GOING NOWHERE: PITTSBURGH'S ATTEMPT TO BUILD A SUBWAY, 1910-1935

by

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Submitted to the Department of Humanities on June 4, 1990 in partial fulfillment of the requirements for the degree of Bachelor of Science.

Abstract

This thesis examines the City of Pittsburgh’s attempt to build a rapid transit system. This effort extended over a twenty-five year period, 1910 to 1935. An inadequate surface transportation system motivated the city to consider building rapid transit. Transit experts documented the system’s poor condition. During the morning and evening rush hours, downtown congestion became particularly acute. Despite the obvious problems which existed, the city and the Pittsburgh Railways Company could not reach an agreement on improving service. Discouraged by failed law suits and unproductive negotiations, city officials decided to pursue the rapid transit option.

Pittsburghers actively debated the pros and cons of various rapid transit systems. The el vs. subway issue received the most discussion. Many considered Pittsburgh’s streets too narrow to accommodate elevated railways. They believed the el’s lower construction cost would be more than offset by the damage done to adjacent property. At the same time, subway proponents tried to convince people that modern technology had eliminated the major safety hazards in subways. Whether the city built an el or a subway, some citizens foresaw the need for a transit commission to operate the system.

The legislative and executive branches of city government could not agree on an acceptable ordinance. City officials then decided to create the office of transit commissioner headed by Edward K. Morse. However, the process remained stalled. It took the energetic Mayor Edward V. Babcock to get things moving again. Thanks to Babcock’s leadership, Pittsburghers voted in 1919 to spend $6 million on a downtown subway. Still, the city did not begin construction. All that followed was a series of reports. As the country fell into a deepening depression, Pittsburgh abandoned its hopes for building rapid transit. On May 2, 1934, city council voted to vacate the $6 million bond.
Dedication

To Bob Fogelson
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INTRODUCTION

Today, rapid transit systems can be found in only a handful of American cities. Earlier this century, however, many cities tried to build such systems. Cincinnati, Cleveland, Detroit, Seattle, St. Louis and Pittsburgh all made unsuccessful attempts. These failures prompt several questions. Why did so many cities decide that a rapid transit system was needed? What type of system (el or subway) did they propose to build? How did they go about implementing that decision? Why did they ultimately fail? More broadly, the failures tell us a lot about early twentieth century urban America. What were urban politics like back then? How did urban planners and other experts influence policy debates? How did cities view their role in the ownership and operation of utilities? The Pittsburgh situation is especially puzzling because in 1919 voters authorized $6 million for construction of a downtown subway. Thus the people gave their political and monetary support to the subway plan. Also, most elected officials endorsed the proposal. With this support, why did the city fail to even begin construction? The thesis will address these questions.
1. THE MOTIVATION

What originally motivated Pittsburghers to consider building a rapid transit system? Building this system would have been no small undertaking. Even modest rapid transit proposals entailed a construction cost of several million dollars. This represented a significant financial sacrifice for the city. It was unlikely that a downtown el or subway could be built within four or five years. A system serving the entire city would have taken well over a decade to complete. Thus it would have been several years before Pittsburghers actually benefited from the system. During this time, the construction would cause much disruption downtown. Given these drawbacks, one might have expected rapid transit to be the city’s last alternative. Why was the city willing to make these sacrifices? What were the existing transit problems? How and why did these problems develop?

By 1910, the Pittsburgh Railways Company has managed to secure a virtual monopoly on surface transportation in Pittsburgh and the surrounding district. At that time, the city encompassed about 41 square miles, with a population just over 600,000 people. Including nearby municipalities also serviced by the company, the figures grow to 58 square miles and 880,000 people.1 The Pittsburgh Railways Company, incorporated in May of 1871, had two parent companies. Its stock was wholly owned by the Philadelphia Company. This company was, in turn, owned by the United Railways Investment Company. Located in New Jersey, the United Railways owned stock in several railroads and public utilities.

Beginning in 1904, passenger complaints against Pittsburgh Railways grew. The company conceded that some improvements in service could be made. During their efforts to reach an agreement on upgrading service, city officials and the Pittsburgh Railways came into sharp conflict. In 1907, the Pennsylvania legislature created the Pennsylvania State Railroad Commission; its mandate was to closely regulate railroads and street railways. The Commission had extensive investigatory powers; however, it possessed little authority to enforce recommendations. Before long, the Railroad Commission found itself involved in the Pittsburgh dispute. City officials continued to demand that action be taken against Pittsburgh Railways. In response, the Railroad Commission engaged the engineering consulting firm of Stone & Webster to study Pittsburgh’s transit conditions.

On February 20, 1909, Stone & Webster released its findings. The report suggested that the

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Pittsburgh Railways carefully consider its routing and scheduling patterns. The firm believed that more efficient operation, coupled with the purchase of 50 additional 56-seat motor cars, could alleviate rush hour overcrowding. Additional recommendations were made for making the streetcars more pleasant to ride in. While the Stone & Webster report did point out several operating deficiencies, it concluded that the Pittsburgh Railways was doing a good job. "The physical condition of tracks, overhead construction and rolling-stock equipment, as observed, is excellent and well maintained." It further noted that the interior of the cars was generally "maintained in good condition and kept clean."

City officials were displeased with Stone & Webster's conclusions. Less than one month later, the city brought suit against Pittsburgh Railways. The city demanded that the company either drastically improve service or else abandon all its downtown routes. This legal action met with no success. Yet it did prompt the Railroad Commission to take further action. The commission hired consultant Emil Swensson to make another study of the Pittsburgh situation. Swensson finished his study in March. He began the report by writing, "For about the last ten years the complaints of inefficient service furnished by Pittsburgh Railway Company . . . have been continuous, without any apparent improvement being the result; in fact, the service rather seems to have grown gradually worse." Swensson went on to outline a whole series of improvements needed. These included purchasing new cars, revising routing schedules, and improving organizational structure.

Pittsburgh officials hailed the report. Mayor William A. Magee praised its conclusions and called upon the Pittsburgh Railways to comply fully. In sharp contrast, President James D. Callery of Pittsburgh Railways characterized Swensson's analysis as "severe and unjust." He strongly denied that service had declined over the past ten years. Callery suggested that Swensson's report was skewed because his investigation occurred during the difficult winter months. He said his company had already moved to address many of the criticisms. On June 23, 1910, the Railroad Commission issued its own recommendations based upon the Swensson document. The commission basically agreed with the conclusions reached by its investigator. It suggested several steps Pittsburgh Railways should take to improve service.

In an official reply to the Railroad Commission, the Pittsburgh Railways said every effort would

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3Ibid, p. 214.
4Swensson, p. 2.
be made to upgrade service. According to it, the real problem lay with the city. Supposedly, city officials were "disposed to postpone action on all matters pertaining to the improvements in your recommendations until they receive the reports of the their experts."5 Who were these experts referred to? In 1901 the Pittsburgh Civic Commission hired Bion J. Arnold, John R. Freeman and Frederick Law Olmstead to make a comprehensive study of Pittsburgh’s downtown district and main thoroughfares. This included investigating many other subjects related to urban development.

On January 26, 1910, Mayor Magee wrote to Bion Arnold that, "I have been authorized by the councils of this city to retain you to investigate and make a comprehensive report upon the transportation problem of the Pittsburgh District."6 Thus the Mayor reassigned Arnold from his work for the Civic Commission. What prompted Magee to take this action? First, unlike the two studies done for the State Railroad Commission, this Arnold’s report would be a city-sponsored project. Second, Arnold’s analysis was more comprehensive than anything previously done. His completed report was nearly ten times the size of the ones done by Swensson or Stone & Webster. The mayor and city council wanted a document which would lend credibility to their demands for improved transportation service. An acknowledged expert on these matters, Arnold had advised many cities throughout the country. He strongly advocated mass transportation systems. Therefore city officials knew his report, whatever its specifics, would favor upgrading the service.

Arnold’s report generally upheld the city’s position. Although he noted that the city should have been doing more to regulate street traffic and widen vital arteries, thes Pittsburgh Railways received the most criticism. The report found almost every aspect of the company’s operation unsatisfactory. This included routing, scheduling, financial management, and physical condition of the cars. Arnold concluded that, "The Surface System will continue to be unsatisfactory in its operation until the present leases are cancelled and the various properties reorganized into one system . . ."7 He thought the public should own and operate the reorganized system. Also, Arnold stressed Pittsburgh’s need for rapid transit.

So, three major studies were completed in the short span of two years. Although the reports differed in their conclusions and recommendations, they all agreed that Pittsburgh, particularly downtown, had major transportation problems. How did the situation get this way? The story began

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5Electric Railway Journal, August 20, 1910, p. 311.
6Bion J. Arnold, Report On The Pittsburgh Transportation Problem, 1910, p. V.
7Ibid, p. 10.
some twenty years earlier. From 1891 to 1896, Pittsburgh experienced a rapid growth in electric car service. About 40 independent traction companies fiercely competed against one another. During this time, the total trackage in miles increased from 89 to 337. According to Arnold, "The earnings per capita showed a very gratifying upward tendency, and the street railway business appeared like a 'gold mine'."\(^8\) Despite a 1893-4 earnings downturn, the railway industry seemed to be very sound indeed.

From about 1887 until 1902, the City of Pittsburgh made little effort to enforce operating standards among the railway companies. As Arnold put it, "the City practically surrendered to the Railway Companies its rights to its own streets."\(^9\) Gradually, the city tried to exert some influence. Officials demanded that the companies fulfill their franchise obligations to maintain certain levels of service. Arnold said that, "After losing the control of the situation by neglecting franchise requirements there has been an effort from time to time to exercise the police and taxing power of the City by means of ordinance."\(^10\) These actions proved mostly ineffective.

In an effort to reduce competition, the traction companies began to consolidate. By 1902, a total 40 companies had been absorbed into the Pittsburgh Railways Company. This massive consolidation had several negative consequences. Emil Swensson summarized the resulting difficulties.

The results of this piece-meal method of building up the traction system to the present operating company have, of course, been: much wasted investment capital, as well as much added consolidation and reorganization capital; the retention and maintenance of much superfluous trackage; the possession of too many small, improperly planned and now wrongly located carbarns; too many small power plants; and a variety and kinds and qualities of car, too many of which are still in use.\(^11\)

Of these problems, overcapitalization proved the most serious. It resulted from the company's fervish attempt to acquire a monopoly over Pittsburgh's transportation service. Arnold observed that competing companies were "absorbed with considerable profit to their former owners, and in raising money on bonds, rates of interest have been high and discounts liberal."\(^12\)

The Pittsburgh Railways also built several non-paying extensions. Arnold guessed that the company did this either to scare off competition or to enhance the value of nearby land it owned. As

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\(^8\)Arnold, p. 41.

\(^9\)Ibid, p. 52.

\(^10\)Ibid, p. 57.


\(^12\)Arnold, p. 54.
a result of extensions and acquisitions, Pittsburgh Railways grew considerably. By 1910, its 581 total miles of track ranked fourth nationwide behind Chicago, Philadelphia, and New York.\textsuperscript{13} Counting only surface track, leaving out elevated and subways, Pittsburgh ranked even higher. This all points to an obvious conclusion, which Arnold noted. "In extent, the Pittsburgh system may be said to be relatively overexpanded as compared to larger or more densely settled cities."\textsuperscript{14}

The inefficiency of Pittsbrugh Railways extended to its whole management structure. The company lacked a strong central office, which could coordinate the activities of the numerous divisions. Instead, the system operated in a decentralized and ad-hoc manner. Swensson took a critical view of the company's structure.

The practical retention of some of the larger underlying companies as Divisions of the present larger system, but somewhat changed to suit natural dividing lines in the territory, and investing the Division people with nearly as full and independent authority and responsibility as they had when the Divisions were separate and independent operating concerns, is not advantageous to the operation of this system as a whole.\textsuperscript{15}

This decentralization made it particularly difficult to coordinate city wide routes and schedules. Employees tended to concern themselves only with the operation of their departments. Swensson recommended the creation of a strong central division.

In times of economic prosperity, Pittsburgh Railways could still make a profit despite its problems. However, in 1904 and again in 1908, the City of Pittsburgh experienced an economic downturn. These brief recessions caused the company to incur substantial losses.\textsuperscript{16} As deficits grew, Pittsburgh Railways responded by cutting operating expenses. This translated into a lower quality of service for most passengers. As Arnold succinctly put it, "Small depressions in the curve of revenue car-miles occur in 1904 and 1908, as in the case of earnings, showing that with the decrease in revenue, the service rendered was also decreased."\textsuperscript{17}

Arnold thought "the removal of the idea that a franchise for a street railroad in a center of population is 'as good as a gold mine' is having a good effect toward reaching a sane solution of transportation difficulties."\textsuperscript{18} Where did this idea originate? Part of the blame can be assigned to

\textsuperscript{13}Arnold, p. 121.
\textsuperscript{14}Arnold, p. 137.
\textsuperscript{15}Swensson, p. 8.
\textsuperscript{16}REFER TO TABLE
\textsuperscript{17}Electric Railway Journal, August 13, 1910, p. 267.
\textsuperscript{18}Arnold, p. 24.
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Arnold. He wrote that, "A study of the relative growth of population of the transit earnings of the large American cities during the past ten years . . . points to the conclusion . . . that as a rule, the earnings from local transporation increase as the square of the population."\textsuperscript{19} This made for a rather bizarre notion. It seemed based more upon limited case study than upon any sound transportation principles. In fact, I would generally expect the relationship between population and earnings to be linear, not exponential. Over a given period, transportation earnings may quadruple in response to the population doubling. Yet there is no reason to expect that this would continue indefinitely. It is beyond me why an expert like Arnold would characterize this phenomenon as a rule. Undoubtedly, this caused some transit companies to make overly optimistic estimates of future earnings.

As service deteriorated, relations between the city and Pittsburgh Railways grew worse. At a March 1910 meeting with city council members, Mayor Guthrie expressed the city's unwillingness to continue cooperating with the company. "Certainly, when the company thus arrogantly refuses to perform the conditions under which the privileges which it holds were granted to it, no new ones should be given it."\textsuperscript{20} Less than one year later, the city council passed three ordinances aimed at forcing the Company to take action. The main provisions called for: a seat for every fare paying passenger, fining the company for all cars overcrowded by more than fifty percent, and universal transfers between transit lines.

Newly elected Mayor Magee vetoed the ordinances. He considered it "unwise and inopportune to pass ordinances of the nature mentioned for the reason that legislation of this kind prepared by unskilled draughtsmen not qualified to investigate causes and reach logical conclusions on this intricate subject is certain not to be upheld by the courts . . ."\textsuperscript{21} Instead, the mayor recommended suspending all actions until Arnold completed his study. Unswayed by these arguments, the council overrode Magee's veto. In the end, the mayor proved prophetic. The Pittsburgh Railways challenged the legality of the ordinances, and the courts ruled that the city had exceeded its charter power. Undaunted, the city brought several law suits against the company. None of these legal actions met with success. The courts and the state government generally avoided involvement in the ongoing conflict.

Although the city knew Bion Arnold would come out strongly in favor of improved transit

\textsuperscript{19}bid, p. 140.
\textsuperscript{20}Pittsburgh Street Car Service, 1910, p. 3.
\textsuperscript{21}Electric Railway Journal, March 26, 1910, p. 523.
service, it would be wrong to conclude that he served as the city's mouthpiece. His report frequently criticized both parties. He wrote, "The attitude of the City during the past administration [Guthrie's] was antagonistic and the present administration [Magee's] had kept the Company in a defensive position." This is not to say that officials had no basis for their hostility. After the 1904 and 1908 depressions, Pittsburgh Railways did cut back service in an attempt to reduce operating expenses. What specifically did Pittsburghers complain most about? What types of services did the Company perform most inadequately?

By far the most frequently cited complaint involved service to and from downtown. Traffic engineer Edward K. Morse believed the area to be "smaller in proportion to the amount of traffic than any other business district in the world." An estimated average of 250,000 people per day traveled downtown; thousands of vehicles daily crowded the narrow downtown streets. Into this already congested area, the Pittsburgh Railways ran 66 trolley routes through 13 loops. The severest congestion occurred during the 5:00 p.m. to 6:00 p.m. evening rush hour. During this interval, 825 cars with a total capacity of 21,500 seats serviced 37,500 outbound passengers. Assuming a uniform spread over the hour, the Pittsburgh Railways scheduling forced a minimum of 16,000 passengers to stand. Swensson observed that, "The passengers, however, are not evenly distributed over the hour, but instead present themselves in variously sized bunches for transportation to their homes." The actual pattern looked like this:

<table>
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<td>5,375 &quot; &quot;</td>
<td>4,500 &quot; 27</td>
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22Arnold, p. 68.
23Proceedings of Engineers Society of Western Pennsylvania, March 1907, p. 50.
24REFER TO CHARTS
25Swensson, p. 20.
26Ibid, p. 20.
PASSENGER LOADS, 1910

Pittsburgh Traffic—"Time-Load Curve" for Four Days at Typical Times Point in City


While the last group of cars had several empty seats, the first group handled nearly three times their passenger capacity. This issue of standing greatly concerned Pittsburghers. Lee C. Moore, a prominent business executive, commented that, "It is possible there would not be so much complaint regarding the surface car system if all the patrons were sure of a seat every time it is necessary to make a trip . . ."28

Why did people so strongly object to standing? John Fox, a transit expert from New York, offered one view. "It is one thing to allow a few persons who like it to stand on the car platform; it is another to require it of mothers, overworked girls, the tired, the ill, the infirm."29 Fox hoped to create sympathy towards those forced to stand. Further, he raised public health concerns. "No one knows how much disease is spread through such crowding. In no place are conditions more ripe for infection with the extreme personal contact, the mixture of every class, the constant rubbing against one another and the holding of dirty straps. Under such conditions, when a consumptive coughs, who is safe?"30 The Stone & Webster study said it was not "uncommon to find crowded into the same car daintly dressed shoppers and mechanics coming direct from the mills, covered with the day's accumulation of grime and perspiration."31 This comment seems laced with class bias.

If crowding posed such a problem, why not simply add more cars during the rush hour? To begin with, Pittsburgh Railways did not view the rush hour as the crisis portrayed by city officials and passengers. President James Callery said his company could not afford new cars for the express purpose of relieving rush hour crowding. He pointed out that the heaviest traffic occupied only four hours (7:00-9:00 a.m. and 4:00-6:00 p.m.) out of an entire day. Furthermore, during these hours, the cars traveling against the traffic flow were usually empty. Callery thought it would be economically imprudent and logistically impossible to hire drivers just to work the peak hours. The company could not pay part-time workers a full day's wages. Similarly, few people would be willing to work only two or three hours a day. After promising that new streetcars would be purchased, Callery added that no railway company could afford to 'throw away' cars under 20 years of age.

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29John Fox, Transit Situation in Pittsburgh, 1909, p. 638.
31Stone & Webster, p. 212.
Even if Pittsburgh Railways had wanted to add more cars, it remained unclear whether downtown streets could handle an increased load. Mayor Guthrie believed they could. "The problem to be solved in this City, therefore, is not how to provide new lines for the accommodation of public travel . . . The surface lines can do the work if the company operating them will only put on a sufficient number of cars."32 However, most Pittsburghers thought otherwise. According to them, the downtown district had already exceed its capacity for trolley cars and other vehicles. In 1910, transit engineer Edward K. Morse observed, "Every available street below Grant Street is occupied with car tracks; and cars are already being run as close together as they can be."33 Morse eventually became Pittsburgh's first transit commissioner.

In his report, Swensson asked and answered the following question: "With such condition at present, what would be the condition if the actual number of cars required by the rush hour traffic, about 255 additional, were to run over these same loops during this hour? There simply would not be room enough."34 This led to the conclusion that only a subway or elevated could solve Pittsburgh's transit problems. Morse said, "Since there is no more room for them [trolley cars] on the downtown loops of the surface railways, the natural way is to build elevated or underground roads."35 Besides easing downtown congestion, this solution offered the possibility of cutting out the Pittsburgh Railways. By reducing its dependence on surface transportation, the city could gain additional leverage over the company.

City officials could not hold Pittsburgh Railways responsible for all the problems. Pittsburgh's rugged topography contributed to the transportation difficulties. The Stone & Webster noted, "The residential parts of the city are on . . . a series of terraces. To reach these districts streets have been laid out, which are . . . steep narrow and crooked, and might in some cases almost be termed corkscrews."36 This presented obvious difficulties for trolley cars servicing these residential areas. The problem became worse during winter.

The downtown district posed even greater topological problems. Located at the nexus of the three rivers, the peninsular-shaped area had a density comparable to New York City's business

33Proceedings of the Engineers Society of Western Pennsylvania, 1907, p. 51.
34Swensson, p. 13.
district. Stone & Webster observed, "The retail, wholesale, banking, and, in fact, all the business of the city except manufacturing, which is carried on by a population of nearly 750,000, is transacted in an area of about one-half of a square mile."37 Furthermore, a large hill prevented expansion in a direction away from the neighboring rivers. A woefully inadequate size and number of bridges connected the district to the Northside and the Southside. However, Arnold thought this topography well-suited for subways. "A subway is admirably adapted to overcome the natural divisional obstacles, such as hills, ravines and rivers which now separate the various communities."38 He noted that a subway traveling below ground would be minimally affected by the terrain laying above.

Arnold's quote raised another point. Pittsburgh's topography caused population expansion to proceed in a most uneven fashion. Emil Swensson recognized the problem. "Thus the population does not follow lines of continuity and the centers of population vary greatly in size and in elevation of their location, connections between them being either over hills or hollows and always narrow and crooked."39 Scattered was probably the word which best describes Pittsburgh's population distribution.40 According to Arnold, "The striking feature of the locality, from a transportaion standpoint, is the scattered way in which the District has been settled. The entire city and the surrounding towns have simply ‘grown up’ but not according to any definite or pre-conceived plan."41 Population density ranged from fewer than 30 persons per acre in some areas to over 100 in others.

Pittsburgh's poor street system did little to alleviate the problems involving topography and a scattered population. "[T]he thoroughfares are all narrow, extremely narrow, generally forty, fifty and sixty feet wide, including sidewalks; that they are generally crooked, with sharp curves, and often join each other under sharp angles; that the grades on them are steep . . ."42 Severe congestion often occurred at the intersections of these narrow streets, which handled traffic loads more suitable for boulevards. Pittsburgh's police force seldom involved itself with traffic regulation. Stone & Webster said, "We observe little attempt at police regulation of street traffic, and found no adequate or

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37bid, p. 212.
38Arnold, p. 79.
39Swensson, p.4.
40REFER TO MAP
41Arnold, p. 30.
42Swensson, p. 13.
comprehensive city ordinances on this subject."\textsuperscript{43}

As mentioned earlier, Arnold thought Pittsburgh's hills particularly well-suited for subways. In addition, he saw an advantage to the city's street arrangement. "[T]he fact that the city grew up without a definite plan resulted in many 'cross cut' thoroughfares between the different [population] centers. This is really an advantage over those cities having right angle street plans without diagonal avenues."\textsuperscript{44} Arnold based his opinion on the fact that the shortest distance between two points is a straight line. In this way, these 'cross cuts' probably increased efficiency. Throughout his report, Arnold repeatedly wrote that Pittsburgh's disadvantages could be turned into advantages. This helped to balance his mostly pessimistic view of the city's existing transit service.

An inadequate surface transportation system motivated the city to consider building rapid transit. Transit experts Bion Arnold and Emil Swensson both documented the system's poor condition. During evening and morning rush hour, downtown congestion became particularly acute. The Pittsburgh Railways Company received most of the blame for these problems. While the company was poorly management, some factors were the its control. The city had a poor network of thoroughfares and too few bridges. Also, Pittsburgh's rugged topography made transportation service difficult, especially during winter. Despite the obvious problems, the city and Pittsburgh Railways could not reach an agreement on improving service. Discouraged by failed law suits and unproductive negotiations, city officials decided to pursue the rapid transit option. But the decision to build rapid transit necessitated the making of several other decisions which are detailed in the next section.

\textsuperscript{43}Stone & Webster, p. 215.

\textsuperscript{44}Arnold, p. 32.
2. **WHAT TO BUILD?**

The consensus for building rapid transit did not end the debate. In fact, it raised a whole series of questions. Should the system be el, subway, or a combination of both? What constituted 'rapid transit'? Should the city or a private company own and operate the system? Also, many people had health and safety concerns about subway tunnels. What would happen when the downtown district flooded as it frequently did? Would the subway have a proper ventilation system? These were some of the issues which surfaced early in the debate.

Most Pittsburghers agreed that the city's streets could not handle the current traffic. In October 1909, the Engineers Society of Western Pennsylvania held a roundtable discussion about Pittsburgh's transportation situation. During that meeting, several members voiced opposition to upgrading thoroughfares. According to Mr. L. P. Blum, "It is doubtful if very much improvement could be made in our surface conditions by a widening of streets in the congested area . . . Any general widening of streets is such an extremely costly matter as to be impracticable." Mr. F. W. Winter wondered if the money might not be better spent on other projects. "[I]f we should widen enough streets to get substantially better conditions in the congested sections, we might as well put that money underground or overhead and build something permanent for the future." A few members held the view that Pittsburgh inevitably had to build a rapid transit system. "After all possible remedies for surface congestion have been applied, we are face to face with the fact that the time is at hand when something other than surface transportation is necessary to meet the growing demands of the city. And by the logic of facts, we are driven underground." In his report, Arnold expressed very much the same sentiment. "Rapid transit will in the course of time, become desirable and even necessary in order to relieve the congestion of cars . . ." It is ironic that a rapid transit system never went further than ink on paper. Yet in subsequent decades, the city built and rebuilt all its major thoroughfares.

The question then became whether Pittsburgh would be better served by elevated lines or subways. In his speech to the Engineers Society, Morse gave his reasons for opposing elevated

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45 *Proceedings of the Engineers Society of Western Pennsylvania*, October 19, 1910, p. 488.
46 Ibid., p. 478.
47 Ibid., p. 489.
48 Arnold, p. 11.
railway. He said elevated would be ugly, noisy, and obstructive. The result, according to Morse, would be substantially lowered property values along the streets containing elevated structures. Across the country, opponents of elevated rail frequently cited these same points. Morse raised objections particular to Pittsburgh. He thought the city's downtown streets made elevated impractical for two reasons. First, the narrowness of the streets did not allow enough room for sidewalks, regular surface vehicles, and the elevated's supporting beams. Second, most of the streets were not straight. This meant the elevated track would have to follow a very crooked path.

Other Pittsburghers preferred el because it could be built for a much lower cost. Also, much of the sentiment against subways centered around safety concerns. Morse admitted that, "The question of ventilation has been perhaps the most vexing one the traveling public and the engineers have had to deal with." The technological challenge involved pumping fresh air into the subway, while removing the noxious fumes. Morse declared that Boston had already solved the problem by simply employing a system of huge fans. Flooding became another prominent safety issue. Pittsburgh's three rivers regularly flooded the downtown district. The public conjured up the image of being drowned while helplessly trapped inside a subway car or tunnel. Engineers sought to allay these fears by saying that modern waterproofing techniques had all but eliminated this problem. In addition, stations could be located well above flood levels.

During rush hour, several hundred trolley cars traveled through downtown. They operated along most of the major downtown thoroughfares. Would new subway lines have capacity for that many trolleys? John Fox believed that, "To use the subway to its full capacity, either trains must be run, or else the surface cars must be limited to the low speeds found in . . . the Boston Subway." Businessman Lee Moore said, "Rapid transit for this city cannot be accomplished if rapid transit trains and surface cars are permitted to use the same tracks. Surface cars are only of use as feeders by means of transfers. The rapid transit system must be entirely independent." Few believed Pittsburgh's transit difficulties could be solved by moving some surface trolleys underground. The situation seemed to demand rapid transit trains.

There did exist widespread agreement on the question of who should own and operate the subway. Most of those concerned felt the city ought to have complete control over the new system.

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49 Ibid. p. 58.
50 Fox, p. 847.
Why? Three reasons were given. Arnold thought more efficient service could be achieved by having a monopoly. "Transportation in a city is a natural monopoly; therefore no district should be served with two competing transit systems when one can furnish better service than with the business divided."52 Second, Arnold estimated that building a complete subway system would cost the city about $30,000,000. Given this large figure, he and others questioned how anyone besides the city could afford this cost. "[I]t is time lost to consider the remote possibility of interesting private capital in furnishing this city with rapid transit."53

Third, the ongoing dispute involving the Pittsburgh Railways caused many to favor public over private control of any future system. The Oakland Board of Trade, a Pittsburgh business organization advocated this position in a 1909 report. "It is not desirable that additional franchises should pass out of the control of the City into hands of public service corporations. When such franchises are without reservation placed in the hands of such public service corporations, the interests of the corporations conflict with the interests of the public".54 The Pittsburgh Railways had created such a large reservoir of distrust that Pittsburghers became reluctant to trust any private corporation. They preferred to have control rest with the city's elected officials.

This raised the issue of establishing a governmental organization to administer the system. Lee C. Moore, a prominent businessman, believed the "experience of other cities has been that the most intelligent method is with a Rapid Transit or Civic Commission, call them what you like, but they must be given power to investigate and act, as relates to all preliminary research."55 Such a body would lend a sense of stability to the city's ongoing efforts. "[T]here is a certain permanency of policy about the matters of traffic, compensation and other details which, when regulated by such a commission, are not going to be upset by each incoming administration, or particular whim of a new man in office."56 This supposedly would give the public greater confidence in its transit system and the people who run it.

While most interested Pittsburghers debated the merits of various transit issues, there did remain some dissenters who refused to accept any type of rapid transit. J. W. Todd worked for

52Arnold, p. 18.
54Oakland Board of Trade on Rapid Transit, 1905, p. 1.
56Ibid., p. 485.
Crucible Steel Company of America. He strongly ruled out rapid transit. "[T]his subway would serve but a small percentage of the people, and as an engineering proposition its effect on the whole population ought to be considered. I think we have also all been impressed by the fact that it is a very costly operation, and so ought to be only the last resort. In other words when all other plans for rapid transit have been exhausted we might turn to the subways as the next plan."\(^{57}\)

Pittsburghers actively debated the pros and cons of various rapid transit options. The el vs. subway issued received the most discussion. Morse and others considered Pittsburgh's streets too narrow to accommodate elevated railways. They believed the el's lower construction cost would be more than offset by the damage done to adjacent property. At the same time, subway proponents tried to convince people that modern technology had eliminated safety hazards in subways. Whether the city built an el or a subway, some citizens foresaw the need for a transit commission to operate the system. As 1911 began, rapid transit became the subject of formal negotiations between the mayor, city council, and private companies. But city officials prove unable to resolve many of these same issues. For example, the el vs. subway debate only ceased when Pittsburgh gave up on rapid transit altogether.

\(^{57}\) Proceedings of The Engineers' Society of Western Pennsylvania, February 1913, p. 195.
3. IMPLEMENTING THE DECISION

How did Pittsburgh go about getting a rapid transit system? The first step was to draft a franchise ordinance specifying the conditions under which a private company would operate the system. This ordinance had to be passed by city council and signed by the mayor, but these two sides had difficulty reaching an agreement. Why? Over what issues did they disagree? To move along the stalled process, city council decided to establish the office of city transit commissioner. Why were objections raised to this office and the man selected to fill it? How did the transit commissioner affect the rapid transit debate?

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Since its first attempt in 1906, the Pittsburgh Subway Company had repeatedly tried to obtain a subway franchise from the city. A small group of New York City investors backed the company financially. They hoped to secure a profitable subway line in downtown Pittsburgh. In 1911, Pittsburgh Subway, the city law department, and Bion Arnold combined to produce a subway plan. The group then asked city council to grant the company a franchise. The Pittsburgh Civic Commission came out strongly against the proposal. The commission felt the franchise would give the company too much leverage. "Again the city would place itself at the hands of a private company..." The franchise ordinance called for routes to be set by a semi-private board, whose members would be paid and selected by Pittsburgh Subway. Also, the city had to wait 20 years before exercising the option of purchasing the system from the company. The Civic Commission wanted a public authority to set routes, and it thought the city should have more flexible purchasing options. The association urged the mayor and city council to retain a transportation engineer to prepare a comprehensive rapid transit plan. Ironically, the Civic Commission had originally hired Arnold in 1910, along with Frederick Law Olmsted and John Freeman. Now, they found themselves sharply criticizing a plan Arnold helped developed.

Furthermore, the commission objected to the request for a ten-cent fare. "The 10-cent fare feature of the bill is contrary to the accepted and universal American practice of charging not more than five cents for transportation on lines in, under or over city streets." This phrase made it seem un-American to charge anything but a five-cent fare. What made five cents so special? In his 1910

58Pittsburgh Gazette Times, July 13, 1911.
59Pgh. Gazette Times, July 13, 1911
report, Arnold acknowledged the limitation. "[T]he movement to raise the city fare above the five cent limit has received little encouragement . . . It appears that a concerted effort must be made to work out our transit problems on the basis of a single five cent fare for a ride in one general direction."60

Apparently, the public drew the line at five cents because it represented a convenient unit of money, the nickel. They considered it sacrilegious to even charge six cents.

In 1912, a sub-committee of city council's Committee on Public Service and Surveys developed its own subway ordinance. The city expected to attract a private company willing to comply with the ordinance's provisions. The pending ordinance called for control of subway planning to be vested in a three member board. The city and the private company would each appoint one member, with the third member to be appointed jointly. As with the other proposals, the Pittsburgh Civic Commission found the lack of complete city control unacceptable; others agreed. In an editorial, the Engineering News said, "The very nature and purpose of the proposed Pittsubrgh Subway Board do not require any direct representation of the company on the board . . . The company is already represented, when it makes the plans, a work in which the city has no share. The city's turn comes thereafter and the board is the city's representative at that stage."61 Former Mayor George Guthrie said, "I also think that in view of the duties of the supervisors, a majority of the Board should clearly be appointed by the Mayor and Council."62

Mayor Magee opposed council's ordinance because he favored public ownership. Magee wanted to ask the state legislature to grant Pittsburgh the power it needed to finance a subway. The chairman of the council subcommittee countered that, "I am informed by competent lawyers that even if it were possible to obtain the constitutional amendment [from the legislature] it would be four years at least before the vote could be taken on a bond issue for the subway, . . . while under the proposed ordinance the subway would by that time be built and in operation."63 William Wilkins, chairman of city council, had doubts about whether voters would approve a bond issue. The Pittsburgh Chamber of Commerce enthusiastically endorsed the ordinance. Like Wilkins, they mostly concerned themselves with getting a subway system in place as soon as possible. The Chamber of Commerce did not particularly care if the city lacked control over the subway's operating board.

60Arnold, p. 20.


62Ibid, p. 3.

63Electric Railway Journal, December 7, 1912, pp. 1168-1169.
After several revisions, the council narrowly passed a subway ordinance early in 1913. It specified that the Pittsburgh Subway Company be granted the franchise. However, Mayor Magee vetoed the ordinance because it failed to give the city enough control over the board of supervisors. The nine member council lacked the necessary six votes to override the mayor's veto. While several companies continued to compete for a subway franchise, Pittsburgh Subway remained the front runner. Colonel J. B. Carter, head of Carter Construction Company, served as a major financial backer of Pittsburgh Subway. In August 1913, Carter said, "We stand ready to build a subway for Pittsburgh just as soon as the City Council passes [and the mayor signs] a reasonable franchise that we can take to our bankers and ask them to furnish the necessary funds to finance the project."  

On September 4, 1913, A. O. Fording, counsel for Pittsburgh Subway, held a conference with Mayor Magee and members of city council. They agreed to work towards an ordinance acceptable to all parties. A lack of flexibility accounted for much of the difficulty in reaching a compromise. A Pittsburgh Dispatch editorial exemplified this inflexibility. After listing several key issues, the editorial said, "On these points there is no middle ground. Either these interests of the public must be safeguarded or they must be surrendered to the corporation." It remained to be seen whether the city and Pittsburgh Subway could indeed find a middle ground.

Councilman Wilkins had previously submitted a new ordinance aimed at soothing the mayor's objections. During the meeting between city officials and Pittsburgh Subway's representatives, the Wilkins ordinance was reviewed section by section. The conference failed to resolve the dispute concerning how much control the city would exert over the new subway's operation. In October of 1913, Mayor Magee said, "The passage of a subway ordinance is not especially my concern... I do not know where the impression came from that I had reached an agreement with Council. The [Wilkins] ordinance, as it stands, is that which I would sign if it were passed, but am not urging its passage." Magee did not sound particularly enthusiastic about the plan. Considering that serious differences still remained, why did Magee say he would sign the existing ordinance? Perhaps he did not want to appear obstinate. Eventually, the mayor did sign the Wilkins ordinance, after it had been passed by council. However, Pittsburgh Subway rejected the offer because it would have given the city extensive power to regulate the system's operation. Fording explained that, "The fact was that

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64 Pittsburgh Daily Dispatch, August 3, 1913, p. 1.
65 Pgh. Dispatch, September 5, 1913, p. 6.
our bankers had dismissed it curtly with the statement that it had been written as if the City were putting up the money.\textsuperscript{67}

As 1914 began, the impasse remained. In February, the city council formed a special committee to work with the city law department towards drafting an acceptable ordinance. Meanwhile, Fording declared, "The Pittsburgh Subway Company is still willing to co-operate with the city in finding a way in which a subway can be built to the advantage of the city and the profit of the company, but my clients are not interested in anything resembling an auction."\textsuperscript{68} In other words, his company agreed to assist with the tortuous process of getting an ordinance approved. Yet the company wanted assurance that it would receive the franchise. Otherwise, their efforts would have been a complete waste of time and money.

In September of 1914, the city law department and A. E. Anderson, another lawyer for Pittsburgh Subway, presented their collaborative ordinance proposal to city council. The council’s Committee on Public Service and Surveys immediately took the matter under review. Attempting to garner public support, Pittsburgh Subway began running advertisements on the wall’s of prominent downtown structures.\textsuperscript{69} The signs argued the merits of the company’s plan, but city council put forward a substantially different subway proposal. This met with Anderson’s disapproval. He urged the council instead to resume hearings dealing with Pittsburgh Subway’s plan. This council refused to do.

Late in 1915, the outgoing city council listed three key questions it thought the new council should ask and answer.

1.) Shall the city meet first with private corporations with the view of having the project undertaken by private capital on the basis of giving the municipality reasonable compensation for the franchise?
2.) Shall we have an act prepared for introduction in the Legislature in 1917 authorizing the municipal ownership plan, and in the meantime seek to unite sentiment upon a measure and get through with as many of the preliminaries as possible?
3.) Shall we, in the event of deciding upon municipal ownership, proceed at once to hold conferences with private corporations which might lease the subway with the view of securing the agreements as to rental, etc.?

The councilmen left these important issues for their successors to decide. This approach disappointed Mayor Joseph Armstrong. He complained, "I want something done. I have held some 20 odd conferences with members of council and others relative to these ordinances . . . If what we

\textsuperscript{67}Letter from A. O. Fording to the City Council, Municipal Record, October 1, 1912, p. 603.

\textsuperscript{68}Electric Railway Journal, April 25, 1914, p.942.

\textsuperscript{69}REFER TO ADVERTISEMENTS
ALL THINGS COME TO THOSE WHO HUSTLE WHILE THEY WAIT

The people of Pittsburg have been waiting a painfully long time for the real rapid transit. Latterly the Pittsburg Subway Company has been doing the hustling for them. They would have to wait a good many years more but for the Pittsburg Subway Company, whose liberal and business-like proposition is now up to the city, through the people's representatives in Councils.

Even weary week hunger, with fresh recollection of the holiday crush, will echo the appeal.

"Please, Mr. Councilman, Don't Be Too Long."

The Pittsburg Subway Company.

WHEN STORMY WINDS DO BLOW
Surface Cars Find it "Hard Sledding."

The Pittsburg Subway Company
The new council found itself faced with yet another Pittsburgh Subway franchise request. The revised plan called for a subway with two downtown stations and a main line extending to the East End. Fording estimated that the total cost would be between $15 and $20 million. The plan also included building a line to the Northside. However, Pittsburgh Subway’s effort again failed to win council’s approval.

City council had earlier passed a bill establishing the position of city transit commissioner. On November 17, 1916, the council confirmed, by a seven to one vote, Edwin K. Morse as commissioner. Only councilman Enoch Rauh voted against. Rauh was concerned that Morse had previously been employed by Pittsburgh Subway as a consulting engineer. The councilman believed that "naming a man as transit commissioner who has for years been connected with a private company, and has just resigned . . . is to my mind most unwise." For his part, Morse tried to alleviate council’s fears. "I was retained as engineer by the Pittsburgh Subway Company, but have not been actively connected with that concern for years. Some months ago I resigned and severed all connection with that company."

Others questioned the need for a transit commissioner. A Pittsburgh Dispatch editorial objected to the appointment "of a supernumerary transit commissioner which will cost the taxpayer $10,000 and probably produce no results except a more or less voluminous report, about which, in all likelihood, nothing will be done." In fact, the ordinance creating Morse’s position did call for the transit commissioner to prepare and submit, within one year, a major report on the city’s transportation needs. Late in 1917, Morse fulfilled this requirement by submitting a report which was indeed voluminous. It covered all aspects of the transit situation, including rapid transit possibilities.

In the report, Morse outlined a complete subway plan. At the time, the East End contained 55 percent of the city’s population. So, like many others, Morse felt the first route should connect the central business district with this area. The proposed route would be 34,380 feet of double track, with

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72ibid. p. 4.
73ibid. p. 6.
74REFER TO MAP
Morse put the expected cost at a little over $7 million not including power stations, rolling stock, and storage yards. The second major route would connect downtown and the Northside. This double tracked route would be six thousand feet shorter than the first and have only six stops. The probable construction cost was placed at just under $6 million. Eventually, Morse expected lines to be built to the Southside and further east.

Morse estimated that the price tag for constructing a complete subway system would be nearly $35 million. Who should pay this cost — the public or a private company? Who should operate the system? Morse listed these options: 1.) municipal ownership and operation; 2.) private ownership and operation; or 3.) municipal ownership and private company operation. Morse wrote, "However, municipal ownership is considered more desirable for rapid transit under all circumstances." He justified this position by pointing out that the city could finance the construction by issuing bonds and get far lower interest rates than a private company. This would translate into reduced building costs.

This left unresolved the question of whether the system should be operated by the city or a private company. The Pittsburgh Railways Company posed an obstacle to both options. Under any new transit system, cooperation between the surface and rapid transit lines would be absolutely essential to efficient operation. Would Pittsburgh Railways have been willing to issue universal transfers and use its surface lines as part of feeder system? Given the company's ongoing disputes with city, Morse very much doubted its willingness to cooperate with another, potentially competing, private company. What about municipal operation? In June of 1917, the state legislature passed two bills giving cities the right to build, maintain, and operate elevated or subway lines. Further, the bills allowed cities to purchase existing transit systems from consenting private companies. But, Morse noted that the legislature did not permit cities to condemn an operating private company. So, in attempting to force the company's cooperation, the City of Pittsburgh could not threaten to condemn Pittsburgh Railways.

What conclusions did Morse reach? He reiterated that municipal ownership ought to definitely be pursued. On the more complicated question involving operation, Morse listed four steps the city should follow if necessary. "First, try to convince the Pittsburgh Railways to operate the system.

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75 Edward K. Morse, Report of Transit Commissioner, 1917, p. 120.
76 ibid, p. 118.
77 ibid, p. 130.
Second, if this fails, ask the state legislature to grant cities power to condemn obstinate transit companies. Third, Condemn the Pittsburgh Railways and find another private operator for the whole system. Fourth, if no satisfactory private company can be found, the city should operate the system itself.\textsuperscript{78} In truth, Morse knew there was almost no chance of the city granting Pittsburgh Railway a rapid transit franchise. In addition, considering the fruitless ordinance negotiations of the proceeding ten years, it seemed unlikely that the city could reach an agreement with any private company. While municipal operation seemed to be Morse’s last resort, he probably considered it the most likely.

Morse’s report took a different view towards the old dispute between el and subway. He wrote, “In the past there has been some prejudice against construction of elevated railways in the city streets. This prejudice has been based on two objections: unsightly appearance of structure and noise from operation of the cars.”\textsuperscript{79} The first objection could supposedly be overcome by surrounding the entire elevated structure with concrete to make it look more attractive. As for the second objection, laying the tracks in reinforced concrete would remove almost all the noise. Why build elevated? Morse maintained that the construction costs for elevated would be half as much as for a subway. Consequently, his proposal recommended building mostly elevated railway, except in the cramped downtown district.

Also, Morse advocated through routes instead of loops. According to him, subway loops offered little prospect of doing more than removing some street cars from the surface. They certainly would not result in shorter traveling times for passengers. On the other hand, through subway routes could eliminate 4,800 or 64 percent of surface car trips per day.\textsuperscript{80} In addition, Morse claimed through routes would save riders more time and be a better paying investment. He listed other benefits such as increased property values, commercial and industrial growth, better population distribution, and more seating for rush hour passengers. Morse wondered how many residents had “been sick and forced to remain away from their employment or who have died on account of pneumonia or other diseases contracted by exposure in wait for street cars or in riding on overcrowded cars during the winter.”\textsuperscript{81}

It is worth noting that Morse’s own staff disagreed on these rapid transit issues. F. B. Edwards

\textsuperscript{78}ibid, p.131.
\textsuperscript{79}ibid, p. 128.
\textsuperscript{80}ibid, p. 131.
\textsuperscript{81}Edward K. Morse, Synopsis of Report of Transit Commissioner, January 1918, p. 7.
served as chief statistician for the transit commissioner. Prior to the official report being published, Edwards presented his transit plan to Morse. With regard to both specifics and general outline, the Edwards proposal differed substantially from the one ultimately submitted by Morse. One area of disagreement centered on the elevated vs. subway issue. Edwards conceded that elevated railways cost less to build, about one quarter as much. Other perceived advantages included safety from flood and travel in less congested air. Despite this, he concluded, "Generally, the disfigurement of the streets, the noise and the uncertainty of damages are causes sufficient to condemn elevated structure." Morse's report reached a completely opposite conclusion on the subject of elevated railway. Also, Edwards differed with his boss by proposing subway loops instead of through routes.

City council and Mayor Magee had great trouble finding an ordinance acceptable to both parties. The mayor wanted the city to retain control over the planning of the rapid transit system. The city's past and present troubles with Pittsburgh Railways strongly influenced Magee's position on this issue. But in order to make the ordinance more attractive for private investors, council was willing to make more concessions. The Pittsburgh Subway Company actively participated in the negotiations. The company always found itself in disagreement with either city council, the mayor, or both. The election of a new mayor and new council members failed to resolve the impasse. City officials then decided to create the office of transit commissioner headed by Edward K. Morse. The commissioner's first task was to complete a comprehensive study of Pittsburgh's transit situation. In his exhaustive 1917 report, Morse advocated a rapid transit system using combined el and subway, but his plan did not give any impetus to the rapid transit movement. The process remained stuck in neutral. It took a hard-charging mayor to get things moving.

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4. THE BATTLE FOR APPROVAL

Mayor E. V. Babcock ignored Morse's report; instead he decided to support a plan submitted by the city's public works department. Why did Babcock so completely disregard Morse's transit plan? What were the details of this new proposal? The mayor's subway plan became part of a massive bond issue, which had to be approved by the people. Why did some councilmen strongly object to including the subway item? Much debate preceded the July 8, 1919 vote on the bond issue. What arguments were given for and against the subway plan? How and why did Mayor Babcock play such an active role in the debate? Why did Commissioner Morse oppose the mayor's plan? By a slim margin, voters did approve the subway item. Did the voting show any particular pattern?

On March 11, 1919, Pittsburgh's Mayor Edward V. Babcock announced a subway proposal prepared by the Department of Public Works. The plan involved building an one-half mile long downtown subway loop. The single track loop would be built so as to allow for future expansion to outlying sections. John Swan, Director of Public Works, placed the construction cost at $6 million. The plan called for trolleys to begin operation in the subway. Eventually, the system would be adapted to handle rapid transit cars. The mayor said, "The whole thing has been worked out with the idea of fitting it with future rapid transit developments." Babcock had been elected mayor in 1918. During the campaign, he promised voters that his administration would make progress on the transit issue. Thus the mayor desperately wanted to see something accomplished.

The plan drafted by the Department of Public Works and supported by Mayor Babcock bore little resemblance to the one Transit Commissioner Morse prepared. More than a year after its filing, Morse's report had never been formally considered by city council. Morse still maintained that subway loops would be unwise from an economic and operational perspective. Therefore he came out against the mayor's plan. Instead, Morse suggested council establish a $250,000 bond issue, which would pay for technical studies related to construction of a rapid transit system. He thought it better for the city to focus resources on rapid transit development, not on simply moving cumbersome trolleys underground. It is surprising that Morse publicly disagreed with the mayor over so vital an issue. This did not bode well for the mayor's subway plans.

Less than three months later, the mayor asked city council to approve a special election so

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83Pittsburgh Post, March 11, 1919, p. 1.
citizens could vote on a $21 million bond issue. The bond covered an array of public works projects involving bridges, hospitals, parks, streets, and the sewer system. Most notably, the bond included $6 million for construction of a downtown subway. Three councilmen opposed the subway item's inclusion. Councilman P. J. McArdle objected because, "It [the subway proposal] has never been recommended by any agency or persons selected by the City of Pittsburgh to make a study of and report on the transportation problems of the city." Indeed, it was strange that after having commissioned major studies by Arnold and Morse, the city then turned to a novel plan. By ignoring Morse's plan entirely, Mayor Babcock chose to put his political might behind the proposal drafted by the Department of Public Works. Why? Time and comparative costs probably motivated Babcock more than anything else. Besides taking less time to build, the Public Works plan could be constructed and operated with less expense.

Until the city resolved its financial disputes with the Pittsburgh Railways Company, Councilman J. H. Dailey considered it premature to proceed with any major transit improvements. It remained unclear whether Pittsburgh Railways would consent to operate the new subway and/or abandon its downtown surface lines. Most of the subway's anticipated benefit derived from the assumption that it would take trolleys off downtown streets. John S. Herron, President of City Council and the third dissenter, said he favored the plans submitted nearly two years earlier by Transit Commissioner Morse.

Mayor Babcock lobbied council heavily. He said the city lacked the necessary political authority to successfully negotiate with private companies desiring to build the subway. "It would be futile to start such negotiations and formulate such agreements until authority from the electorate is secured." Babcock sought to allay concerns over specific provisions of the subway loop. He believed "the language of this ordinance is broad and permits the city to exercise reasonable latitude in the selection of routes, location of stations, method of operation, construction, etc." After ten years of arguing, the mayor thought it best to act now and argue over details later. Councilman Daniel Winters justified his affirmative vote by saying, "There might be three-fourths of the people in favor of an improvement and yet five councilmen could set their will against them and deny the

three-fourths an opportunity to express themselves in their ballots.\footnote{87}

In the end, the subway proposal made it onto the bond issue by a 7 to 3 vote. The other projects passed unanimously. Council scheduled a July 8, 1919 public vote on the bond. The subway proposal became Item No. 2. It read:

The indebtedness of the City of Pittsburgh be increased in the amount of Six Million Dollars ($6,000,000) for the purpose of paying the cost, damages and expense (including engineering expenses), of providing transit facilities consisting of a subway in the First and Second Wards of the said City, adopted to the use of either street surface cars or high speed trains, or both, as may hereafter be determined, together with the necessary approaches, stations, buildings, works, appliances, equipment and appurtenances, upon such routes and according to such plan as may hereafter be determined by ordinance and approved by public authorities as may be required by law.

The bond issue allowed voters to either accept or reject the subway item, independent of the other items.

After council’s vote, a vigorous debate ensued. Led by Mayor Babcock, proponents of the subway item waged a high-powered campaign. They organized numerous pro-subway discussions at schools and community centers. Sympathetic speakers included the mayor, several councilmen, John Swan (Director of Public Works), N. S. Sprague (City’s Chief Engineer), and Thomas Brenner (Assistant City Solicitor). Special guest speakers from other cities frequently added their support. Proponents even got soldiers returning from World War I to advocate their position. The soldiers emphasized the fact that the subway would be a needed source of employment for them. Downtown theaters showed a motion picture depicting the Pittsburgh of the future, with the subway playing a leading role.

Subway opponents took a cynical view towards these efforts. James L. McInerney, a WWI veteran, said "The administration's appeal for voters for the subway by using ex-servicemen . . . is in extremely bad taste. It is simply trading upon the sympathetic impulses of the people."\footnote{88} McInerney suspected that many other veterans disapproved of this tactic. He believed that, "After risking life and limb in the war for democracy, they do not wish to return home as victims of a patronizing politico-financial autocracy, supinely yielding submission to its rule for a pitiful job."\footnote{89} But the mayor knew that no group better symbolized Pittsburgh’s future that the returning soldiers. This tied nicely into the notion of the subway being vital to the city’s progress.

Pittsburgh’s major newspapers played an important part in the debate. The \textit{Pittsburgh Post}

\footnote{87}ibid.


\footnote{89}ibid.
and *Pittsburgh Sun-Telegram* supported the subway item, while the *Pittsburgh Daily Dispatch* strongly opposed the measure. The *Dispatch* criticized what it perceived as the mayor's heavy-handed tactics. One editorial read,

> The city administration, which includes the political organizations, the election machinery, and the interests backing the subway, have a complete working organization which will see that every vote for the subway is polled. Those who oppose the subway experiment . . . are without a campaign organization of any kind. With a small vote there is not the slightest doubt of the payroll being able to pay for the subway."**90**

For his part, Mayor Magee held little regard for the newspaper. "Charlie Rook [President/Editor] of the Dispatch, can't back me off the boards. He tried it when I first came out to run for Mayor."**91** He went on to remind voters, "The Dispatch was opposed to transportation 60 years ago, when the first street car line was proposed for Pittsburgh."**92**

Mayor Babcock had a lot at stake politically. Voter rejection of the subway item could have crippled his administration. Conversely, overwhelming approval would have been a personal and political vindication. Babcock made his interests clear. "I pledged improvements, including a subway loop, in my platform and campaign for election. I would be yellow and a quitter if I didn't recommend the subway to you now as the proper thing for Pittsburgh."**93** Babcock believed Pittsburgh's transit problems could only be solved by forceful, energetic leadership. He cast himself as a mayor capable of providing such leadership. "I could be an ordinary fellow and sit down there in the Mayor's office hiring a few policemen and firing a few of them when they go wrong, arranging a few political matters, entertaining preachers and a few things of that kind. But I don't want to be that kind of a Mayor. You have come thus far with me. Now you've got to go further and unshackle your money so that I can do something."**94** The mayor wanted the people to trust that, once given the resources, he could work out the subway's details.

Unfortunately for Babcock, many Pittsburghers viewed politicians with contempt. These feelings stemmed from widespread government corruption earlier in the century. Subway opponents questioned the motives of those pushing the $6 million item. One citizen wondered if elected officials were "capable of taking any serious view beyond spoils, patronage and promotion of their personal

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**91** *Pgh. Dispatch*, July 4, 1919, p. 10.

**92** *Ibid*.

**93** *Pgh. Dispatch*, June 26, 1919.

**94** *Ibid*.
interests." A Northside businessman vowed, "I have my coat off and am going to work hard against this attempt to turn the city's vital needs into political capital." So, Mayor Babcock had to constantly fight the perception that he acted only for personal and political gain. At the same time, he tried to communicate to voters his strong personal desire to have the subway item approved. Babcock had mixed success in trying to convince citizens that he both understood and adhered to this distinction.

The opponents mistrust of the city's elected officials manifested itself in doubts about whether the subway loop could be completed for $6 million. The Dispatch asked, "[W]hat possible reason is there to believe that once begun, the price of the whistle is going to stop at $6 million? Probably, never once in human knowledge, did such a strict limitation happen in the cost of such a city undertaking?" Samuel E. Duff, a consulting engineer, believed "It will probably cost a good bit more money than that. All these underground things generally do cost more." The mayor answered these charges by pointing out that the law barred the city from spending "one nickel" more that specified in the bond issue.

While the subway's sinking fund amounted to $6 million, this figure did not reflect the total projected cost. If the expected 4 1/2 percent interest for 30 years is added, the actual cost rises to just over $10 million. So, Pittsburghers should not have been deluded into thinking the money from the 1919 bond issue would be sufficient to construct the subway loop. Even without construction cost overruns, another bond issue would eventually be needed to pay for the interest. Mayor Babcock knew this well, but realized that cities seldom abandoned major projects once the initial investment was made. Therefore, it would have been less difficult to win approval for the second bond issue.

Those favoring the subway item tried to shift the debate's focus away from construction costs. They argued that the primary concern ought to be maintaining Pittsburgh's place relative to other cities. Mayor Babcock said, "Everyone one of these cities [Chicago, Cleveland, Cincinnati, and Detroit] is developing its subway plan. . . Is Pittsburgh to keep going, or will she pass up this opportunity and declare to the world that the pace of the big cities was too great for her?" Babcock believed America's major cities chased after a limited supply of economic resources. Only the most

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95Pgh. Dispatch, April 30, 1919.
96Pgh. Dispatch, July 6, 1919, p. 2.
97Pgh. Dispatch, June 22, 1919.
98Pgh. Dispatch, July 2, 1919, p. 3.
progressive cities attracted public and private investments. The mayor considered other cities "competitors, just like big businesses are competitors, and we must be alive and ready to act to see that no other city gets more for her people that Pittsburgh gets for hers."

In this vein, there existed a widespread belief that Pittsburgh inevitably had to build a subway. According to Assistant City Solicitor Thomas Brenner, "All large cities have to come to subway transportation, ultimately." His rational was that eventually all downtown districts exhaust their street capacity. The question was not if, but when. However, the Pittsburgh Dispatch remained unconvinced as to the new technology's merits. In an editorial, the newspaper said subways "have given satisfaction nowhere, but nearly bankrupted some of the cities that undertook them under hysterial rapid transit agitation."

The $22 million bond issue contained roughly $7 million to be spent for improvements in the city's streets and bridges. A major project to widen downtown streets garnered most of this money. Like the subway item, these improvements offered the probability of reducing downtown congestion. Given this substantial expenditure on roads, some questioned the subway's necessity. Transportation Commissioner Morse, a subway loop opponent, said that "if the streets in the central business district . . . are widened and improved as contemplated, a large part of the present congestion will be removed." The Dispatch stated the case more bluntly. "Items were included to catch the vote of this or that section, that had better been omitted. The contradiction between the widening of downtown streets to relieve congestion that is also to be removed by a $6,000,000 subway is apparent. One or the other superfluous and the subway . . . is the one that should be voted down."

A few days before, the Dispatch had argued that the subway would be superfluous because motor cars "will fill the very streets from which the passenger railway cars are removed and this, pretty surely, as soon as the wonderful $6,000,000 experiment starts to operate." Although the conclusion reached was the same, the reason given here contradicts the one cited above. After the

100 Pgh. Post, July 2, 1919, p. 8.
102 Pgh. Dispatch, June 22, 1919.
103 Pgh. Dispatch, July 3, 1919, p. 3.
105 Pgh. Dispatch, June 22, 1919.
subway's construction, there could not simultaneously be too many motor vehicles for it to make a difference and too few vehicles for it to be necessary. As the bond debate progressed, the Pittsburgh Dispatch became the chief institutional opposition to the subway item. In this role, the newspaper's editorials recited almost all the objections being raised against the subway. This led to occasional inconsistencies in the Dispatch's position.

Once completed, would the new subway really qualify as "rapid transit"? Commissioner Morse stated confidently, "A loop downtown is not and never will be rapid transit. The loop now planned will not take the public to their place of employment one minute quicker than at present. The loop will not take the public home any quicker than at present."\(^{106}\) Morse defined rapid transit as involving a train of cars operating on a private right of way. He dismissed notions that such a train could operate in the proposed subway. "It is claimed by some that the loop will accommodate both the surface cars and rapid transit- this is absurd."\(^{107}\) Basically, Morse took the position that Pittsburgh should either build rapid transit or save its money.

Plans called for the subway to be single tracked, with six downtown stations. This caused others to support Morse's statement that the subway would not be true rapid transit. Arthur O. Fording, former attorney for the Pittsburgh Subway Company, observed that "When you put a score of cars on one track, the slowest car will determine the speed of all those behind it. The delays which are now distributed over eight or 10 loops would all be put into one."\(^{108}\) Similarly, instead of being dispersed throughout downtown, rush hour crowds would be concentrated at six locations. Consulting engineer Edward Godfrey predicted that "with hundreds of people waiting, there will be the greatest kind of confusion and delay."\(^{109}\)

Subway backers gave two reasons why Pittsburgh should opt for a downtown loop. First, Pittsburgh's population remained too small to justify building rapid transit. Second, keeping in mind the troubled state of the street railway industry, the city ought to pursue the least risky plan. Chief Engineer Sprague thought it better "to provide rapid transit immediately in the downtown section benefitting all the people, and to make future extensions as necessity requires and conditions

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\(^{106}\)\textit{Pgh. Dispatch}, July 2, 1919, p. 3.

\(^{107}\)\textit{Ibid.}


demand." He objected to proposals like Morse's, which involved building one or two lengthy rapid transit lines. He said such a plan would cost twice as much, while benefitting fewer people.

The proposed subway's confinement to downtown displeased many citizens. As one East End resident put it, "I don't see, anyway, how a subway loop downtown is going to help us out here." Another man asked, "Do you think we'd vote for a bond issue when they put all the improvements on the other side of the river? What did they ever do for the Southside?" Not surprisingly, people tended to support the bond issue only if it offered benefit to them or their neighborhood. The above quotes are somewhat misleading because East End and Southside residents did stand to gain more from the subway than other Pittsburghers. The subway could handle only about 60 percent of the existing surface car traffic. Thus the city planned to just run cars from the East End and Southside through the loop. All other trolleys would continue to traverse downtown streets.

Subway opponents drew attention to this apparent disparity. On election day, the Dispatch ran an editorial saying, "The people of the Northside, the West End and the Hill district will get nothing whatever from it, since their cars will not enter the loop. They can vote "NO" on Question No. 2, the subway." Even if they received no benefit from the bond issue, residents from these areas would still have to support it through their taxes. This struck many as especially unfair. Some citizens framed the issue in terms of class. John Dowd, retired steelworker, thought "some of the rich men would get a pull of money out of it [the subway item], but the poor man or the man in medium circumstances would get nothing."

Even large powerful organizations questioned the subway item's equity. Consider the Allied Boards of Trade which represented every trade board in the city. Dr. A. L. Lewin, the group's president, told Mayor Babcock, "The subway bond issue must be defeated, as it will be a gift to the railways company and the holders of a small amount of property in the proposed loop. Any downtown loop should surround the entire downtown district." A loop surrounding downtown would almost certainly cost more to build and take longer for subway cars to traverse. In making this

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111 Pgh. Dispatch, July 7, 1919, p. 4.  
112 ibid.  
113 Pgh. Dispatch, July 8, 1919, p. 6.  
114 Pgh. Dispatch, July 7, 1919, p. 4.  
suggestion, the Allied Boards of Trade seemed virtually unconcerned with construction cost and operational efficiencies. The group most wanted to spread the subway's benefits among more property owners.

The mayor's subway proposal anticipated that the Pittsburgh Railways Company would operate the new system. This prospect made many Pittsburghers apprehensive. Earlier, the thesis detailed how relations between the city and Pittsburgh Railways had deteriorated. In April of 1918, the Company went into receivership. One observer commented, "Pittsburgh Railways Company, which because of rotten [financial planning], has become insolvent, comes to the people to help it out by not only doubling the carefare, but by presenting it with a $10,000,000 hole in the ground."116 Actually, the city had no guarantee that Pittsburgh Railways would accept the $6 million 'gift'. Mayor Babcock sought to put those doubts to rest. "Some people say the Pittsburgh Railways Company won't occupy the subway after we build it . . . I say to you that the police powers of the city are strong enough that we can make them occupy it, if necessary."117 Yet these police powers had utterly failed to compel the company into providing improved surface transportation.

Transit Commissioner Morse played an interesting role in the subway item debate. He became the most prominent city official to speak out against the subway loop. This caused Mayor Babcock great consternation. Making as obvious dig at Morse, the mayor pronounced Chief Engineer N. S. Sprague the "best posted man on transit conditions in the city of Pittsburgh."118 Commissioner Morse had previously been affiliated with the Pittsburgh Subway Company, which repeatedly tried to win a subway franchise. Mayor Babcock characterized Morse's efforts, on behalf of this company, as an attempt "to put Pittsburgh on the bum underground as well as on the surface."119

Why did Morse campaign so strongly against the subway? From a purely professional standpoint, he disagreed with the financial and technical feasibility of the subway loop. By speaking out, Morse fulfilled his institutional responsibility to counsel the city on transit engineering problems. On a personal level, Morse seemed miffed that his exhaustive report of 1917 received little consideration. "I spent more than $100,000 of the city's money, with the assistance of the best engineering talent in the United States, compiling my report, which has lately been thrust aside and

119 Ibid.
Others supported Morse's position. James H. Gray, President of the Water Street District Improvement Association, felt that "Mayor Babcock and six Councilmen ignored completely the report of City Transit Commissioner E. K. Morse."\(^{121}\)

The mayor had abandoned Morse's plan for the one prepared by Sprague and the Department of Public Works. This prompted subway item opponents to question Sprague's qualifications. As one engineer put it,

Discarding the money invested in the services of such a well-known traction expert as Bion J. Arnold, and a noted transit engineer, E. K. Morse, they have the monumental nerve to submit a subway bond issue on a meager and inadequate set of drawings made by N. S. Sprague . . . Practically speaking, almost any student in a school of drawing could do as well as Mr. Sprague has done. Just a sketch of a route, taken from a city map, a drawing of subway portals, and a relief map, and you have a proposed subway. Set your price, $6,000,000 to $12,000,000, the people will have to pay the piper anyway."\(^{122}\)

Another engineer echoed these comments. "I don't believe Mr. Sprague has any practical knowledge of how much this proposed subway loop would cost, when it would be completed, or how it would be operated."\(^{123}\)

Subway supporters discounted the value of the Arnold and Morse studies. Councilman Daniel Winters believed, "All we got out of them [those studies] was the pleasure of filing them away in our archives."\(^{124}\) Certainly, after ten years of inaction, Pittsburghers had grown impatient. They expected their tax dollars to be spent on something other than studies. Mayor Babcock skillfully tapped into this growing frustration many felt. Babcock reminded voters, "This matter has been before Mayors Guthrie, Magee, Armstrong and myself; do you want it to be dragged along before four more mayors or do you want action."\(^{125}\) No one, not even opponents of the subway item, wanted to wait another decade for major transporation improvements.

At a community meeting, Councilman W. Y. English stressed the same point. "We haven't been getting anywhere in the past years, so it is pretty near time we started. Let us put this subway over with a bang that will make the world sit up and notice that this workshop is still doing

\(^{120}\)Pgh. Dispatch, July 4, 1919, p. 8.

\(^{121}\)Ibid.

\(^{122}\)Pgh. Dispatch, July 7, 1919, p. 4

\(^{123}\)Pgh. Dispatch, July 4, 1919, p. 10.

\(^{124}\)Pgh. Dispatch, July 2, 1919, p. 2.

\(^{125}\)Pgh. Post, July 2, 1919, p. 8.
business."¹²⁸ During this same meeting, Mayor Babcock did his own cheerleading. He tried to rouse the people's spirit. Babcock described Pittsburgh as "full to the rim with red-blooded voters, alive to the limit with progress and the spirit to be up and doing. We have been dillydallying with this transit problem for more than ten years; isn't it time that we start to dig?¹²⁷

Councilman Enoch Rauh took another approach. He said, "[I]f the subway is defeated, what will be built on those widened thoroughfares. In place of the subway system for Pittsburgh, we will be confronted with elevated roads. Do you wish this?¹²⁸ Essentially, Rauh used the prospect of elevated railway to threaten voters. This was a clever technique. It served to discourage people from splitting their bond issue vote. Some might have been inclined to vote for street improvements as a partial relief for congestion, while rejecting the subway item. Rauh warned voters not to do this. The result could be a noisy, unsightly railway right next to their homes and/or places of business.

On the election's eve, subway proponents made their final appeal. In an editorial, the Pittsburgh Sun-Telegraph drew parallels to the recently completed war. "Patriotism has its work in peace as well as in war . . . Each community has its part and its duty here. Civic pride and civic obligations usually are the terms for patriotism in this sense . . . This, then, is a patriotic as well as a business matter to Pittsburghers as they go to the polls tomorrow . . ."¹²⁹ Others thought that Pittsburgh deserved to spend some money on itself after so loyally supporting the war effort. Mayor Babcock released a final statement urging the citizens to cast a vote for progress.

The next day, July 8, 1919, Pittsburghers approved all seven bond items. Of the city's 92,600 registered voters, only 30,000 turned out to vote. All measures were approved by wide margins, except for the subway item. It passed by a vote of 15,500 for and 13,400 against. The breakdown of voting by wards is revealing.¹³⁰ The subway item racked up hefty majorities in the following wards: 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 9th, 15th and 22nd. Leaving out the 22nd ward, all the remaining wards were contiguous and located in the downtown triangle or just up river. As planned, the subway would have run through or very near all these wards. Residents of these areas recognized that the subway would substantially increase their property values. Also, it would make getting to and from

¹²⁷Ibid. p. 1.
¹²⁸Pgh. Sun-Telegraph, July 1, 1919, p. 3.
¹³⁰REFER TO MAP AND TABLE.
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work more convenient.

The Northside wards (21st, 22nd, 23rd, 24th and 25th) tended to support the subway item more than Southside wards (16th, 17th, 18th, 19th and 20th). Yet, except for the 22nd, no ward voted yes overwhelmingly. The wards located across the rivers were only a short distance from the downtown district. Presumably, these areas would be among the first to receive subway extensions. As reflected in their vote, many residents wanted the subway to service their communities now, not later. No guarantee existed that the city would ever expand the downtown loop. This explains why the most outlying wards voted heavily against the subway item.

Despite the close vote, subway supporters reacted jubilantly. Councilman Rauh said, "My dream of years has been realized. The people have won a tremendous start of rapid transit which in the future will mean a greater Pittsburgh." Mayor Babcock responded in a more sedate manner. He reconized that, "The ratification of this bond issue by the voters of Pittsburgh passes a great responsibility to the officers of the administration." Babcock said the city would immediately start soliciting bids from contractors. He fully expected construction to begin within the next two or three months.

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Mayor Babcock abandoned Morse’s plan for financial and political reasons. He decided to support the alternate plan because it would be cheaper to build and likely to engender a broader base of support. The mayor successfully lobbied council to include the subway item on the bond issue. During the campaign, proponents tries to convince voters that the city’s future well-being depended on the subway. Opponents characterized the mayor’s subway plan as an ineffective and unequitable way to solve the city’s transit problems. Voters did approve the subway item, but the narrow margin left the mayor without a political mandate. The subway vote did not really settle anything because each side could rightfully claim victory. This gave an indication that the city would continue to have problems making progress on this issue.

\[131\textit{Pgh. Sun}, July 9, 1919, p. 13.\]

\[132\textit{ibid.}\]
5. NEW PLANS, BUT TIME RUNS OUT

After the election, Mayor Babcock continued to resent the role Morse had played in the campaign. How did the mayor get back at Morse? In the absence of a voter mandate for a particular plan, numerous proposals came forward. How did these differ? In what ways were they the same? None of these plans met with any success. Eventually the city abandoned its effort to build a rapid transit system. What factors motivated this decision? In what sense was time working against efforts to build the system?

Following the election, opponents of the subway item challenged the vote count. The challenge resulted in the subway receiving a slightly smaller margin of victory. More importantly, it delayed the start of construction for several months. Another obstacle developed; the city and Pittsburgh Railways could not agree on terms for the latter's operation of the subway. The city chose not to begin construction until the two sides settled on an agreement. Taking past relations into account, a compromise did not appear likely in the near future.

Late in July, the Pennsylvania State Supreme Court ruled that if a city cannot complete a project with the money allocated by bond issue, the citizens must approve any additional expenditures. In other words, the city could not spend $6,000,005 on subway construction. The extra five dollars must be authorized by another vote of the people. City Controller E. S. Morrow predicted that the Court's decision "will tie ever city in the State up in a knot that cannot be cut."\textsuperscript{133} Morrow warned that the improvements contained in the victorious bond issue could not be completed for the authorized $22 million. He blamed the Department of Public Works for submitting faulty cost estimates. The controller concluded, "This also means that all street and other improvements must, for the time being, be abandoned."\textsuperscript{134}

Adding to the mayor's difficulties, Transit Commissioner Morse continues to criticize the subway loop proposal. Shortly after the July vote, Morse began a three-month study to develop new solutions for Pittsburgh's transit troubles. He emerged with a plan similar to the one recommended in his 1917 report. It combined subway and elevated, while advocating through routes. Morse designed the new plan so that the downtown nucleus could be constructed for $6 million.

\textsuperscript{134}ibid.
The mayor became increasingly displeased by Morse's opposition. Babcock twice tried to eliminate funding for the maintenance of the transit commissioner's office, but council rebuffed both his efforts. A couple weeks into the new year, Babcock suggested that Morse resign his office. Morse began his reply in the following way,

After careful consideration of your request of Jan. 23 that I resign the office of transit commissioner of the city of Pittsburgh, I have reached the conclusion that a resignation at this time would constitute a failure in duty to the public. Your statement, in effect, was that you desired my resignation because I was standing in the way of a proposed subway loop for the downtown district. I am convinced that the construction of such a loop would be exceedingly unwise, would fail utterly to solve or even partially solve Pittsburgh's transportation problem and would render exceeding difficult, if not prevent, a real solution of the problem in the future.

Morse concluded by expressing his willingness to cooperate with the mayor and the department heads, but Morse said he never would place personal considerations above professional judgement.

On January 28, 1920, Mayor Babcock fired Commissioner Morse. The mayor described Morse as "out of tune" with key administration members. The commissioner thought otherwise. "I don't feel that I am out of tune with them or with the Mayor, when it comes serving the public, but I have not served the political side that wants to build a subway." Morse continued to complain about his ideas not receiving proper consideration. "I tried six times to get an audience with the Mayor to explain my 1917 report to him, but could not do so." City council made rumblings about restoring Morse to his position. Nevertheless, Mayor Babcock prevailed and Morse went looking for private sector employment.

Morse's dismissal did nothing to further progress on the subway. Three years later (1923), the city still had not begun construction. The Pittsburgh Railways Company remained a key obstacle. City Council President Daniel Winters recalled, "It was agreed, when $6,000,000 of bonds for a subway were authorized at a special election in 1919, that the bonds were not to be sold until and unless such a contract is made with the railways company." While the city waited, inflation continued to reduce the value of the original $6 million bond. Also, downtown congestion grew steadily worse. Pittsburgh's Department of Public Works estimated that from 1917 to 1923 the number of automobiles increased by 20 per cent over each proceeding year.

In order to develop and promote a comprehensive plan for Pittsburgh's growth, a group of

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136 ibid. p. 2.
137 Pittsburgh First, October 11, 1923, p. 14.
138 ibid.
citizens formed the Citizens Committee on City Plan of Pittsburgh. The organization sponsored a September 1923 study called "Transit: A Part Of The Pittsburgh Plan." It took an overview of Pittsburgh's transit situation and made several recommendations for improvement. From the outset, the report acknowledged its debt to Morse. "But the most valuable official report heretofore made on Pittsburgh transit matters is unquestionably that published in 1917 by Mr. E. K. Morse, then Transit Commissioner . . . It will be seen in the following pages that in many respects the Committee is in agreement with Mr. Morse." Considering that the committee contained several former members of the Babcock administration, it was surprising that Morse's work received such praise.

The Citizens Committee recognized the urgent need to ease downtown congestion. In terms of space, trolleys occupied only a small percentage. At peak hours, the downtown district contained over 2,500 automobiles, compared to 150 streetcars. However, the report noted that streetcars considerably slowed the traffic pace by stopping at almost every corner. Thus they accounted for more of the congestion than their small numbers might indicate. How should the city go about removing these trolleys from downtown streets? The committee unequivocally rejected elevated railway. "The suggestion for an elevated structure . . . should not be considered." Despite the el's lower construction cost, the report felt that the resulting property damage would more than offset this benefit.

At the same time, the committee doubted that Pittsburgh could immediately support a rapid transit system. The report gave three reasons. First, economics argued against rapid transit; no profitable lines could then be built. Second, politics stood in the way. "For on account of the very unequal distribution of benefits which would result from such a project, its carrying out should be preceded by a legislative program designed to provide for a more equitable method of community participation . . ." This legislation would ease political opposition to the subway. Third, a rapid transit line could not be built for the $6 million authorized in the 1919 bond issue.

For the reasons listed above, the committee suggested Pittsburgh initially build a subway for streetcars. Later, the subway would be converted to use by rapid transit trains. "It is, therefore, the opinion of the Committee that a considerable proportion of the street cars should be removed from the streets, through the building of certain subways in the central business district in which to operate.

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139 Citizens Committee on City Plan of Pittsburgh, Transit: A Part Of The Pittsburgh Plan, September 1923, p. 15.

140 Ibid, p. 38.

141 Ibid, p. 49.
them. Certain of these would later be converted to the use of rapid transit trains, while others would continue to be used by the remaining street cars entering the congested district. The committee seemed certain that Pittsburgh's future transit needs would necessitate such a conversion. "Its [The Citizens Committee's] confidence in the future greatness of metropolitan Pittsburgh is such that it believes that the time will certainly come when a rapid transit system will be a necessity."

The Committee's plan called for the construction of two downtown subway loops. Subway Loop No. 1 and Subway Loop No. 2 would handle streetcars traveling in from the East End and the Northside, respectively. The report estimated the total construction cost for both loops at under $6 million. Eventually, for rapid transit use, these subway lines would be connected downtown and then extended to form a through route running between the East End and the Northside. Once it became economically feasible, another through route could be built to connect the East End and the Southside. Not coincidently, the committee's overall plan closely resembled Morse's 1917 proposal.

Although the ultimate plan suggested double tracked through routes, the report discussed some interesting advantages of single tracked subway loops. Loops distribute loading points over wider area. This allows passengers to get on or off the streetcars at convenient locations. Also, loops allow more businesses to share in the benefits of being located near a transit line, while reducing the concentrations of pedestrian traffic. Because loops usually involve building only one track along any given direction, their construction does less damage to adjacent private property. In comparison, excavation for two tracks can cause much damage, especially on narrow streets. Finally, the single track leaves more room for station platforms and underground utilities.

In 1924, the courts decided to end the Pittsburgh Railways Company's receivership. William Magee, who had been elected for a second tour as mayor, believed that progress on the subway issue could now be made. "Any serious consideration of the problem has been prevented by the inability of the owners of the Pittsburgh Railways Company to confer with the city authorities as to re-routing on the surface or relocation underground. In other words, the city is at last in a position to consider seriously the much discussed subway as a means of relief from the constantly encroaching automobile." The Pittsburgh Post did not accept the Mayor's excuse. "The truth is that if the

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142 Ibid.
143 Ibid.
144 REFER TO MAPS
PROPOSED SUBWAY LOOPS NO. 1 AND NO. 2

ORIGINAL SUBWAYS FOR STREET CARS
--- FUTURE EXTENSIONS FOR RAPID TRANSIT
responsible city authorities had always been awake the downtown subway would have been built long ago."\textsuperscript{146} The editorial maintained that Pittsburgh Railways had always shown itself willing to cooperate on the subway issue.

Early in 1924, former Commissioner Morse reentered the picture. Assisted by Albert H. Burchfield, an executive with a downtown department store, Morse brought forward a plan which he said would simultaneously solve Pittsburgh's flood, parking, and transportation problems.\textsuperscript{147} The bold proposal involved building a combination subway and elevated loop, a forty foot river wall, two boulevards, and 75,000 parking spaces.\textsuperscript{148} This would all be placed along the rivers, thereby encircling the entire downtown district. More specifically, the plan suggested a six track elevated system, under which cars could park. The elevated would run by the riverfront, converting to subway as it left downtown. Morse placed the cost for all this at somewhere between $12 million and $15 million. Because of its innovative nature, the Morse-Burchfield plan attracted much public attention.

Meanwhile, the city was making a renewed effort. After a conference with Mayor William Magee and officials from Pittsburgh Railways, the city council voted to establish a special committee on the subway. The committee's members included Arthur Thompson, President of Pittsburgh Railways; Charles A. Finley, Director of the Department of Public Works; Morris Knowles, Chairman of the City Planning Commission; and Winters Haydock, chief engineer of the Citizens Committee on City Plan. Their charge was to "study, investigate and report at an early date on the matter of subway and all incidental matters pertaining thereto, and to report whether an expert engineer should be employed to study these matters."\textsuperscript{149}

The special subway committee recommended that the city establish a bureau to deal specifically with traffic matters. City council embraced this idea. On May 3, 1924, the city established the Bureau of Traffic Relief within the Department of Public Works. The ordinance instructed the bureau to make "a study and investigation into the feasibility, advisability, location and cost of traffic relief by means of a subway..."\textsuperscript{150} To fulfill this mandate, the bureau's chief engineer, Winters

\textsuperscript{146}Ibid.

\textsuperscript{147}REFER TO MAP

\textsuperscript{148}Pittsburgh First, February 16, 1924.

\textsuperscript{149}Electric Railway Journal, February 16, 1924, p. 269.

\textsuperscript{150}Daniel Turner and Winters Haydock, Report On A Recommended Subway In The First And Second Wards of Pittsburgh, January 22, 1925, p. 5.
Haydock, and a consulting engineer, Daniel Turner, began an investigation into the subway’s feasibility. They finished their work in January of 1925.\footnote{\textsuperscript{151}}

In the report’s foreward, Turner admits that “the initial rapid transit line proposed is similar in some respects to the recommendations of Mr. Morse and of the Citizens Committee . . .\footnote{\textsuperscript{152}}” This similarity was not too surprising since Winters Haydock played a key role in preparing the 1923 Citizens Committee plan. Turner went on to write, “I desire to say further that Mr. Morse’s recommendation of 1917 could have been followed by the City without a serious mistake having been made, and the City would now be enjoying the benefits therefrom.”\footnote{\textsuperscript{153}} Despite his firing years before, Morse and his 1917 report continued to influence the subway debate. In fact, his report received more attention now than ever before.

Turner and Haydock ruled out placing any elevated structures downtown. They considered downtown streets too narrow to accommodate an el. Only subways should be considered. Like previous proposals, their report suggested building a subway for streetcars, with adequate provision made for its eventual conversion. Unlike the Citizens Committee, Turner and Haydock believed the initial subway should serve as a through route, not a loop. “Therefore, because it creates and crystallized congestion, because it does not furnish a direct through service, and because it requires the maximum facilities to accommodate a given traffic capacity, a loop service from the community interest standpoint is wholly wrong in principle and should not be utilized in a city transit plan.”\footnote{\textsuperscript{154}} Streetcars coming from the East End would travel through the downtown subway and on to the Northside, or vice versa. Eventually, the line could be upgraded to handle rapid transit trains.

The report took a decidedly pessimistic view towards the feasibility of rapid transit operation in Pittsburgh. “From an analysis of the existing and prospective conditions it has been determined that Pittsburgh does not require a rapid transit system now, nor will it require one in the near future . . .\footnote{\textsuperscript{155}}” Turner and Haydock considered the city’s population too small for rapid transit to be economically feasible. This meant a wait of twenty-five to thirty years until Pittsburgh’s population grew to a sufficient size. In contrast, the authors felt the entire metropolitan area could, in the near future,
PROPOSED INITIAL RAPID TRANSIT LINE
IN PITTSBURGH

TRAFFIC COMMISSION.
BUREAU OF TRAFFIC RELIEF.
Daniel L. Turner, Consulting Engineer.
Winters Haydock, Chief Engineer.

Plate No. 11
justify building rapid transit. They wrote that a metropolitan system "can be developed to serve a territory contiguous to, but outside of the existing city limits."¹⁵⁶

Finally, the report made a few comments about the Morse-Burchfield plan. Turner and Haydock cautioned Pittsburghers to analyze the plan's transit feature independent of its other components. The Morse-Burchfield plan essentially involved constructing a huge elevated transit loop around the downtown district. "[I]t proposes the very kind of operation that is considered highly objectionable for the Triangle particularly- namely loop operation."¹⁵⁷ Turner and Haydock found the elevated feature highly objectionable too. Thus, they advised the city not to consider any transit aspect of the Morse-Burchfield plan.

In order to fund the Bureau of Traffic Relief, council planned to use monies from the $6 million bond issue. A group of private citizens brought suit to prevent this. They objected to the city spending the bond issue on anything but actual subway construction. Late in 1924, Judges James R. MacFarlane and Joseph M. Swearingen ruled against the city. They expressed concern with the overly broad language in the ordinance creating the Bureau of Traffic Relief. The court did not want any of the $6 million spent to support a bureau responsible for general traffic problems. The money must be used for activities directly related to the subway. Otherwise, the judges wrote, "This thing might go on indefinitely and still there would be no subway."¹⁵⁸

In response, city council established the Department of City Transit. The City Transit Commission, composed of five members, ran the department. Council created the department to supervise all city-owned transit facilities, especially the proposed subway. The new department replaced the Bureau of Traffic. In October of 1926, the City Transit Commission transmitted a new subway plan to council.¹⁵⁹ Daniel Turner and Winters Haydock prepared the plan, which elaborated upon their earlier work. It provided for a rapid transit line connecting the East End and the Southside. Unlike earlier plans, rapid transit trains would immediately occupy the new subway. "It would be operated strictly as a true rapid transit facility for mass transportation. The cars would be long and

¹⁵⁹REFER TO MAP
wide and operated in trains. No street cars would enter the subway.\textsuperscript{160}

Also, the plan involved building a subway under Grant Street. This subway would service streetcars coming from the Southside. This appendage was needed to supply "additional transit facilities to the rapidly growing population on the south side of the Monongahela River."\textsuperscript{161} Turner and Haydock placed the total cost for both projects at $36 million. Subtracting the 1919 bond issue, the amount dropped to $30 million. To pay for the remaining cost, the City Transit Commission recommended that the mayor and city council seek the people's approval for a $30 million bond issue. This would necessitate holding another special election.

The Transit Commission's proposal went nowhere. Council never formally considered sponsoring the bond issue. Why? Once built, the Turner-Haydock plan would primarily have benefited residents in the East End, the Northside, and other areas contiguous to the main rapid transit line. Despite carrying an equal load of the bond issue's tax burden, other city residents stood to gain little or nothing from the plan. This made it politically impossible for most of the city's elected officials to support a $30 million expenditure.

A possible solution involved levying those property owners who profited from the subway. Unfortunately, Pennsylvania's constitution barred local governments from making such benefit assessments. All constitutional amendments had to first be approved by the state legislature and then ratified by a vote of the people. The City of Pittsburgh tried several times, without success, to win approval for a benefit assessment amendent. As a Pittsburgh Post-Gazette editorial described it, "The disposition was to mark time and this attitude continued until the fate of the constitutional amendment to permit the assessment of benefits upon a whole district was known. To the disappointment of advocates of the subway, the vote throughout the state was adverse, and that plan will have to be abandoned for some years to come.\textsuperscript{162} Lacking power to make the bond issue more equitable, city officials disregarded the Turner-Haydock plan.

This idea of benefit assessment deserves a little more explanation. The amendent rejected by the legislature would have allowed the city to "assess property owners for benefits accruing from the construction of public improvements, rapid transit lines, whether or not the property assessed abuts

\textsuperscript{160}Daniel Turner and Winters Haydock, A Report On a Plan For Financing Initial Subway Construction In Pittsburgh, March 1926, p. 3.

\textsuperscript{161}Ibid., p. 14.

\textsuperscript{162}Electric Railway Journal, December 8, 1928, p. 1012.
upon such public improvement.163 So assessments could be made in relation to a variety of public works projects. Turner and Haydock described how transit lines benefitted adjacent property.

The usefulness and value of land is dependent on the population that can be housed, served or employed on it. Population follows transportation. Therefore, population is quickly attracted to a rapid transit line along its entire length. Business concentrates along such a line. Housing is also developed intensively. This creates a greater demand for the land near the line and therefore increases its value in a corresponding degree.164

They proposed that roughly 75 percent of the rapid transit's construction cost should be paid by benefitted landowners. The city would take care of the remaining 25 percent.

In many ways, time worked against the subway. Because of inflation, the $6 million grew smaller everyday day. Also, after several years, people no longer viewed the 1919 approval of the bond issue as a policy mandate. The Pittsburgh Chamber of Commerce released a statement saying, "To allow the consent of some 15,000 voters given thirteen years ago to bind the 250,000 voters and taxpayers of Pittsburgh today would be contrary to sound public policy, especially as the entire cost of the project must fall upon the taxpayers of today and those that follow."165 It is interesting that in 1919 the Chamber of Commerce had heartily endorsed the bond issue's subway item. Because of the Great Depression, the chamber no longer thought Pittsburgh's economy was strong enough to support a $6 million expenditure.

As new technology began to emerge, the subway seemed less and less appropriate for Pittsburgh. Again quoting the Chamber of Commerce, "Owing to the radical changes which have come about since 1919 it is exceedingly doubtful whether street car subways will prove to be the solution of the traffic problem of large cities."166 F. L. Duggan, vice-chairman of the Pittsburgh Better Traffic Committee flatly ruled out subways. "[T]he bus is here to stay while the subway is a thing of the past. Give Pittsburgh a few more wide thoroughfares and we will surpass our sister cities in traffic progressiveness."167

Once the Great Depression hit the country, Pittsburgh's subway prospects diminished considerably. Yet in its 1931 report, the City Transit Commission urged the city to commence with

163Turner and Haydock, 1926, p. 9.
164Turner and Haydock, 1925, p. 47.
166Ibid, p.2.
the subway. The commission said the construction could now be completed at a much cheaper cost. In addition, hundreds of idle of men would be given jobs. "The favorable situation as to construction costs and the unemployment crisis point to the wisdom of preparing now to meet this situation." Still, the city could not afford to start such a major project. On the contrary, the grave economic situation called for retrenchment. For example, the city eventually eliminated the Transit Commission. Between 1930 and 1934, city officials made little effort to revive the subway issue. Finally, on May 2, 1934, city council voted to vacate the $6 million bond issue and formally end all subway plans. A 1931 editorial nicely captured the frustration Pittsburghers must have felt over the city's failure to build the subway.

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169 REFER TO NEWSPAPER EDITORIAL
WHERE ARE SUBWAYS HIDING?

SUBWAYS for Pittsburgh have ceased to be a traffic problem and have become instead a long-standing joke. The joke is on the people who must spend so much time getting out to East Liberty after work or in to town for work that every time a child is born in Pittsburgh you can assume that ten per cent of his life will be spent in street cars or auto traffic jams.

Pittsburghers have been talking about a subway ever since 1900; even then they realized that crowded traffic conditions would hamper the natural growth of the city. And since then there has been enough jaw motion lost in talking about the subways to provide a foot-pound of energy for every grain of earth that will have to be moved, every ounce of concrete that will have to be poured and every inch of steel that will be laid.

In 1919 the people voted a bond issue of $6,000,000 to build the nucleus of the subway lines. But the effort of getting that bond issue over was so great that nothing has been done since then.

Oh, yes, there have been commissions appointed, and plans drawn, and counter-plans made. But there has not been one actual, visible movement toward building a subway since the first settlers built a tunnel from the Fort Pitt to the river to help flee the Indians.

What the people ought to do is to lend $6,000,000 to some corporation, or play the stock-market with it. By the time the subway could be built, they would have enough money in interest to build it and give every man, woman and child in Pittsburgh a free ride. Or else they would be broke—in which case, they would have no subway, but at least some excitement.
EPilogue

There were many reasons why the City of Pittsburgh failed to build the rapid transit system deemed inevitable. From 1910 to 1935, Pittsburgh's political leadership constantly changed. It seems as if a new mayor came into the picture every few paragraphs. Also, the city council's membership turned over frequently. In fact, Pittsburgh went from having a two council system, containing over 40 members, to one nine-member council. This made it exceedingly difficult to establish a continuity in the city's strategy for building a subway. It also accounts for why the city commissioned so many reports and studies. Every new council and/or mayor wanted to receive a fresh analysis. This made it difficult for private companies like Pittsburgh Subway and Pittsburgh Railways to conduct meaningful negotiations with the city.

Overall, the city bargained too hard. The past and ongoing experiences with Pittsburgh Railways made city officials leery about entering into an agreement with another private company. As a result, they demanded too much from companies desiring to operate a franchise. Plus, the city considered its franchise more valuable than it proved to be. Undoubtedly, many city officials thought of the downtown subway franchise as a prize. But, this attitude displayed an acute lack of awareness concerning the street railway industry. As exemplified by Pittsburgh Railways, many of these companies had run into serious financial difficulties. The city should have recognized this and been more accommodating to private investors.

Mayor Babcock's efforts in 1919 seriously damaged the subway's political viability. Instead of relying on past transit studies commissioned by the city, the mayor came forward with a superficial plan done by relative unknowns. This made the plan extremely vulnerable to attack from subway opponents. Also, once the people approved the subway item, Babcock had no mandate for a specific plan. He just had the money, which proved to be insufficient for making progress on the subway.

It is surprising how much of an obstacle legal problems posed. One might assume that if the people want something done, it can and will be done. However, the city could not condemn Pittsburgh Railways, assess benefit taxes, or spend the subway money on general traffic relief. Even if when the public good could be served, these legal matters frequently interfered. Overall, the City of Pittsburgh had inadequate authority to forcefully push along the subway issue.

Mayor Babcock said, "Subways are as inseparably linked with the success of large cities as are skyscrapers."170 Did Pittsburgh need a subway to remain a prosperous city? A series of mayors

failed to seek a serious answer to this question. They assumed that the city's short term and long term transportation needs would best be served by having a subway, which could eventually be converted to rapid transit lines.

Finally, it remained unclear whether most Pittsburghers really wanted a subway. The 1919 vote on the subway item practically qualified as a draw. Only a small percentage of registered voters bothered to participate. People continually complained about rush hour traffic and having to stand on trolleys. Yet there never did seem to be a groundswell demanding subways. Rather, most Pittsburghers hoped that surface transit would one day improve. When push came to shove, citizens remained unwilling to support a plan not directly benefitting their neighborhood.


*Electric Railway Journal*, December 8, 1928.

*E. R. J.* January 3, 1925.

*E. R. J.* February 16, 1924.

*E. R. J.* October 25, 1919.

*E. R. J.* April 25, 1914.

*E. R. J.* December 7, 1912.

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