and Politics in Portland, Oregon 1885-1915* (Portland, 1976), 22-5; Appendix A, 480-1.

7. Mayor Philip Wasserman, Inaugural Address to the Portland City Council, as reported in *The Oregonian* (September 5, 1871).

8. MacColl, *Shaping of a City*, Appendix M, 492.

9. For a discussion of "horizontal growth," see Mark Foster, *From Streetcar to Superhighway: American City Planners and Urban Transportation, 1900-1940* (Philadelphia, 1981).

10. Ibid. See also William H. Wilson, *The City Beautiful Movement* (Baltimore, 1989).

11. Most streetcar franchises were like Portland's, which stated that fares were to be fixed at five cents "and no more."

12. Charles W. Cheape, *Moving the Masses: Urban Public Transit in New York, Boston, and Philadelphia, 1880-1912* (Cambridge, 1980), 109.

13. For a discussion of Samuel Insull's efforts to "balance" electrical loads through sales to transit operators in Chicago, see Harold L. Platt, *The Electric City: Energy and the Growth of the Chicago Area, 1880-1930* (Chicago, 1991), 118-23.

14. Paul Barrett, *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930* (Philadelphia, 1983), 19.

15. Bottles, *Los Angeles and the Automobile*, 27, 40.

16. PRL&P annual reports (1911-1914). In 1910, PRL&P reported a total funded debt of $26,749,000 and total assets of $46,039,468, with about 251 miles of track on the entire system. For 1912, the company reported $39,000,000 in funded debt against $61,271,580 in total assets, with about 284 miles of operating track.

17. Richard C. Berner, *Seattle 1900-1920: From Boomtown, Urban Turbulence, to Restoration* (Seattle, 1991), 45, 176.

18. Many illustrations of Portland's reputation as a cautious and conservative city are provided by MacColl, *Shaping of a City*; and Carl Abbott, *Portland: Planning, Politics, and Growth in a Twentieth-Century City* (Lincoln, 1983).

19. In 1902, the fees to be paid by the company to the city were set up as follows: $1,500 per year for the years 1903 to 1907; $2,000 per year from 1908 to 1912; $2,500 per year from 1913 to 1917; $4,000 per year from 1918 to 1922; and $5,000 per year from 1923 to 1927, the end of a twenty-five-year franchise. City of Portland (COP) Ordinance No. 13178.

20. Unlike many other early franchises, the Portland franchises were not exclusive.

21. COP Ordinance No. 19176.

22. *The Oregonian* (February 6, 1909).

23. COP Ordinance No. 25548.

24. Ibid., No. 29238.

25. PRL&P annual report (1914).

26. Ibid., 1915, 8.

27. Ibid., 1917, 9.

28. Ibid., 1913-23.

29. Portland City Council (PCC) minutes (February 1, 1918).

30. COP Ordinance No. 20986.

31. PRL&P annual report (1914).

32. Portland's 1912 unemployment rate of 20 percent compares with 16 percent for San Francisco, 13 percent for Seattle, and 11 percent for Los Angeles.

33. Carlos A. Schwantes, "The West Adopts the Automobile: Technology, Unemployment, and the Jitney Phenomenon of 1914-1916," *Western Historical Quarterly* 15 (July 1985), 309, 313-4.

34. *Oregon Voter* (June 5, 1915).

35. Bottles, *Los Angeles and the Automobile*, 49. Bottles notes the same phenomenon in Los Angeles with regard not only to the jitney but to the increasing use of the private automobile. He sees the embracing of both the jitney and the private automobile as the result of Angelenos' frustration with the service provided by the transit industry.

36. PRL&P annual report (1918).

37. PRL&P annual reports (1915-27); Orin B. Coldwell Papers, Portland General Electric Company Library. Freeman, *In Transit*, 10, indicates that nationally, for the period 1907 to 1937, wages accounted for about 48 percent of all operating expenses.

38. Freeman, *In Transit*, 10-1.

39. PRL&P annual report (1914).

40. U.S. Department of Labor, Bureau of Labor Statistics, *Bulletin of the United States Bureau of Labor Statistics, No. 204: Wages and Hours of Labor, Series No. 23: Street Railway Employment in the United States* (Washington, D.C., 1917), 112-5, 179-80, 218; Laurel Larson, interview by author (August 18, 1992).

41. Public Service Commission of Oregon, *City Lines Wages of Trainmen, 1914-1928, Miscellaneous U.F. Exhibits* (Portland).

42. Employees of the Portland Railway, Light & Power Company and the Portland Railway, Light & Power Company, *Arbitration of Differences* (February 13, 1924, to March 17, 1924), 445.

43. Ibid.

44. F. P. Maize, "Planning and Efficiency System in Portland, Ore., Shops," *Electric Railway Journal* 42 (March 18, 1916), 539-49.

45. See also Freeman, *In Transit*, 14.

46. Larson, interview (August 18, 1992).

47. Roy Reese Robley, "Portland Electric Power Company With Its Predecessor and Subsidiary Companies," 1935 TMs, 163 (mimeo).

48. PRL&P annual report (1917).

49. When examined over the long term, it appears that the Portland transit company's granting of wage increases was a strategy aimed at convincing the city council that a fare increase was called for. It is unclear whether this strategy was articulated in the late teens, but by the 1950s, it was a transparent tactic.

50. PCC minutes (September 5, 1917).

51. PRL&P, *Application for an Increase in Fares on Street Railway Lines in the City of Portland*, No. U-F-199, Twelfth Annual Report of the Public Service Commission of Oregon, P.S.C. Order No. 321 (January 5, 1918).

52. PRL&P annual report (1919).

53. Ibid.

54. Ibid., 1922; Roy Reese Robley, "Original Notes for 'Portland Electric Power Company' " (n.d.).

55. David W. Jones, Jr., *Urban Transit Policy: An Economic and Political History* (Englewood Cliffs, 1985), 46-58.

56. The Birney cars were leased by the federal government to the Portland transit company to provide relief during the war. They were purchased by the company in 1922.

57. PRL&P annual report (1919), 8. A common response during this era of financial trouble and competition was the institution of motor bus service and the one-man car. See Jones, *Urban Transit Policy*, 52-5; and Edward S. Mason, *The Street Railway in Massachusetts: The Rise and Decline of an Industry* (Cambridge, 1932), 108. In fact, transportation historian and economist George W. Hilton reports that the major technological innovation during this era—the one-man, lightweight, four-wheel Birney car, originally referred to as the "safety car"—was introduced for the primary purpose of competing with the jitney; see "The Rise and Fall of Monopolized Transit," in *The Private Challenge to Public Transportation*, ed. Charles A. Lave (Cambridge, 1985).

58. This bus service did compete to a certain extent with the company's interurban lines running out to Oregon City. Interurban service was in decline, however, whereas the bus line was considered a source of potential growth.

59. PRL&P annual report (1922).