A HISTORY OF STREETCAR SERVICE IN ATHENS, GEORGIA,

AND SOME POSSIBILITIES FOR ITS REINTRODUCTION

by

DAVID WINTER RAY

(Under the Direction of John C. Waters)

ABSTRACT

The city of Athens, Georgia boasted a street railway service for forty-five uninterrupted years, from 1885 to 1930. For all but the first six years, when the small original streetcars were pulled by mules, the system operated electric-powered streetcars, also known as trolleys. Chapter 2 of this thesis offers a perspective on the history of this streetcar service. It covers the routes that were utilized, the chronology, content, and impact of developments and expansions, as well the line of succession of ownership for the operating company. Then, in Chapter 3, the thesis analyzes the potential for reintroduction of an electric streetcar system in Athens. Specifically, it focuses on some possible routes that might be suitable for an effective line or circuit. These hypothetical routes are assessed with a view towards their technical feasibility, as well as the likelihood that they will attract a ridership significant enough to sustain long-term success and viability.

INDEX WORDS: Athens streetcars, Athens streetcar history, Athens Electric Railway Company, Athens Railway Company, Athens Railway & Electric Company, Athens Park & Improvement Company, Boulevard Historic District, Classic City Street Railway, Streetcars, Trolleys

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CHAPTER 1:

INTRODUCTION

Within the last decade, another accomplished student in the University of Georgia's Historic Preservation Program, Robert A. Ciucevich, authored a thesis entitled "Providing a Future for Historic Streetcar Lines" (Approved 9/9/97). This fact might logically raise the question of why another thesis on the same basic subject - the reintroduction of streetcars - is warranted, or is, at the very least, not redundant.

In order to answer or sidestep this question, it is hereby asserted that, although Mr. Ciucevich's research into the subject was carried out as recently as 1996 and 1997, much has happened in the realm of streetcar redevelopment during the last ¾ of a decade. As Graham Hill, a transportation consultant who has formed a non-profit organization to stimulate the introduction of streetcars in Boulder, Colorado, says, "Streetcars have become a national trend, and communities are lining up to put them back in their cities."

Providing witness to this trend, three major new streetcar systems or lines, staffed by paid professional operators, have opened in the United States since 2000, with the inauguration of the Portland Streetcar system in 2001, Tampa's TECO Line in 2002, and New Orleans reborn Canal Street line in the spring of last year. Moreover, Memphis has just completed a 2.5 mile extension of its decade old Main Street Trolley line. Each of the above is fully integrated into the city's overall transit operations, linking directly with existing bus or light rail service. Thus, they indicate that the track-based streetcar, with its 115 year old heritage, can be updated and

reintroduced in a manner in which it legitimately contributes to a city's urban transportation infrastructure, by moving citizens and visitors where they want to go, without use of their cars.

Although their merits and/or cost-to-benefit ratios are certainly still open to dispute (as are those of public transportation in general, according to some), the reintroduction of streetcar lines, whether or not historically oriented in appearance and technology, must now be acknowledged as one accepted solution for providing public transportation in urban centers. The sheer number of cities that have installed streetcar systems, or are currently developing or implementing plans to do so, means that their reintroduction can no longer be dismissed as the unrealistic, off-the-wall dreams of a small cadre of out-of-touch planners, historic preservationists, or rail and trolley enthusiasts. In essence, the issue of whether it is even possible to reintroduce trolley systems is no longer really the most salient point of contention for discussions of their validity, since plenty of cities - both large and small - have already done so during the last decade.

These prior efforts of planning and early experimentation by other cities also means that there is now precedent available, and a body of knowledge and evidence to draw from. There is even an example of a reintroduced streetcar system that has failed, since, within the last two years, the City of Detroit, Michigan has shut down its line, which dated way back to 1976. In short, enough cities have now built these new streetcar systems that the starting point for such communities has moved on from the simplistic, abstract question, "Is it at all possible?" to the conceptualizing of a specific plan and route, and determining how an application would technically work.

Therefore, the next step for those cities presently without streetcars, but which have a previous history with them and might be considering their reintroduction, is to ponder whether a

particular community, and/or a specific area of that community, would be ripe for supporting and benefiting from the establishment of streetcar service, and whether the service could be productive and beneficial over the long-term. This thesis aims to apply this question to the city of Athens, by examining some aspects that might contribute to the relative success or failure of certain specific routes, which might conceivably be considered for a renewed streetcar line or circuit in Athens.

Premise

The City of Athens, Georgia is one of the cities in both the state and nation with a heritage of prior streetcar service. In the case of Athens, the great majority of this service consisted of the use of electric-powered traction cars (or trolleys), which were introduced in 1891 and remained in operation until 1930. Yet, the service originated even earlier, as streetcars pulled by horses or mules were used between 1885 and 1891. After the running of electric streetcars was discontinued, they were immediately succeeded by rubber-tired motor coaches. These early buses were driven about Athens through the next four years, until all public transport efforts in the city finally ceased, in 1934. The publicly-owned Athens Transit System finally reinitiated operations in 1976, and still runs a fleet of diesel engine buses throughout the city today. On and around the University of Georgia's campus, Athens Transit's service, plainly but accurately referred to as "THE BUS," is complemented by the University of Georgia's own bus service, which started in 1966, and ferries students around between the various areas and buildings of the campus.

By national standards, Athens would be considered a small-to-medium size metropolitan area, in terms of population. In comparison to other municipalities around Georgia, it still ranks

as a third tier city, though it is rapidly gaining ground on the state's traditional second tier cities to the south - Augusta, Columbus, Macon, and Savannah, which are themselves considerably smaller than metropolitan Atlanta.[1] Atlanta is actively pursuing the idea of reintroducing electric streetcars along Peachtree Street, and a feasibility study has already been completed, at the end of 2004. In a nutshell, the study finds it justifiable to conclude that the great numbers of people who work in Atlanta's urbanized centers - Downtown, Midtown, and Buckhead - can likely provide the critical mass of people that a streetcar system could effectively and efficiently serve, and which could, conversely, sustain the operation of a streetcar system. Of the second tier of cities, Savannah is considering the installation of a streetcar loop through its downtown, as is thoroughly detailed in Mr. Ciucevich's thesis. While much smaller than Atlanta, Savannah offers a compact downtown that has retained a sizable and stable residential component within its downtown, with single family homes and apartments alike scattered throughout its historic intown neighborhoods. The allure and nationally recognized reputation of these same historic neighborhoods also provides a large and relatively steady influx of tourists and vacationers to support downtown's businesses, such as shops, restaurants, and hotels. Thus, downtown Savannah is also able to present a large and quantifiable critical mass of people, who could conceivably appreciate, use, and benefit from a reinstalled streetcar system.

Athens is nowhere near as large, in terms of overall size, as these other two cities, nor is its downtown commercial area. Indeed, Athens' downtown commercial district encompasses an area that is, in essence, only five blocks wide and five blocks deep. However, the southern edge of this downtown district, as defined by Broad Street, is directly adjacent to the University of Georgia's North Campus, and the North Campus, in turn, blends into the South Campus.

[1] "Census 2000 Demographic Profile Highlights"; available from http://factfinder.census.gov; Internet; accessed 9 April 2005.

Accordingly, Athens offers a captive audience, so-to-speak, that is large, reliable, and easily quantifiable. Each year, a certain large and quantifiable number of students reliably returns to the campus to attend their daily schedule of classes, and then, at night, to attend their favorite restaurants, shops, bars, or concert venues in the neighboring commercial district.

It therefore stands to reason that the University's student body should be a prominent target of any potential new streetcar system, and, correspondingly, of any lines or circuit that might be chosen as the introductory route for any reintroduced service. But, as the adage goes, "To get where you're going, you have to know where you've been." With regard to the topic of streetcars in Athens, adherence to this concept - a tenet close to the heart of the preservationist perspective – mandates that the history of the previous period of streetcar operations in Athens must be comprehensively researched and reviewed, before any potential routes for reintroduction are laid out. A thorough knowledge of the routes that were traveled previously, and an understanding of the rationale behind their original adoption, may provide some insight that is still relevant to the environment present in the Athens of today.

Methodology

There are a tremendous number of issues and variables that are involved with the exhaustive feasibility studies required to plan a streetcar system, before any actual design and physical implementation can ever begin to take place. The knowledge and skills of technical analysts from many different backgrounds are needed to assess and assemble all these contributing elements. Factors to be studied would obviously warrant a great deal of effort by both civil and mechanical engineers, but would also employ the faculties of those trained in a range of widely divergent yet overlapping planning fields, from traffic modeling to debt

financing. Last year, the Atlanta Streetcar organization hired the large "architecture, engineering, and consulting firm" of HDR, Inc. to conduct and produce their initial feasibility study.[2] The selected firm refers to itself as being "integrated," with a staff of "professionals [representing] hundreds of disciplines," thereby "[providing] a total spectrum of services…."[3] Since this graduate student possesses none of this professional training and experience, this thesis focuses primarily on generalities about factors pertaining to the possibilities of reintroducing streetcars in Athens. Furthermore, there is a great deal of information already available in books and on internet websites about areas such as technical requirements and specifications of streetcars, their operating costs per mile, their construction costs per mile, and opportunities for funding. Most of these details are covered in depth by advocates and/or opponents of streetcars who, due to their prior interests and experiences, are able to offer a great deal more insight than a newcomer to the subject. Yet, this existing information is either universal in nature, or focuses on specific cities where streetcar systems are already in place or in the planning stages. Rather than duplicate prior efforts or rehash existing information, it was decided to focus primarily on the specific facet of route layout in Athens, with respect to both historical accuracy and potential feasibility for new applications or reapplications of streetcar rails. Initially, at least, this graduate student offered only a fairly well-developed familiarity of the geography of the city of Athens and its intown neighborhoods.

The aforementioned 1997 thesis of Robert Ciucevich provided a thorough summation and timeline of the broad history of streetcar development, which, it was felt, could not be improved upon. Thus, in regard to the history of streetcars, this thesis focuses only on the developmental

[2] Atlanta Journal-Constitution, "Atlanta Streetcar Backers Name Consultant"; available from http://www.atlantastreetcar.org/index.cfm?FuseAction=pressroom; Internet; accessed 9 April 2005.

[3] HDR, Inc., "About HDR"; available from http://www.hdrinc.com/3/default.aspx; Internet; accessed 9 April 2005.

history of Athens' own streetcars, and of the various iterations of their operating company. On these particular subjects, there was also a great deal of existing information scattered throughout various, previously published histories of Athens and Clarke County. Due to the prior efforts of several local historians, there were also already available several published collections of photographs and postcards, which show representative images of Athens' historic streetcars and circuits. These include the published works of Gary L. Doster, James K. Reap, Frances Taliaferro Thomas, and others, as well as a recently reproduced compendium of photo-gravures made by a professional photographer who once practiced in Athens during the years of streetcar service – Albin Hajos. Although all of the above publications contain photographs and information about Athens' streetcar history, none focused solely on this as the primary subject matter. The intent of the first part of this thesis was simply to compile, collate, and analyze all of the information so-far published in historic overviews, and then compare it to the lineage of contemporary maps of the period - found at the University of Georgia's Science Library-Map Room and Hargrett Library-Special Collections - which depict the chronology of circuit layouts throughout Athens forty-five uninterrupted years of streetcar service. This above information was also melded with information contained in personal memories and recollections, as recounted in books such as Dean William Tate's *Strolls Around Athens*, or in newspaper interviews conducted by the *Athens Banner-Herald*. All of the above was then assimilated with firsthand accounts and records supplied by various period publications and directives of either Georgia Power, or the earlier variants of the streetcar company itself.

Although it may hopefully offer some new or previously unrealized insight, this thesis is by no means the final word on the history of prior streetcar service in Athens, as available information may have been overlooked, misinterpreted, or may not, as of yet, come to light.

CHAPTER 2:

A PERSPECTIVE ON THE HISTORY OF STREETCAR SERVICE IN ATHENS, AND THE ROUTES THAT ITS TROLLEYS TRAVELED

In an article that ran in the *Athens Banner-Herald* earlier this year, a lifelong Athens resident, 92 year old Fred Birchmore, recalled that, on the system of streetcars that operated in Athens when he was a child, "You could ride and ride forever."[4] He did not clarify if he literally meant that, for the sake of amusement, he often rode in continual loops for as long as he desired. Or, perhaps he was merely relating his rose-tinted impressions of the experience of riding the streetcar route as a young boy, thereby revealing how large the world, or even a small part of it, can seem to a youth whose overall perspective is limited and whose daily life is (relatively) slow-paced. Certainly, from today's perspectives, which have been informed by the easy, rapid travel now allowed by airplanes, automobiles, and the miles upon miles of paved roads, Athens and its streetcar system were both very small in the four decades of the city's streetcar operations before 1930, at least in comparison to many of the other contemporary cities and streetcar networks around the nation. Thus, Mr. Birchmore's remark may simply constitute an instance of sentimental overstatement, or it may be construed as an accurate and informative description of one youth's sense of the scale and scope of Athens' streetcar service at that time.

Regardless, his comment succinctly expresses his wistful fondness for the days when he could ride a streetcar, as well as for the rides themselves. As it turned out, he could not, in

[4] "New Historic Designation Could Preserve Face of Downtown Athens," *Athens Banner-Herald*, 17 January 2004.

fact, "ride and ride forever," for Athens' service was discontinued on March 31, 1930.[5] Hence, Mr. Birchmore must be one of the increasingly few people who can truly remember riding a streetcar in Athens, since anyone born on its final day of operation would now be 75 years old. Buses, powered by internal combustion engines, then replaced - or tried to replace - the electric powered streetcars, but their service was short-lived, as all public transit in Athens ceased on July 6, 1934.[6] It was not reinstituted until the publicly-funded Athens Transit Service once again implemented bus service, forty-two years later in 1976.[7]

Yet, throughout Athens' history of "mass transit," the city's electric streetcars were not the only victims of new equipment that offered perceived advances in technology and efficiency. Indeed, the trolleys themselves were preceded by an earlier street railway system that utilized small "horsecars," which, in Athens' application, were pulled along their tracks not by horses, but by mules.

Available histories of Athens agree that this service was initially developed in 1885, through the endeavors of a promoter from Texas whose surname was Snodgrass (his first name seems to have been lost or forgotten, likely because he was a person from outside the Athens community, whose time of residence was brief). In one of the earliest of these histories, published in 1923, the description given by H.J. Rowe, Athens' mayor at one time, varies greatly from Mr. Birchmore's recent recollection of Athens' later electric-powered service. As Mr. Rowe related, "The little rails were laid on Broad, College, Clayton, Lumpkin, Hancock, Pulaski, Prince and Milledge, the little cars were unloaded and placed upon the rails and the little mules

[5] Gary L. Doster, *A Postcard History of Athens, Georgia* (Athens, Georgia: Athens Historical Society, 2002), 132.

[6] Ibid.

[7] Athens Transit, "Public Transit in Athens, Georgia, Since 1885"; available from http://www.athenstransit.com/historyofats.html; Internet; accessed 15 September 2004.

were hitched to the cars and Athens had made a step forward."[8] Almost 40 years after its introduction, it seems that Rowe could not say enough to emphasize the short relative length of the early system, and the small capacity of its cars. Another history is more specific about origin and equipment, relating that Snodgrass's operation - elegantly and aptly named the Classic City Street Railway - began service in late December of 1885 and was comprised of three "10-foot-long streetcars" from St. Louis, which ran on "18 pound rails (which means that a three-foot section of iron track weighed 18 pounds)."[9] Of course, these streetcars had to remain small and light, since one of the downsides of using animals for motive power is the relatively low limit on the amount of weight they can pull. Another is the fact that animals have their own brains, and don't always want to follow human commands. Rowe lightheartedly alludes to what was, at the time, a serious logistical problem:

> A number of the older citizens will recall the breaking in of the little Texas mules that were shipped untamed from the wilds of the former independent Republic on the Rio Grande. These daily exhibitions of cowboy skill and resourcefulness and opposing mulish stubbornness attracted as much attention as does a game of baseball nowadays on the Y.M.C.A. ground on a summer afternoon.[10]

It was undoubtedly hard to guarantee a schedule by which the cars would run, but, in an era where almost everybody employed horses, mules, or donkeys for daily transport, this was likely tolerated as an understandable, unavoidable reality. At the time, there were no other practical alternatives to animal power anyway, as a cable car system would have been much too costly and complicated for a town as small as Athens.

Regardless of their periodic outbreaks of stubbornness, the "little mules" pulled the system's three cars, called the "Lucy Cobb, Pocahontas, and No.2," efficiently enough for the

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[8] H.J. Rowe, ed., *History of Athens & Clarke County, Georgia* (Athens, Georgia: The McGregor Company, 1923), 101.

[9] Doster, 131.

[10] Rowe, ed., 101.

Classic City Railway to proudly put forth the motto, "'twenty-seven car miles per bale of hay.'"[11] In order to validate this claim, the company had to remain cognizant of the additional strains that steep gradients would place on the pulling mules, in the interest of preserving their health, and because a draft animal's aversion to a physical task is naturally lessened by any possible reductions in the physical effort and stress that is demanded. Of course, some slopes were simply too steep for the mules to negotiate at all, or they could only be achieved through the addition of more mules to the team – a practice that would increase costs and reduce efficiency. So, although some gradients were impossible to avoid due to the up-and-down topography that is a hallmark of Athens, these changes in elevation were minimized by devising a route that strung together a circuit of as many blocks of level or gently sloping grades as was feasible. Hence, instead of maintaining a direct path westward along Hancock Avenue on their route to Milledge Avenue from downtown, the cars turned off onto Pulaski, headed north until reaching Prince, and then traversed the near-level terrain of Prince Avenue and Hill Street.

Mr. Snodgrass, the initial promoter who had sold bonds to finance the building of the streetcar system, did not stay long in Athens to operate the system, but instead decided to return to Texas. He sold the street railway to a group of Athenians, led by a Mr. Joseph Harwell Dorsey.[12] This group apparently soon ran into financial trouble, and again sold the company to its third owners, E.G. Harris and John T. Voss, on September 6, 1889.[13] At this time, Athens' streetcar enterprise underwent its first name change, as Harris and Voss received a new charter

[11] Frances Taliaferro Thomas, *A Portrait of Historic Athens and Clarke County* (Athens, Georgia: University of Georgia Press, 1992), 145.
[12] Doster, 131.
[13] Ibid.

for their operation, in which the straightforward descriptor - the Athens Railway Company - replaced the original Classic City Street Railway.[14]

A year-and-a-half before, in February of 1888, inventor Frank Sprague had first demonstrated the full capabilities of electric-powered streetcars with his new installation of a significant system, consisting of approximately twelve miles of track, in Richmond, Virginia.[15] The ground-breaking success of this system, whose "size and survival were unprecedented," and the clear superiority of electric-powered cars over their muscle-powered forebears, caused electric streetcars to sweep across the nation with amazing rapidity, which could not likely be matched in the regulatory climate of today.[16] While not amongst the absolute vanguard of the conversion to electricity, the Athens Railway Company was certainly not laggard in making the switch. However, its action was really the result of the initiative of a local development company as much as it was that of the streetcar management. The Athens Park and Improvement Company devised a mutually beneficial arrangement whereby they would essentially finance the electrification and upgrading of the streetcar system, if the Railway would agree to extend a second loop out to their new developments north of Prince Avenue. Specifically, they offered Harris and Voss $20,000 over a four-year period to help finance the investments in infrastructure needed to generate and transmit electricity, and to install a spur down the length of the new Boulevard development.[17] The Athens Park and Improvement Company felt that the faster and more reliable service would convince potential buyers of their new lots that the Boulevard area, even at its most western end, was still reasonably close to

[14] Ibid.

[15] Frank Rowsome, Jr. and Stephen D. Maguire, Technical Editor, *Trolley Car Treasury: A Century of American Streetcars – Horsecars, Cable Cars, Interurbans, and Trolleys* (New York, Bonanza Books, 1956), 84-86.

[16] Ibid, 2.

[17] City of Athens - Mayor Jack R. Wells and City Council, *Athens, Georgia: 1801-1951* (Athens, Georgia: City of Athens, 1951), 37.

downtown, due to the up-to-date transit technology. After the railway installed the overhead trolley wires and connected them to an "80 kilowatt, direct current steam generator," Athens' first electric-powered streetcars commenced operation on June 23, 1891.[18]

The route that was developed for the Athens Park and Improvement Company is depicted on two subsequent maps of the city that show the full extent of the streetcar lines: the 1893 C.M. Strahan *Map of the City of Athens, Ga.*[19] and the 1895 *Map of the City of Athens* by J.W. Barnett, the City Engineer.[20] Whereas the original route veered to the southwest off of Prince and onto Hill Street en route to Milledge Avenue, this additional loop continued out Prince Avenue to Normaltown, thereby providing service to the State Normal School. At its westernmost end, the tracks continued past Satula and Buena Vista avenues, before turning right (northeast) onto a two-block section of "The Boulevard" that is now known as "Boulevard Heights." As Boulevard Heights came to a tee-intersection with Boulevard, the streetcars made a ninety-degree right turn (to the southeast) onto the Boulevard proper. They ran eastward the entire length of Boulevard back to Barber Street, and then traveled south along it to rejoin Prince and head back downtown.

The 1893 and 1895 maps also delineate the location of the "Electric Railway Park," which encompassed twenty-one of the approximate total of three-hundred acres within the Boulevard development.[21] As photographed by Athens photographer Albin Hajos around 1900, this pastoral park was conceived in the same vein of many other parks that were designed during the second half of the 19th century.[22] These parks were frequently influenced by the ideals of

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[18] Doster, 132.

[19] C.M. Strahan, *Map of the City of Athens, Ga.: Surveyed and Drawn by Charles Morton Strahan, C.M.E., Professor of Civil Engineering, University of Georgia*, 1893. Courtesy of Hargrett Rare Book & Manuscript Library /University of Georgia Libraries.

[20] J.W. Barnett, *Map of the City of Athens: Surveyed and Drawn by J.W. Barnett, City Engineer, May 1895.* Courtesy of Map Room, University of Georgia Libraries.

[21] Thomas, 146.

[22] Albin Hajos, *Souvenir of Athens, Ga.: Centennial Edition, Hajos' Photo-Gravures* (Athens, Georgia: Kudzu Graphics, 2000), "Electric Railway Views."

landscape architect Frederick Law Olmsted, and were intended, like his Central Park in New York City or Boston's Emerald Necklace, to provide city dwellers with a convenient opportunity to experience the tranquility of a rural setting or landscape. For the Athens Park and Improvement Company, these twenty-one acres, constituting only approximately one-fifteenth of its overall land area, served as a tool to help market their available lots, by projecting the development as an idyllic enclave. In this way, the company - named as though the park was its primary purpose, and development (or "improvement") was a secondary interest - could play to both sides of the urban/rural equation. It apparently aimed to offer the "best of both worlds," a basic sentiment that is still repeated today on many billboards hawking new residential subdivisions, where the signs usually spout something about "experiencing stately country living, only minutes from the mall." The park was put forth as a communal amenity that could be shared by all of the residents of the Boulevard, allowing them to experience the beauty of "nature," yet quickly return home or to their daily chores by way of a rapid, modern conveyance, the electric streetcar. In other words, the Athens Park and Improvement Company could offer the beauty, leisure and relaxation provided by nature, without the typical time, expense, or effort to reach it. At the same time, this particular "Electric Park," like others that were popular around the country, was undoubtedly envisioned by the Athens Railway Company as a means to entice residents of other parts of Athens to board their streetcars, and ride the new Boulevard line out for a recreational outing.

As laid out in plan view by the *Map of the Property of the Athens Park and Improvement Company*, as printed by G. Wm. Baist, a Philadelphia map publisher, in 1900, the park was a long and narrow plot of land that made use of the natural terrain of a stream valley. This swale carried the channel of a local tributary, which flowed north and then east, before emptying into

the North Oconee River at a point that is just north of the present north bypass. As such, it was likely ground that was then unsuited for the siting of new houses, yet provided the picturesque topography that was valued in pastoral parks and paintings alike. The land that was set aside encompassed almost an entire block, cited as Block 21, which was encircled by Boulevard to the north, Prince Avenue to the south, Park Avenue to the west, and Hiawassee Avenue to the east. Lenoir Avenue, approaching the park from the east, came to a tee intersection with Hiawassee at about the mid-point of the park's longitudinal axis.[23] The southeastern corner of the block, below Hiawassee Avenue's intended diagonal turn and merger with Nacoochee Avenue (which was never actually fully implemented on the ground, as later maps show), was set apart as Block 20. This geographically connected, but legally separate "block" contained only two, large parcels. Both fronted Prince Avenue, so the company must presumably have perceived these lots as prime real estate, which was too costly to give away for the neighborhood's public benefit.

The company's plan view of the development, as laid out by its attributed engineer, J.C. Wheeler, illustrates an intent for a pastoral setting focused around a string of three separate lakes, created by dams to be placed one after another, in a stepped fashion, along the unnamed tributary.[24] The plan places the proposed dam for the northernmost pond at a latitudinal point that is the same as that of the intersection, directly eastward, of Lenoir Avenue with Hiawassee Avenue. The other two smaller lakes stretch southward, in a chain-like manner, and the entire ensemble is ringed by a continuous loop of trails that meander beside the banks. The pathway is designed to weave gently back and forth, thus adhering to the concept of natural disorder that prevailed in landscape architecture practiced at the time. As conceived, visitors could also make use of a gazebo, to be placed to the west side of the largest, most northern lake, or could amble

[23] "Map of the Property of the Athens Park and Improvement Company," *G. Wm. Baist – Map Publisher*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[24] Ibid.

across a bridge that carried the rambling path across the dam of the uppermost (but most southern) pond. If they were not shaded by the gazebo, the detailed drawing implies that they would be able to take comfort under the canopies of the seventy proposed trees that are marked (by symbols) within and throughout the borders of the proposed park.

Hajos' print of a scene at the park, taken approximately ten years later, verifies that the company succeeded in carrying out, at the very least, the essence of its original plans. Moreover, the Athens Electric Railway Company's "General Statement – Railway Earnings," submitted for the same year (1900), establishes that the then-current successor of the original street rail company still directly supported and funded this leisure facility, for it contains a line item expenditure for "Maintenance – Park," amounting to a year-end total of $45.08.[25] The image that Hajos composed through his lens appears to look out over the uppermost pond, near the southern end of the park, which is, in fact, surrounded and shaded by scatterings of tall trees. Likewise, peaceful walks through this serene environment do, indeed, seem to be encouraged by what look to be well-defined, well-worn walkways.[26]

Through their offer of funding for the project, the Athens Park and Improvement Company succeeded in enabling the electrification of Athens' street railways, as well as in triggering the first major expansion of the area of service. The company got what it wanted out of the deal, by being able to trumpet the allure of modern, electrified street rail service between downtown and its new residential developments between Prince Avenue and Boulevard. But, even its guaranteed contributions over four years were not enough to sustain the financial health of the Athens Railway Company, at least under the ownership and management of Mr. Harris and Mr. Voss; it was forced into declaring bankruptcy in 1893.

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[25] "General Statement – Railway Earnings," *Athens Electric Railway Co.* Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[26] Hajos, "Electric Railway Views."

Nevertheless, streetcar operations continued unabated - under receiver George A. Mell and his appointed superintendent, T.P. Hunnicutt - until June 1894, when a group of influential Athens citizens bought the venture. The group of new owners consisted of James Y. Carithers, Albin Pasteur (A.P.) Dearing, Cameron Douglas (C.D.) Flanigen, John A. Hunnicutt, and William S. Holman (who later built the Holman Hotel / C & S Bank building, which now houses the Bank of America, on the SE corner of Clayton and Lumpkin).[27] Dr. J.A. Hunnicutt soon sold his interest to William T. Bryan.[28] Mr. Bryan assumed the role of the company's Secretary / Treasurer, while Mr. Carithers became President, Mr. Holman the Vice-President, and Mr. Flanigen took over the duties of General Manager, a role he would essentially maintain, either in name or effect, throughout the rest of Athens' streetcar history.[29] These new directors changed the name of the streetcar company a third time on June 15, 1895, for it again received a new charter, this time emphasizing its modern power source through their choice of its new moniker, the Athens Electric Railway Company.[30]

This name was appropriate, for the company began to provide not only the electricity for its own streetcar service, but also for any resident or business in Athens that wanted to make use of the many new electrical devices available, primarily the new incandescent lights. These new commitments quickly outstripped the capacity of the original steam-power station, north of Boulevard, so the company built a new dam and hydroelectric plant at Mitchell's Bridge on the Middle Oconee River, in 1896. This new plant assumed power generation for the streetcars in October 1896,[31] and, soon after, Brumby's Drug Store (then at 114 College Avenue) became the

[27] Doster, 132.
[28] Rowe, ed., 102.
[29] "General Statement," *Athens Electric Railway Company of Athens*, Georgia, 2 January, 1901. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.
[30] Doster, 132.
[31] Rowe, ed., 102.

first business in Athens to boast electric lights, which were turned on December 12, 1896.[32] Within a short time, the City of Athens contracted the company to provide electricity for a new system of streetlights.[33] To keep up with the growing demand, an additional generating turbine was installed in 1898 at the Mitchell Bridge plant, but even this improvement could not preclude the need to construct an additional hydroelectric plant only two years later, upstream at Tallassee Shoals.[34]

The extent of Athens' streetcar service at the turn of the century is carefully detailed in a 1903 publication of the U.S. Census Office, entitled *Street and Electric Railways in the United States, 1902*. At a time when there were 747 electric railway companies operating 21,920 miles of track throughout the nation,[35] the Athens Electric Railway Company owned and utilized a total of 6.53 miles of single track between January and December, 1901.[36] Having issued $75,000 of its "authorized" $100,000 of common stock, it constituted one of the ten companies listed as being involved in street railway operations in Georgia in 1901 and 1902. Of these companies, Athens' extent of trackage was almost identical to Rome's 6.28 miles of single track. In terms of total mileage, these two comparably-sized cities significantly trailed the much larger Georgia cities of Atlanta, Augusta, Columbus, Macon, and Savannah, but exceeded the tiny one or two-mile systems in Covington/Oxford, Valdosta, and Washington.[37]

According to the report, 0.03 mile of Athens' track was employed as sidings or turnouts, and ¾ of a mile had been added to the previous 5.75 total miles within the last year.[38] Given the report's broad, national scope and spreadsheet format, it does not specify which section was

[32] Doster, 132.
[33] Ibid.
[34] Rowe, ed., 102.
[35] United States Census Office, *Street and Electric Railways* (Washington, D.C.: Government Printing Office, 1903), 5.
[36] Ibid, 38.
[37] Ibid.
[38] Ibid, 76.

"newly constructed and opened for operation." But, it does impart that the Athens streetcars rolled along "T-girder" rails, weighing between 40 and 75 pounds per yard. Further, it relates that the overhead span wires, which supplied the electric current to the trollers, were supported by wooden poles, with approximately 40 poles to the mile, presumably distributed evenly along either side of a street.[39] The wires carried the motive potential of the 1050 horsepower generated by the four water-powered turbines at the Mitchell Bridge and Tallasee Shoals plants.[40]

Even though Athens' streetcars were now powered by this electricity, the downtown loop, as presented on the 1893 and 1895 maps of the City of Athens, retained the basic route alignment that was previously devised for the benefit of the mule teams. From Prince Avenue, the tracks turned south onto Pulaski Street for one block, and then turned left, or northeast, onto Hancock Avenue. After traveling up Hancock for a stretch, the streetcars had two opportunities to turn right, or south, depending, ultimately, on whether they intended to approach Broad Street from its east or west end. A segment of track forked off from Hancock onto Lumpkin Street, while another continued on up Hancock to its highest elevation, at the intersection with College Avenue. The Lumpkin Street path traveled south two blocks, and turned left onto Clayton. It ventured east the entire block, and turned south on College Avenue, in order to make a short dogleg onto Broad Street.

The other, eastern half of the downtown loop traversed the one block of College Avenue between Hancock and Washington streets, but then turned left onto to Washington, and headed downhill to Thomas Street, where it turned south. After two blocks on Thomas Street, the streetcars wheeled onto Broad Street, for the two block westward run to close the loop, in front of the University Arch.

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[39] Ibid, 77.
[40] Ibid, 128.

As stated before, the rationale behind the alignment of this downtown loop seems to have emanated from the physical limitations of the Classic City Street Railway's original mule teams. Although downtown's streets have been paved after the introduction of streetcars, they have not been subjected to any significant changes in their naturally-derived vertical alignments. Therefore, one can still carefully examine the route and come to a sympathetic understanding of the layout chosen, and the logic behind the utilization of each specific street and each particular block. For instance, the one block of College Avenue between Washington and Hancock constitutes a level plateau at the highest point in downtown Athens; it is also likely the most level section of street in the downtown commercial district. The one block segment of College between Broad Street and Clayton Street is nearly as flat. It is no coincidence that both of these sections of College Street were employed by Athens' streetcars, but the one block between Clayton and Washington, which rises steeply uphill as it approaches the plateau to the north, was omitted. In 1891, electric streetcars were still in their earliest infancy and as primitive as they would ever be. Thus, even though the power of electric motors might be less stubborn and generally more reliable than that of a mule or team of mules, the streetcar motorman still had the same basis for concern as did the previous mule drivers, in regard to his car's ability to climb a gradient.

When, in May, 1887, Frank Sprague's company signed its contract with the city of Richmond, Virginia, thereby agreeing to install an electrically-powered street railway system, the terms stipulated that the new streetcars must routinely be able to "negotiate grades of up to 8%."[41] At face value, 8% might not sound like an impressive figure, but, whether it is a horsecar or an electric trolley, a streetcar's climbing ability hinges on two crucial factors: power-to-weight ratio, and available traction. Problematically, these two contributing factors are inversely

[41] Rowsome, 84.

proportional, for an ideal power-to-weight ratio, which could be most easily achieved through a light car with surplus horsepower, is inherently detrimental to achieving sufficient traction. Because steel rails are very hard and smooth, the steel wheels of a streetcar produce very little friction when rolling along them. At the same time, and for the same reason, they also produce little inherent traction, unlike a treaded rubber tire rolling over asphalt. Consequently, most of the traction available to rail-based vehicles is a function of the vehicle's own mass, or, in conjunction with gravity, its weight. This weight acts as a downward force, pushing the vehicle against the stable, unyielding rails. Therefore, the heavier the vehicle, the more traction will be derived, at least on a level surface, where all of its weight is being directed straight down to the tracks beneath. If the rails over which the vehicle rolls begin to climb a gradient, then some of the downward force of this weight starts to be redirected. Instead of one downward vector, the energy is divided between two tangents, one at an angle perpendicular to the rails, and one to the rear, along the length of the rails. If the incline ever becomes steep enough that the balance between these two tangents is shifted, and the majority of the vehicle's weight is directed rearward along the slope of the tracks, the vehicle will lose traction and begin to slip backwards from whence it came.

Similarly, the section of Lumpkin between Clayton and Hancock is relatively level, as is that part of Broad Street between Thomas and College. The two blocks of Thomas Street between Washington Street and Broad slope downhill to the south, but this decline is relatively gentle (approximately 3 to 4 % at the intersection with Clayton Street). The other two most challenging grades used by the streetcars within the downtown commercial district are the two east-west stretches along Hancock Avenue and Washington Street. However, as bicyclists peddling eastward up the block between Lumpkin Street and College Avenue during Athens'

annual Twilight Criterium race can attest, Washington Street's gradient is steeper and more sustained on this west side of the crest than it is along those two blocks between College and Thomas Street that were included in the loop. The meandering route of the streetcar tracks through downtown likely contributed to the preservation of the mules' strength and physical well-being, but also had the fortuitous side effect of coming within one block of virtually every business within the compact commercial district of the time. The only part of the small downtown that was not initially served was the eastern section of the Lickskillet area (in the northeast quadrant where Jackson and Thomas streets crossed Dougherty and Strong streets). Even so, one would only have had to walk a maximum of two or three blocks to catch a streetcar.

In order to physically board the appropriate streetcar, one would have to walk out into the street, for period photographs and postcards, as well as Captain J.W. Barnett's plan views of downtown thoroughfares, show that - in almost all areas - the streetcars rolled along rails that were laid right down the center of the street. Although the local businessman and industrialist, John R. White of Whitehall, drove the first known automobile in Athens as early as 1899,[42] these new contraptions retained their status as novelties for the wealthy through the first decade and a half or so of the use of electric streetcars, and then didn't appear in any significant numbers until the 1910s. Walking out into the middle of the street was not very dangerous when Athens' street railway tracks were laid down, for the other traffic sharing the public right-of-way was generally slow moving, consisting of pedestrians, horses and their riders, and horses or other hoofed beasts of burden pulling buggies, coaches, and wagons. Nevertheless, the safety of other street occupants, as well as boarding passengers, was prominent in the minds of the company management, as is expressed in directives that the Athens Electric Railway Company circulated

[42] James K. Reap, *Athens – A Pictorial History: 1801-2001* (Virginia Beach, Virginia, The Downing Company Publishers, 2001), 104.

to its employees, and specifically, its motormen and conductors. In one notice, attributed to "C.D. Flanigen, General Manager," he sternly states:

> The attention of motormen is called to the instructions requiring the ringing of the gong on approaching all street intersections. Also to [the] rule requiring the motormen to ring the signal bell when [a] passenger boards the car by the front platform. These instructions are important and must not be overlooked.[43]

The tone of this statement, and the fact that he cites already extant instructions and rules, implies that this reminder might have been prompted by reports of failures in following the existing standards, or even by an accident. The original "instructions" are indeed explicit in detailing the precautions to be followed by the company's streetcar operators, in an overt, conscientious effort to assure smooth and incident free progress along the street rail circuits:

> They [motormen] must not talk to passengers beyond a polite reply to a question or allow passengers to talk to them as they will have all they can do if they properly operate the car and look out for passengers and the dangers of the street. The gong must be used at all crossings and on approaching all vehicles on the street. On approaching wagons and pedestrians [the] motorman must take it for granted, until safely by, that they will cross in front of the car…. It will not do to take it for granted that they won't cross or ought not to cross or ought to hear the gong. Every precaution must be taken to avoid accident.[44]

Despite the present, oft-repeated sentiment that our society has become extraordinarily litigious, these decrees illustrate that streetcar companies, including Athens' own, were gravely concerned with the potential for lawsuits over accidents, both real and feigned, even in the early years of the 20th century. In fact, the threat was considered significant enough that the American Street Railway Association published a guidebook of safety rules in 1903, "evidently prompted by the growing national tendency to sue streetcar companies…."[45]

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[43] C.D. Flanigen, *Athens Electric Railway Company*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[44] "The attention of Employees is called to the following:" *Athens Electric Railway Co.* Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[45] Rowsome, 113.

The same aforementioned period photographs and postcards, from the first fifteen years of streetcar operations, show that the rails were sunk right into the variously paved or unpaved street surfaces, with only the two rails plainly visible. Only one of the photographs yet discovered displays a section of the streetcar rails that is clearly underpinned by raised rail ties. This length of track, at the western end of Prince Avenue, passed in front of the State Normal School, just before turning right (or northeast) to connect with Boulevard. The photograph is taken from across Prince Avenue, and focuses on two campus buildings, Bradwell Hall (the main dormitory) and the Old Auditorium (later used as the chapel). Bradwell Hall was built in 1896, and the Old Auditorium in 1898, so the image certainly dates from after 1898.[46] The streetcar tracks through this area were raised slightly on a purpose-built bed and traveled along the west side of the road.[47] A small loading platform with two benches stands directly adjacent to the rails, covered by a small but ornate pyramidal roof, which is supported by four wooden posts. This wait shelter became known (either derisively or affectionately, depending on perspective) as the "Buzzard's Roost," because the Normal School required its female students to wear long, ankle length black skirts as a part of their uniforms.[48] Another, complementary image, taken from a vantage point only a half-block to the northwest, at some time after the 1904 construction of the pictured James Monroe Smith Hall, shows the short link section of track between Boulevard and Prince Avenue.[49] In this postcard view, the streetcar rails are once again depicted running down the center of the street, as was the overall norm. The discrepancy between the two images highlights the fact that the instance of the tracks running along the south side of Prince in

[46] Doster, 101-102.
[47] City of Athens, 7.
[48] Doster, 106.
[49] Ibid, 104.

front of the Normal School was an alignment anomaly, one which was perhaps instituted for the benefit of the school's female student body, in a bid to increase convenience and safety.

The latter image also brings to light another discrepancy, for it clearly displays the tracks running down the center of the street, as they approach the Normal School's Winnie Davis Memorial Hall head-on, and then turn southeast onto Prince Avenue.[50] The incongruity arises from the fact that this photograph contradicts the earlier maps of Athens from the 1890s, specifically those of Charles Strahan and the Athens Park and Improvement Company, which both denote use of the short, two-block length of Boulevard Heights as the link between Prince Avenue and the Boulevard. However, Winnie Davis Memorial Hall, which was completed in 1903, still stands at the southwestern end of Buena Vista, not Boulevard Heights.[51] The only map to be located that unequivocally corroborates the clear evidence of this photograph is a map of Athens made by Athens' citizen Frank O. Miller, during the 1920s.[52] Another early 20th century map, the undated and unattributed *Map of Athens, Georgia*, seems to suggest that the route of this short connector link may have moved or changed.[53] On this particular map, the dashed-line marking the alignment of the streetcar route is oddly interrupted at the intersection of Boulevard and Buena Vista, and even more curiously, progresses no farther. No continuation of the route is indicated on either Buena Vista or Boulevard Heights. But, a faint trace of the dashed-line appears to remain, as if it were intentionally smeared or erased. If, in fact, its remnants exist, this faint ghost line extends on past the right-hand kink at the intersection of Boulevard and Buena Vista, and continues westbound for the short distance to Boulevard

[50] Ibid, 97.
[51] Ibid, 103.
[52] Frank O. Miller, *Map of Athens, Georgia*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.
[53] *Map of Athens, Georgia*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

Heights. If the route alignment were at some point transferred one block east, it seems plausible that this might have been done to avoid the same kink and the following tight, ninety-degree turn onto the narrow Boulevard Heights. Instead, veering left (or southwest) sooner, onto Buena Vista, would have allowed the streetcars to negotiate a much gentler, open curve from Boulevard, or vice versa.

According to currently available evidence, another significant track anomaly recognized within the alignments of the original route and Boulevard extension appears to have been a direct result of the integration of this extension to Normaltown and back. Various photographs and postcards indicate that the rails generally ran down the middle of Prince Avenue, with the aforementioned exception in front of the State Normal School. However, as the line to Normaltown was a loop that went outbound on Prince but returned via Boulevard and Barber, a junction was required at the intersection of Prince Avenue with Barber Street, in order for the streetcars to re-enter the main downtown loop. Because of the loop layout, some cars would be heading outbound on Prince, between Pulaski Street and Barber Street, while others might be coming inbound to downtown, either on Prince itself, or turning off of Barber. The busy character of this short section of Prince would have been compounded by the wye intersection of the Milledge Avenue line, an original main line which now branched off Prince Avenue onto Hill Street, adjacent to the triangular Fire House No.2. Hence, three separate lines all merged back into the Prince Avenue trunk line within the space of the few blocks between Pulaski and Hill. Clearly, this created the likelihood of situations where two or more cars might be approaching each other from opposite directions.

In an apparent effort to resolve this potential for traffic jams, a passing siding was installed along Prince Avenue, within the first block immediately east of the intersection with

Barber Street. A turn of the century postcard illustrates the siding, and the short distance of 50 or so feet separating it from those tracks angling off the mainline onto Barber Street.[54] More specifically, the image reveals that this passing zone really consisted of two sidings, which were split to the north and south sides of the street. There is no clear delineation of a main line and a lay-by; instead, the main track deviates equally to the left and right (in a pattern resembling a stretched diamond or lozenge) and then reconvenes farther east, before reaching the turn onto Pulaski Street. Although this particular view shows a trolley headed west on Prince, positioned near the curb on the north side of the street (with the motorman visible in the right front window) it does not reliably represent how the streetcars negotiated this section of split tracks, other than to imply that westbound trolleys took the north fork and eastbound cars used the south branch. If accurate, such a system would thereby adhere to the same general rules of traffic that are still in place today.

A set of plan sheets by J.W. Barnett, conceived and labeled as the "Proposed Plan for Re-paving and Double Tracking Prince Ave., Athens," prove that a more extensive system of passing sidings in this area of Prince Avenue was later considered.[55] These sheets exhibit the proposed details of a paired set of parallel tracks, spanning the distance between the avenue's intersections with Pulaski Street (in the east) and Hill Street (at the western end). The drawings show that the double-tracks were set to reconvene, and revert to a single line, at a point beside the eastern, acutely-angled end of the Fire Hall. Furthermore, they diagram that two separate switching tracks were to be inserted, with one to either side of Prince Avenue's intersection with Barber Street. The eastern switch would allow those cars returning inbound by way of Barber Street to reach the southern pair of eastbound rails on Prince. In order to complete the switch,

[54] Doster, 111.

[55] J.W. Barnett, City Engineer, *Proposed Plan for Re-paving and Double Tracking Prince Ave., Athens.* Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

they would have to briefly venture the wrong way along the northern, westbound tracks, for a distance of approximately 50 feet. The reverse was true to the west of Barber Street, for outbound trolleys aiming for access to the Hill Street / Milledge Avenue line, would need to make a brief run along a section of the southern, inbound tracks on Prince Avenue. In both situations, safe progress would have relied on the motorman waiting to allow any oncoming streetcars with the proper, controlling right-of-way to pass. But, such orderly traffic management would have eliminated the need for a more complicated system of full crossings. Whether this "Proposed Plan" ever progressed from consideration to implementation is unknown, as no images have yet been located that illustrate the use of full double-tracking in this area, or anywhere else in Athens.

A third divergence from the standard practice of placing the rails in the center of the street occurred along the one block section of College Avenue between Hancock Avenue and Washington Street. This deviation resulted from the introduction of a linear grassed median, complete with granite curbing, sometime between 1893 and 1896.[56] This median was split into two segments by the Washington Street intersection, but, in total, spanned the distance between Hancock Avenue and Clayton Street. Although not sited within the median itself, the Confederate Monument, which was dedicated in June 1872, resided in the geographic center of this two block median.[57] It stood in the middle of the intersection of College Avenue and Washington Street until October 1912, when it was moved to its current location in the median of Broad Street, in front of the University of Georgia's arch. Beginning in 1903, Athens' famous "Double-Barreled Cannon" also sat in the actual grassy center of this median, aiming north from its new 'field artillery' position between its two new neighboring institutional buildings, the 1903

[56] Doster, 39-41.
[57] Ibid, 43.

City Hall and 1904 Federal Building/U.S. Post Office.[58] The streetcar rails had occupied the middle of this section of street since the initiation of service in 1885, so planning for installation of this new median forced a change of the original alignment. Captain J.W. Barnett's undated map of the planned relocation illustrates that before this project, the tracks followed a slightly skewed or diagonal alignment; they shifted from the west side of the center of the street (at the corner with Hancock) over to the east side (at the corner with Washington), in order to facilitate the streetcars' negotiation of the turns[59]. The planned placement of the median forced the streetcar company, with the assistance of Captain Barnett, to pick a side for its displaced rails; it chose to place the rails right along the west side of the median, a foot or two from its granite curbing. At the intersection with Washington Street, the tracks then turned from the west side of College Avenue through the northeast quadrant of the intersection, thus proceeding north of the Confederate monument.

When J.W. Barnett drew his city map, in 1895, the Athens Railway Company's streetcars rolled south along Milledge Avenue to its intersection with Baxter Street, where they simply reversed course, and headed back toward Prince Avenue along the very same rails they had just traversed. However, by the time that William Tate first arrived in Athens, in September of 1920, the Milledge Avenue branch line had been extended to Five Points, and converted to a full loop by way of new tracks on Lumpkin Street.[60] After later retiring from his twenty-five years of service as the Dean of Men at the University of Georgia, he explained the layouts of Athens' various streetcar routes in his 1975 reminiscence about the geography of Athens during his undergraduate years, *Strolls Around Athens*. In it, he recounts:

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[58] Ibid, 42.

[59] J.W. Barnett, City Engineer, untitled and undated map of College Avenue between Hancock Avenue and Clayton Street. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[60] William Tate, *Strolls Around Athens* (Athens, Georgia: The Observer Press, 1975), 2.

> Broad and College were laid off wide in 1800, to hitch horses, long before Ford brought the auto into American life…. A half block up [College Avenue], on the right, the street cars waited. As I remember (and students often rode as an amusement), one circuit did Prince, Hill, Milledge to Five Points, and back along Lumpkin to this point; another circuit all the way back out Prince to the State Normal School, then along Boulevard and Barber back to town; and another down Hoyt Street to the Seaboard depot.[61]

Elsewhere in his narrative recollection, Dean Tate more fully details the two "circuits" that were additions to those that C.M. Strahan and J.W. Barnett depicted during the mid-1890s. In fact, he relates that he might have begun his experiences of Athens aboard one of its streetcars, but for the fact that he was a freshman, and therefore subject to hazing and intimidation by upperclassmen.

Like many other students of his era, William Tate first traveled to Athens, to begin his scholastic efforts there, by way of a train. Because his home was in Fairmount, in northwest Georgia's Gordon County, he rode a Louisville and Nashville (L & N) train south into Atlanta, where he switched lines, arriving in Athens aboard one of the Seaboard Air Line (SAL) Railway's "day cars" from Atlanta.[62] The Athens Electric Railway Company offered him the convenient option of transferring to the street railway for a ride into town, for it had, by this time, extended a branch line out to the SAL passenger station, which was situated at the junction of the SAL railbed and North College Avenue (and is still extant); along its way out or back, their streetcar could also collect passengers from the nearby Southern Railway station, which was only a couple of blocks to the southwest. The previously referenced information from the U.S. Census Office's *Street and Electric Railways in the United States, 1902,* indicates that this new

[61] Tate, 12.

[62] Tate, 1.

line was almost certainly installed during 1901, and constituted the additional ¾ of a mile of track that was responsible for the expansion of Athens' total from 5.75 miles to 6.53 miles.[63]

This route (called the "depot line" in one of C.D. Flanigen's issued directives) was primarily installed for the purpose of transporting arriving or departing train passengers between downtown and the depot, in the same way that Atlanta's MARTA trains today service Hartsfield-Jackson International Airport. Dean Tate was not allowed to ride the waiting trolley that particular day, though, as he "was scared off the crowded vehicle by yells, 'Freshmen can't ride' – and I didn't argue."[64] He eventually rode it at some point thereafter or, at least, carefully watched it pass, for he divulges that it "wandered back and forth along the flat levels, not climbing up College Avenue and its hills."[65]

With this statement, Dean Tate confirms that, even with the switch to electric power, steep gradients were still an impediment to reliable streetcar operation, and so were one of the primary technical considerations addressed in plotting new street railway alignments. Although the SAL's passenger depot stood on the northwest corner of Ware Street's intersection with College Avenue, which stretches due north from downtown, the streetcar utilized the Hoyt Street corridor, which runs perpendicular to College, along an east-west alignment. As Dean Tate remarks, "[railroad] tracks always run in valleys," and this was borne out in Athens, for the Seaboard Air Line progressed through land that was at a much lower elevation than downtown's hilltop locale.[66] The streetcars thus approached the Seaboard station indirectly, by a roundabout detour to the east, in order to avoid the steep slope of College Avenue as it approaches Dougherty Street and downtown. An early 20th century *Map of Athens, Georgia* provides the

[63] U.S. Census Office, 76.
[64] Tate, 2.
[65] Ibid.
[66] Ibid.

specifics of the alignment, and affirms that this branch predated the laying of the Lumpkin Street loop to Five Points, which is not depicted.[67] Although the map is undated, it was definitely produced between 1904 and 1908, since it marks and references both the "New Federal Building," built in 1904, and the adjacent "Public School," which stood on the northwest corner of Washington and Jackson streets until 1908, when it was demolished to make way for the construction of the Georgian Hotel.[68] Moreover, J.W. Barnett, the city engineer, adapted this same map to track the "locations of pavements" in the city; after completing his hand-shaded amendments, he applied the date - 1905 - beside his name.[69] This circa 1905 map shows that a trolley would turn off the main downtown loop onto Jackson Street, at a new junction on Washington Street. This streetcar would continue north all the way up Jackson until it reached its tee-intersection with Hoyt Street. There, at the foot of the Ware-Lyndon House (293 Hoyt Street), it would turn left, or west, and run along Hoyt, crossing through its intersection with College Avenue, and finally turning right (or north) onto Lumpkin Street, for the final, one block stretch to the Seaboard depot.

By the time William Tate arrived in Athens to begin his collegiate experience, the technology and reliability of electric streetcars had progressed enough for the Athens Electric Railway Company to attack and conquer another of the city's difficult gradients head on, that of the Tanyard Creek valley at the bottom of Lumpkin Street, where it intersects Baxter Street. He remembers that, during his time as a student, from 1920 to 1924, "the woods to Tanyard Branch were 'just woods,' except that a street railroad ran along the east side of Lumpkin from Five

[67] *Map of Athens, Georgia*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[68] Doster, 92.

[69] *Map of the City of Athens, Showing Location of Pavements: Vitrified Brick, Belgian Block, Macadam*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

Points up the hill, and turned east on Broad to park in the first block of College."[70] This was the result of track development in 1910, which converted the city's Milledge Avenue streetcar service from its original format as a reversible branch line, heading out from and back to Hill Street, to a full circular belt-route in the same vein as the Normaltown-Boulevard loop.[71] The upgrade of this branch extended the Milledge Avenue tracks farther south from their original dead-end at the Baxter Street intersection, all the way to the five-way intersection with Lumpkin Street and Milledge Circle, which has traditionally been known as Five Points. Yet, this sobriquet didn't apply or originate until the time of the extension, because the installation of Milledge Circle, and the residential neighborhood around it, was triggered by the new access to streetcar travel, just as the Boulevard development was previously, in the early 1890s.

At Five Points, the trolley tracks turned off Milledge onto Lumpkin Street, in order to provide transportation along the length of the University of Georgia's north and south campuses, and to link the Five Points district directly with downtown Athens. Except for the relatively level stretch nearest the Five Points intersection with Milledge Avenue, the majority of the Lumpkin Street corridor was, and still is, a challenge for pedestrians and vehicles alike, for it consists of two steep grades rising out and away from the bed of Tanyard Creek (approximately 5 to 6 % at the intersection with Cedar Street). Even today, most cars and trucks have to drop into their lower gears to ascend these long, sustained climbs to both the north and south, even with the traction advantage of riding on grippy, treaded rubber tires. Rolling on its smooth steel wheels, an early 20th century streetcar's ability to climb these hills on Lumpkin Street approached the limits of the fine balance of available traction, one which did not leave much

[70] Tate, 48.

[71] David Charles Cullison, Jr., *J.W. Barnett: The Influence of the Architect and City Engineer on the Physical Development of Athens, Georgia, 1889-1930* (Athens, Georgia: MHP Graduate Thesis, University of Georgia, 1995), 17.

margin for a change in the ratio of forward thrust and momentum versus the rearward (and thus downward) influence of gravity. The University's rambunctious and mischievous students apparently recognized the tenuousness of this balance and often exploited it in pursuit of laughs, by introducing a foreign lubricant to alter the traction threshold. In his memoirs, Dean Tate divulges a story about his fellow students, which presumably did not involve himself, as any association would not lend credibility to a future Dean of Men, tasked with maintaining student discipline:

> For a quarter, students would buy six bars of Octagon soap and grease the track up Lumpkin hill. Then they would stand back to watch the spinning wheels, listen to the cussing motorman, and have the excitement of fire engines coming to wash away that vile, yellow, slippery soap.[72]

After being subjected to this prank, one could imagine that the motorman and passengers on the streetcar might have wished that the old Milledge branch line, with its flat terrain, was never extended onto Lumpkin Street. On the surface, these antics were harmless enough, as it seems that nobody got hurt, but disruptions of this sort must have played havoc with the street railway's route schedules.

Dean Tate also clearly and specifically remembers that the Lumpkin Street tracks were laid along the east side of the street; this is borne out by the siting of Lumpkin Street's historic shelter for waiting streetcar riders. This is the only original shelter that still remains standing in Athens. It is identical in size and appearance to the one pictured in front of the State Normal School, along another stretch of tracks that seems to have deviated from the usual course of the rails, which was down the middle of streets. Roofed with pressed-metal shingles, it is located adjacent to the east side of Lumpkin Street, within the northeastern corner of its intersection with Cedar Street. As with the Prince Avenue route in front of the Normal School, the streetcar route

[72] Tate, 2.

along Lumpkin Street was undoubtedly used, with great frequency, by students from the University of Georgia. The high concentration of their ridership in the area might explain the unusual placement of the rails in this corridor, since the great majority of the campus was bounded by the easternmost lane of Lumpkin Street.

As reported in an aforementioned quote, Dean Tate also recounts that the streetcars turned right when they reached the intersection of Lumpkin with Broad Street, and traveled one block to the east, before turning left (or north) to "park in the first block of College."[73] Although it is not clear or specific, his statement suggests that a siding once existed in the southernmost block of College Avenue (between Broad and Clayton streets) as a place for streetcars to pause after completing a circuit. Yet, none of the many reviewed period photographs and postcards that portray the streetcars and or rails in this one block section show any tracks other than the main line down the center of the street. Likewise, none have been located that depict any rails running along Broad Street between Lumpkin Street and College Avenue.

On the other hand, some of these photographs and postcards do decisively establish that a section of the newly-laid Lumpkin Street track eventually extended across Broad Street and north to the intersection with Clayton Street; here, it tied into the street's already existing trackage, which had linked Clayton Street and Hancock Avenue since the earliest origins of Athens' streetcars. The existence of this junction at Lumpkin and Clayton, and the absence of a junction at Lumpkin and Broad, is positively confirmed by two maps made of the city's transportation corridors during the 1920s: the *City of Athens, Georgia Park, Trail, & Trafficway Study*, created in December, 1924 by the landscape design and regional planning firm of Warren H. Manning, of Cambridge, Massachusetts, and a map of the streets and streetcar lines of Athens,

[73] Tate, 48.

produced by local resident Frank O. Miller.[74] Mr. Miller worked out of an office on the second floor of the Holman Building, and though his effort does not include a date of origin, the most recent significant buildings that it locates and identifies are the Athens General Hospital and the First Baptist Church at Hancock and Pulaski, which were both completed in 1921.[75]

A postcard, made from an image taken soon after the completion of the nine-story Holman Building in 1913, only hints that the merge at Clayton Street was also the place where the rails shifted from the east side of Lumpkin Street back to the traditional center. However, its illustration of the tracks, as they pass by the western side of Athens' second skyscraper, certainly depicts them as coming close to the east curbing.[76] Regardless of the veracity of its rail placement, or whether this card merely presents an optical illusion, the direct connection that it portrays – that between the Milledge-Lumpkin circuit and the western end of the downtown loop - would have allowed streetcars to bypass downtown almost entirely, if so desired. They could thereby head straight on to Hancock Avenue, in order to expeditiously begin another round trip out Pulaski Street, Prince Avenue, and Hill Street, to Milledge Avenue. Or, from sometime between 1910 and 1924, they could continue on north along Lumpkin Street all the way to Dougherty Street, and then turn west on Dougherty for a short run down the hill, whereby they would reconnect with the long-established tracks at the intersection of Prince and Pulaski. No information has yet been discovered that provides either a specific date of construction for this short detour, or a reason for its installation. Due to the steep slope of Dougherty Street as its ascends from the gulch at Pulaski Street up to the crest at Lumpkin Street, this short section posed the same great engineering challenge for streetcar use as the Lumpkin Hill out of the

[74] Frank O. Miller, *Map of Athens, Georgia*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.
[75] Doster, 78; Reap, 145.
[76] Doster, 54.

Tanyard Creek valley (approximately 6 %). J.W. Barnett himself illustrated the dramatic change in elevation on a cross-sectional diagram, hand-drawn on ruled paper on October 1, 1897. It shows that, over a distance of 800 feet, the natural terrain rose up from a low point of 144 feet to a high point of 194 feet at the "Rock," as he calls the crest of this north/south ridge along Lumpkin Street.[77] No representative photographs have been found of trolleys negotiating this test, but both 1920s maps, by Manning and Miller, unmistakably plot the course of this addition to Athens' streetcar lines.

The ability to skirt downtown was not likely the sole intent or use of the one block Lumpkin Street connector between Broad Street and Clayton Street, nor of the Lumpkin St. / Dougherty St. bypass. Instead, their most important contributions could probably be attributed to the increased route flexibility that they offered, for these new 'shortcuts' opened up several different new possibilities for combinations of routes. A couple of photographs from the 1920s and 1930s, facing east down Clayton Street from its intersection with Lumpkin Street, highlight the fact that this was not just a branch split, where southbound cars on Lumpkin could either turn east onto Clayton, or continue south past Broad. Instead, the junction offered a three-way wye, so that trolleys headed west on Clayton Street could turn either north or south on Lumpkin Street.[78]

Of course, the layout of this wye also discloses that the Athens' streetcar system adhered to no constant directional course, even though none of its circuits provided sustained double-track layouts. This supposition is confirmed by many photographs and postcards, in which two or more alternate images sometimes exhibit Athens' streetcars moving in opposite directions over the same section of track. This can be easily deduced by the buildings in the backgrounds,

[77] Captain J.W. Barnett, City Engineer of Athens, Georgia, "Dougherty Street – Oct. 1st, 1897." Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[78] Doster, 56.

and the fact that the tilts of the trolley poles impart the intended directions of advancement (as if swept back by the speed of the streetcars, the poles always point opposite of the forward motion). William Tate's description of the three 'circuits' - as he called them - is telling, for the precise order in which he details the succession of various turns and stops implies that, at least during his time in Athens in the 1920s, a typical route schedule had been developed, which could be considered the norm:

> One circuit did Prince, Hill, Milledge to Five Points, and back along Lumpkin to this point [at the intersection of Broad Street and College Avenue]; another circuit all the way back out Prince to the State Normal School, then along Boulevard and Barber back to town; and another down Hoyt Street to the Seaboard depot.[79]

Nevertheless, a number of unaltered photographs unerringly prove that this was not always the way that the streetcars progressed along these circuits. What event, circumstances, or conditions might cause or initiate a change in course has not been determined. But, anecdotal evidence divulges that the course of travel about the circuits may have, at times, been left to the discretion of the motormen or conductors. Juanita Autry, daughter of Mr. Cicero Williams, one of Athens' most well-known and longest serving conductors, declared, in a 2000 interview, "I don't think he even had a route or schedule. He just took people where they needed to go, when they needed to go."[80]

Regardless of which way they circumnavigated the route courses, Athens' electric-powered streetcars returned daily to a car barn near the northwestern end of the Prince Avenue-Boulevard circuit, throughout the duration of the city's service, from 1891 to 1930. Yet, during this forty-year span, there was actually a succession of two separate streetcar sheds in two separate locations, although both existed within a close geographic proximity. As marked and noted on the March 1903 Sanborn Company Fire Insurance Map of Athens, the first "Athens

[79] Tate, 12.
[80] "Streetcar Conductor Was Known for Good Works," *Athens Daily News/Banner-Herald*, 1 January 2000.

Electric Railway Car Barn" was a narrow, rectangular building constructed a short distance west of Prince Avenue, and a short distance south of Mitchell Bridge Road, as it was called at the time. Sheet 5 of the 1903 map set notates that it contained "fire pails throughout," which was surely important to insurance companies, in light of the necessary presence of the new-fangled electricity.[81] As photographed by Albin Hajos in 1900, the "car shed" was a brick structure with a low-pitched, front-gabled roof, almost solid brick side-walls pierced only by four narrow, vertical slits, and three narrow entry bays in the gable end; each bay for parking streetcars could be protected from inclement weather by full-height, wooden double doors, comprised of vertical planks.[82]

Another photograph, of the front of the building, provides a glimpse of the giant trusses that supported the front gable roof, and allowed a relatively open floor space.[83] This image offers a head-on shot of four streetcars, parked side-by-side at the front of the car barn, with their assigned circuits prominently displayed on three of their signboards: "MILLEDGE AVE., PRINCE AVE. BELT, and BROAD ST." Three protrude slightly from their stalls, while the fourth sits on what appears to be an outdoor siding that runs along the east side wall.

Besides presenting the external appearance of the car shed, Hajos' image is perhaps just as significant for substantiating, in tandem with the Sanborn Map, that it stood just east of the State Normal School campus; the central front dormer gable of the school's Italianate, two-story Rock College/Gilmer Hall (the Women's Dormitory in 1903), dating from 1861, is plainly visible in the background, as is part of the 1896 Bradwell Hall (the Men's Dormitory in 1903).[84]

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[81] Sanborn Map Company Fire Insurance Map – Athens, Georgia, March 1903. Courtesy of Map Room, University of Georgia Libraries.

[82] Hajos, "Electric Railway Views."
[83] Reap, 78-79.
[84] Doster, 100-101.

Electric streetcars thus rolled off of Prince Avenue, via a turnout, into the northern end of the car barn, which was separated from the State Normal School only by Mitchell Bridge Road, before this section that tees into Prince Avenue assumed its later, present appellation - Oglethorpe Avenue. Sheet 5 depicts both the school buildings and the railway buildings, and their geographical relationships to each other. Prince Avenue turned to the north slightly at this intersection, as it does today, but all of the buildings, on either property, were keyed off of Mitchell Bridge Road, as they are positioned exactly perpendicular or parallel to it. The side walls of the car barn paralleled Mitchell Bridge Road, but the building was removed to the east by the width of approximately one lot, a lot which remained unoccupied in 1903. So, instead of residing at the corner (site of the current adaptive reuse of an historic gas station by Pizza Hut), the electric railway facility occupied that general area of ground that is now utilized by Normaltown's well-known Black Forest Bakery. The Sanborn map also denotes an "Electric Sub Station," which was situated next to and slightly northeast of the storage facility for electric cars. According to H.J. Rowe, this small building, standing very close to Prince Avenue, was set-up in 1900 to house a common switchboard, which merged the electric current from the Mitchell Bridge plant with that from the new Tallassee Shoals Power Station (No.2), and then distributed it throughout Athens.[85]

Although Athens' desirable location between two forks of the Oconee River enabled the ready production of cheap power, complete reliance on the water-generation of electricity left the ultimate level of production susceptible to the seasonal whims of nature, and specifically, to the onset of draught conditions. Lack of rainfall would lower the water level in the rivers, resulting in a reduction of pressure against the wheels, and a corresponding decrease in power output. In his *History of Athens & Clarke County, Georgia*, H.J. Rowe recounts that the area, and the State

[85] Rowe, ed., 102-103.

of Georgia as a whole, experienced record low water levels in 1904.[86] This experience must have caused some concerns about service, for, the following year, it prompted the construction of Station No. 3, the coal-fired, "Steam Turbine Auxiliary Plant at Athens," as the company's letterhead describes it. The coal for the "Athens Steam Plant" - as this facility was commonly called - had to be delivered by rail cars, so the new power station was built near Boulevard, along the south side of the Seaboard Air Line railroad, and directly across the tracks from the main buildings of the Southern Manufacturing Company. It was located at the west end of New Street, while Southern Manufacturing's Mill No.2 stood adjacent, immediately eastward.[87] In fact, as Rowe mentions, the new plant was placed at the same site of the Athens Railway Company's first "100 H.P. steam station," which originally powered Athens' earliest electric trolleys, before the development of the Mitchell Bridge Plant.[88] As the Steam Plant's equipment record for January 1927 divulges, its "spray pond" consisted of a "natural basin approximately 75' x 350' with average depth of 7 feet. [The] pond is supplied by a small spring fed stream which can be turned in or out at will."[89] The pertinent 1926 Sanborn map of the area reveals that not only was the new plant site redeveloped from that chosen fifteen years earlier, but its cooling pond was created by another damming of the same "spring fed stream" that was earlier impounded to supply water for the picturesque lakes of the "Electric Park," on the other side of Boulevard.

The "Electric Sub Station" on Prince Avenue was soon moved and integrated into the site of the new Station No. 3.[90] For uncertain reasons, but most likely due to a lack of sufficient

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[86] Ibid, 103.

[87] Sanborn Map Company Fire Insurance Map - Athens, Georgia, 1926, Map Sheet 25. Courtesy of Georgia Power Company Corporate Archives, Atlanta.

[88] Rowe, ed., 103.

[89] "Equipment Record," *Athens Railway & Electric Co.* (Athens, Georgia: 29 January, 1927). Courtesy of Georgia Power Company Corporate Archives, Atlanta.

[90] Rowe, ed., 103.

space, the original "car shed" facility on Prince, which was photographed by Hajos and included on the 1903 Sanborn map, was also replaced within a decade, at a location within the same block as the Athens Steam Plant. Hence, this new car barn site was adjacent to the Electric Park, but to the north, rather than south side of Boulevard, and between Hiawasee Avenue (to the east) and Satula Avenue (to the west). More specifically, it also stood a short distance west of the "spring fed" tributary that ran through the park and into Station No. 3's cooling pond; so, it could best be described as residing within the northeast corner of the intersection of Boulevard and Satula Avenue. Of the next iterations of Fire Insurance Maps of Athens that were produced by the Sanborn Company, three versions depict and refer to the Boulevard car storage facility. The first, published in December 1913, features an inset diagram at the bottom left corner of the sheet, with the remark, "Athens Railway & Electric Co. Car Barn – Located 1 Mile N.W. of City Hall."[91] The car barn is again present on the April 1918 and September 1926 Sanborn maps of the same area, and is referenced in identical fashion. Since these particular maps do not relegate the car barn to an inset map, they more accurately place it within a spatial context, revealing that the facility was set back from the Boulevard and canted slightly, meaning that it was not sited perpendicularly with Boulevard; instead, its ridge-beam was rotated a few degrees to a NW to SE alignment, and thus roughly paralleled the path of the branch. The barn is shown as inhabiting a space about where the east-west thoroughfare of Nantahala Avenue would intersect Satula Avenue, were its continuity not interrupted for a block by the electric company's infrastructure, as it still is today.[92]

The Athens Park and Improvement Company's original, 1890 map of their Boulevard property development references the two blocks bounded by Boulevard (to the south), Satula (to

[91] Sanborn Map Company Fire Insurance Map – Athens, Georgia, December 1913. Courtesy of Map Room, University of Georgia Libraries.

[92] Ibid, September 1926.

the west), Hiawassee (to the east) and the SAL railroad tracks (to the north) as block numbers 23 and 24 out of a total of 33 blocks that were subdivided further into individual parcels, and put up for sale.[93] Because these two blocks are divided into small lots like all the others, it appears that the venture originally envisioned these as areas for residential housing. As mentioned previously, the "Park," as it was tabbed on the map, was to be limited to that block between Boulevard and Prince Avenue, and in the middle of Park Avenue (to the west) and Hiawassee Avenue (to the east). However, it seems that this plan for residential development of the two blocks to the north of Boulevard and the park - 23 & 24 - never reached fruition, and the land, comprising a total of approximately 14 acres, was instead transferred to the streetcar and electric company.[94]

Notably, maps of Athens do not portray the break in the continuity of Nantahala Avenue until after the aforementioned circa 1905 *Map of Athens, Georgia*, thereby corroborating that the new trolley shed was erected later in this decade or early in the next. In light of the significant lengthening of Athens' streetcar service in 1910, by way of the introduction of the Five Points belt, it appears plausible and likely that the new, larger facility was prompted by the need to house a greater inventory of trolleys. Acquiring supplementary examples would have been the only way for the street railway to maintain reasonable headway schedules throughout the extensive additional total mileage of the system.

This new streetcar barn was built of poured concrete, but, instead of the nearly solid, uninterrupted side surfaces of the first "car shed," its walls were fenestrated by great banks of multi-light, metal, industrial window units, which provided extensive amounts of natural light.

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[93] "Map of the Property of the Athens Park and Improvement Company," *G. Wm. Baist – Map Publisher*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[94] Athens Railway & Electric Co., Station # 3 equipment inventory. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

These banks of glass also facilitated cross-ventilation, by way of central sections that pivoted open on hinges. A 1915 photograph of five streetcar conductors seated inside, next to the east side window walls, demonstrates that this larger, more airy and open space also had room dedicated to repair and maintenance of the cars.[95] In the image, it appears that one entire bay - the easternmost one - was definitely set aside for shop equipment, as vises, cabinets, and other tools line the wall. Yet, according to a description on an inventory of the company's tools, this may have been only one of three such bays in the 50 feet x 165 feet "Repair Shop," which comprised half of the total of 100 feet x 165 feet offered by the "Car Barn, located on [the] steam station lot." The other half is delineated as the "Storage Compartment," but, in total, the "reinforced concrete building" offers "six tracks, [and] three earth pits."[96]

To this day, this property, known as the "Boulevard facility," is still owned and operated by the Georgia Power Company, which is the corporate ancestor (through a roundabout series of mergers and acquisitions) of the Athens Electric Railway Company. The lot is now home to an office building from the late 1980s, as well as the "West Athens" substation at the facility's northern end; the substation is supplied with electricity by high-tension wires that travel southward across the old SAL tracks, now operated by CSX Transportation. Most importantly, the early 20th century streetcar barn is still extant and intact, with relatively minor, reversible modifications to its exterior appearance. The original end doors have all been replaced with modern overhead garage doors, and the end walls that frame these have been narrowed by the installation of non-bearing curtain walls of concrete blocks, erected inboard of the original poured concrete columns. Yet, the barn's long, fully exposed, east side wall still retains almost its full complement of original, multi-light, metal industrial window units, which are seen in the

[95] Doster, 135.

[96] Athens Railway & Electric Co. – "Tools Stored or Used in Car Barn." Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

background of the aforementioned 1915 photograph. The west side wall, which was cut into the embankment that slopes downward from Satula Avenue, and so presents a short exposed exterior elevation, also maintains its original fenestration pattern and smaller, shorter, individual metal units. Inside, the original rails are still in place in most of the bays, and frequently protrude through the poured concrete floors. The building is even utilized in an appropriate adaptive way, for its long, narrow bays, once dedicated to the overnight storage of trolleys, are now similarly used for the overnight storage of Georgia Power repair trucks, which are parked, nose-to-tail, in single-file lines.

The complement of rolling stock that emanated from this Boulevard streetcar barn and its predecessor on Prince Avenue was comprised, over the years, of both open-sided and closed streetcars. Since air-conditioning and climate control systems had not yet been invented, the street railways had to take into account the effect that changes in the daily or seasonal weather had on the comfort of their customers, each streetcar's passengers. If the passengers on a trolley became too hot, too cold, or too wet, they were likely to think twice before climbing aboard the next time. Although the closed streetcars often had operable, drop-down windows to provide some ventilation (and were, hence, officially called "semi-convertibles"), fully open-cars were the best available option for mitigating the stifling heat of summers in the south, if there seemed to be little threat of sustained rainfall on a particular day. In fact, due to the artificial breezes created by the speed of the vehicles, summertime rides on streetcars were often taken simply as a way to temporarily escape the hot, still, and stifling ambient air that was the norm both inside and outside of the surrounding buildings.[97] The open cars offered benches, spanning the full-width of the cars, which were accessed via running boards along the sides of the cars. Because they could not be boarded from the sides, the closed cars were boarded at open-air platforms on

[97] Rowsome, 103.

the front and rear. The boarding passengers then reached their seats by a central corridor, as on the steam passenger trains. Some closed cars in colder environs offered heating, initially by way of devices such as small wood or coal-burning stoves. But, by 1901, Athens's closed trolleys were being heated with electricity during its comparatively mild winters, as is published in the 1902 report on *Street and Electric Railways*, by the United States Census Office.[98]

In his history of streetcars in America, the *Trolley Car Treasury*, Frank Rowsome, Jr. explains that "though the riding public loved open cars, the companies didn't. It was a considerable expense, for one thing, to buy and maintain extra rolling stock that could be used only a few months of the year."[99] Nevertheless, photographs and postcards of Athens illustrate the utilization of both types of cars. Despite this ultimate reduction in efficiency, the Athens Electric Railway Company probably decided that employing at least some open cars was simply a necessity during the dog days of Georgia summers. Moreover, the increased initial investment in the open cars was undoubtedly offset by the fact that rides on the open streetcars would be more attractive to the potential ridership, thereby increasing passenger volume. The preponderance of warm weather over the course of a year in Athens would extend the period of use of the open cars, and of the associated daily positive returns from this appealing special equipment.

These same postcards and photographs also convey visual evidence that the Athens Electric Railway Company attained examples of these open and closed trolleys in both single and double truck configurations. 'Trucks' are subframes which carry the wheels and motors, and are attached, via pivoting joints, to the bottom of the streetcar chassis or frame, thus allowing the vehicle to negotiate turns. Around the turn of the 20th century, each truck generally consisted of

[98] U.S. Census Office, 105.
[99] Rowsome, 104.

a quartet of wheels, split between two axles, and with the electric motor or motors set in a housing between the axles. Streetcars that sat and rolled on only a single truck were smaller, as there was a physical limit to the length of the front and rear overhangs. If the car manufacturers attempted to stretch these overhangs too much, the trolleys "began to have trouble going around corners quickly, as they became tipsy and unbalanced. Single truckers could be stretched in two ways: longer overhangs, which were tipsy, and longer wheelbase single trucks, which had trouble making sharp corners."[100] Since almost all of the reviewed images of Athens' trolleys display single truck models, it is likely that these were considered sufficiently large for the traffic that a city the size of Athens could generate, even during rush hour traffic.

However, one specific photograph, taken in 1915, shows five streetcar employees standing next to an open car, which appears to be an extended, double-truck model, and advertises the "SAL Southern" circuit on its route indicator panel.[101] It is quite conceivable that trolleys returning to downtown from the Seaboard Air Line and Southern Railway passenger stations would be fully loaded by a trainload of arriving visitors or homeward bound residents. If this were often the case, the use of longer, double-truck cars on this route would help satisfy this occasional, schedule-specific demand, without the need for sending pairs or trains of smaller, single truck cars. The lack of integration of this line, and its equipment, into Athens' other mainline, closed-loop circuits is demonstrated by the fact that further travel on or from the "depot line" required a transfer pass. The workings of and conditions for these separate tickets are spelled out in another of C.D. Flanigen's directives to his streetcar operators, which is prefaced by the imploration that "great care must be exercised by Conductors issuing transfers in punching each space correctly." In the instructions, he specifies:

[100] Ibid, 158.
[101] Doster, 134.

> Transfers from [the] uptown to [the] depot line are good only from Jackson and Washington Sts. and must be issued before [a] car leaves that point. Transfers from depot line to uptown line are good only from car to car at Jackson and Washington, or, if this connection is not made, from College Ave. and Clayton St.[102]

In either direction, to or fro, the impossibility of staying on the same streetcar to travel from one of the depots to anywhere other than this intersection of Washington and Jackson Streets illustrates that the "depot line" was a reversible line, which likely employed only one car to travel up and back to the railroad stations.

This being the case, the Census Offices' bulletin informs us that, during 1901, the Athens Electric Railway Company operated a total of nine passenger cars, regardless of whether they were single or double-truck variants.[103] However, it does confer that six of these were closed cars, while the other three examples had open sides. All nine of the passenger trolleys featured electric lighting, presumably to allow operation into the night. The company also owned three additional streetcars, which were used exclusively for other purposes. One was apparently designed for "Express, freight and mail," and the other two were appropriated for "Work and miscellaneous" services. In fact, one of these two "work cars" (or else another not included in the company's overall tally) was a "rock car," designed to expedite the City of Athens' efforts to pave its residential streets with macadam. Not to be confused with today's tarmac (i.e. asphalt) paving, macadam was more akin to what is now commonly known as "crusher run," in that it consisted of varying sizes and consistencies of crushed stone rubble, with the dusty, powdered remnants included. When poured out and compressed with a roller, this material packed together to form a granular, semi-permanent paving surface, whose life and smoothness could be prolonged by regular coatings of oil, which acted as a binding agent and minimized the gravel

[102] Athens Railway & Electric Co. – "Great Care Must be Exercised by Conductors Issuing Transfers." Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[103] U.S. Census Office, 104.

dust. Around the turn of the century, the city's rock quarry was located off Waddell Street, near the end of the existing Milledge Avenue line. The company and city apparently recognized the potential for mutual benefit, for the very streets that the city wanted to pave most urgently were the same major residential thoroughfares that the street railway utilized, particularly Milledge and Prince Avenues. This paving, under the direction of Captain Barnett, would likewise ease maintenance on the tracks, by limiting the creation of dust or mud. So, the Athens Electric Railway Company extended a short spur line south to the site of the city's rock crusher, thereby enabling the hauling of rock to supplement its traditional revenue generator, the hauling of passengers.[104] Interestingly, the company's "General Statement for 1900," as submitted by its treasurer, W.T. Bryan, lists the gross receipts for "hauling rock" as amounting to $3,492.76, while passenger "fares" totaled $14,451.35.[105] In one year, this single "rock car" earned approximately a quarter of the total amount of fare receipts produced by the other nine passenger cars combined. In 1910, the quarry was moved due to complaints of neighbors in this rapidly growing residential area near Five Points. It was relocated to the industrial area north of Boulevard, to "a hillside overlooking both the Seaboard Air Line and the Athens Electric Railway."[106] It is not known if the rock car's service was continued, although the proximity of the Boulevard line would certainly have made it feasible.

In 1901, all of the full collection of a dozen streetcars was based out of a single "car house," which, as discussed previously, was then located at the intersection of Prince Avenue and Mitchell Bridge Road. Albin Hajos' photo-gravure of this same "car shed" (as he called it)

[104] Cullison, 83.

[105] "General Statement – Railway Earnings," *Athens Electric Railway Company*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

[106] Cullison, 90.

clearly delineates only three distinguishable entry bays.[107] In light of this, and a comparison of the length of this images' exposed car to the overall length of the building's side wall, it seems doubtful that a line of any more than four cars could be crammed into each bay. If this were indeed the reality, the Athens Electric Railway's car storage facility had already reached full capacity almost a full decade before the move to the new Boulevard facility, and its expanded capacity for twenty cars. Yet, until the circa 1910 extension of service out Milledge Avenue to Five Points, and back downtown by way of Lumpkin Street, there may not have been a dire need for any more trolleys than were already in place at the time of the Census Office report. In 1902, just after the completion of the extension down Jackson and Hoyt Streets, the city's nine passenger streetcars traveled a full circuit of at most 6.5 miles. If all were concurrently in service, they would therefore maintain a rough average spacing of just over 0.72 miles between vehicles (this simplistic reading is no more than a rough, inaccurate average, since the Milledge Avenue and Hoyt Street spurs were bidirectional, and could only accommodate one car at a time; plus, there may have been more passing sidings, that remain unidentified.)

The significant extension of streetcar service to Five Points happened concurrently with and because of another major reorganization of the company. This was initiated to raise new investment, as capital for expansion of the street rail infrastructure and power generating facilities. Continuity of leadership was largely maintained, as many of the previous directors and managing officers stayed on, albeit in revised roles. W.T. Bryan, the former Secretary / Treasurer, moved to President, and the duties of his former role were split amongst two successors: John White Morton as Secretary, and C.D. Cox, as Treasurer. J.Y. Carithers shifted to First Vice-President, C.D. Flanigen moved up to Second Vice-President, and W.S. Holman remained as a director. The other prominent Athenians to be newly installed on the board of

[107] Hajos, "Electric Railway Views."

directors were Billups Phinizy, John R. White, and two brothers, A.H. Hodgson, and J.M. Hodgson.[108] This reorganization and transfer of property was consummated by the Athens streetcar operations' fourth renaming. The chosen title - the Athens Railway & Electric Company - was, obviously, very similar to its predecessor, enough so for the public to easily ascertain that they were linked. But, the revised order of the selected components of the name was significant, for it represented the first instance in which the company's participation in the production of electricity was separately delineated, and thus marketed as a stand-alone, self-sustaining side of the business. Of course, reference to the company's involvement with electricity had been a part of the company handle for fifteen years already, and the "Railway" aspect of the company's operations still received top billing, perhaps in a nod to tradition. Nevertheless, the growing importance of electrical power production toward the company's fortunes is unmistakably evident.

This increasing prominence was not a new phenomenon, for it was foreshadowed by the Athens Electric Railway Company's "General Statement" from a decade earlier. In this, W.T. Bryan's tallies of "Railway Earnings" and "Light and Power Earning," show that the two separate activities earned the company almost the same amount in gross income, as both undertakings delivered receipts of approximately $14,500 (if "Hauling Rock" is omitted from "Railway Earnings"). However, the expenses for the maintenance of the street railway infrastructure were proportionately much greater than they were for the upkeep of the network for transmission of electricity; $1,888.17 and $622.43 were deducted for "Cars and Barn" and "Line and Track," respectively, versus only $213.51 for "Lines" and $446.53 for "Lamps."[109] When adjusted further for the $2,917.14 in wages of the streetcar conductors and motormen, the

[108] Rowe, ed., 103.

[109] "General Statement – Railway Earnings," *Athens Electric Railway Company*. Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries.

net income derived from the street railway operations was, at $9,460.18, notably less than the $11,776.50 from power production and transmission.

Not only did the income from the production and sale of electricity to businesses and residences thus offer more lucrative returns due to fewer overhead expenditures, but the rapidly, almost exponentially increasing demand for electricity showed no signs of slacking. More advanced, more useful, and more numerous electric-powered machines and devices were being introduced every year, and the reorganized company made a dramatic, eye-catching effort to remind its customers of these developments. Utilizing rows and rows of light bulbs, they installed a full-height, two story electric sign across the front of the company offices, which were then housed in the Shackelford Building at 195 Clayton Street, at the northwestern corner of its intersection with College Avenue.[110] "ATHENS RAILWAY and ELECTRIC CO" was spelled by two rows of lighted letters that stood propped atop the building's parapet wall. Attached to a grid framework above this was a giant letter "A" that was encircled by a ring of lights, from which emanated a sunburst design of multiple strings of bulbs. A self-concocted nickname, "The Electric Shop," was inscribed in lighted letters down the center of the face of the building, between the four, bulb-surrounded frames of the first and second floor windows. Finally, at the bottom on this gaudy but attention-grabbing ensemble, across the sign panel at the top of the plate-glass storefront, they added the slogan that perhaps best summarized their pitch (and that of the power industry in general): "IF IT'S MODERN IT'S ELECTRICAL."

Appropriately, therefore, the newly reorganized company immediately undertook the development of another new power plant the very same year, with its completion, in 1911, providing an additional 3700 H.P. to satisfy the growing usage.[111] Constituting the third of the

[110] Doster, 131.
[111] Rowe, ed.,103.

company's hydroelectric plants, Station No. 4 was constructed at Barnett Shoals on the Oconee River; these shoals, and the new plant, were approximately a mile south of the confluence of the Middle Oconee with the Oconee River, and along the border of the far southeastern part of Clarke County with Oconee County. The dam at Barnett Shoals was 875 feet long, and sustained an impoundment head of 50 feet in height, as compared to the 45 feet and 23 feet managed by the earlier Tallassee Shoals and Mitchell Bridge dams, respectively.[112] Yet, despite its state-of-the art dam and equipment, and its greatly increased production capacity, the Barnett Shoals Power Plant was still subject to the whimsy of nature, and resultant fluctuations in the river's water level. Moreover, it was, in a relative sense, a good distance away from the City of Athens and its streetcar circuits. This was certainly not the case with the Athens Steam Plant, as it shared the very same lot as the Boulevard Car Barn. The motors onboard electric streetcars typically run on Direct Current (DC), which, in general, allows a more precise and easily modulated power response. However, unlike Alternating Current (AC), DC electricity is restricted in the distance that it can travel along power lines. In order to provide Direct Current to streetcar systems, with a minimal loss of power, it behooves the operating company to place its power source, or, at least its equipment to convert AC electricity to DC, in reasonably close proximity to the streetcar circuit. For these reasons, power production for the streetcars was never a task adopted by the new Station No. 4. Instead, the "rotary converters," needed to transform the electricity from AC to DC, were installed at Station No. 3 - the Athens Steam Plant - and left in place there throughout the duration of streetcar service in Athens.[113] Thus, the

[112] "Generating Stations," Athens Railway and Electric Co. / Athens Gas, Light, and Fuel Co. (Athens, Georgia: 1926). Courtesy of Georgia Power Company Corporate Archives, Atlanta.

[113] "Equipment Record," Athens Railway and Electric Co. (Athens, Georgia: 1927). Courtesy of Georgia Power Company Corporate Archives, Atlanta.

ultimate responsibility the streetcars' power supply returned to the site of original power production for the Athens Railway Company's first electrified trolleys, in 1891.

Also moved were the headquarters of the Athens Railway and Electric Company, which were relocated from the antebellum Shackelford Building (which still stands), to another two-story building two blocks to the north, on the northeast corner of College and Hancock Avenues. The management was in place in this new location by the time of a photograph taken from the cupola of City Hall, in January 1914.[114] The building itself was not new, as it was first constructed in 1876, to serve as the headquarters of the Southern Mutual Life Insurance Company.[115] It was no longer even on its original site, as it first stood on the corner opposite the Shackelford Building, the northeast corner of College Avenue and Clayton Street. The mansard-roofed structure with Italianate and Second Empire stylistic detailing was dismantled, piece-by-piece, to make way for the 1908 construction of the new Southern Mutual Building, Athens' first skyscraper, which is now referred to as the Commerce Building. The sorted components of the earlier building were transported two blocks up the hill and reassembled, with the necessary modifications to adapt to the sloping site. The Athens Railway and Electric Company was not the first tenant of the reborn building, for two bird's-eye views taken in 1913 from the top of the new Holman Hotel still unmistakably reveal the company's glitzy signage emblazoned across the Shackelford Building. But the image taken early in the next year from City Hall clearly indicates that the new offices were occupied sometime during the few intervening months. Because the new building was ornately styled, with highly detailed, arched window hoods, its new sign was limited to a space on the flat rooftop, but canted so as to be directly visible from the intersection of College and Hancock. Both less ostentatious and less imaginative than its predecessor, the

[114] Reap, 114.
[115] Doster, 50.

new sign was also alight at night, but resembled a simple billboard, as it was fashioned only of large block letters that implored passersby, "USE ELECTRIC LIGHT POWER."[116]

People needed little prompting to do this, and the power industry began to mature around the region and the nation. As occurs in most rapidly growing new industries, increasing demand for electricity both required – and thence fueled - new investment, and also prompted the occurrence of many takeovers and consolidations, all made in pursuit of economies of scale and other perceived benefits. The Athens Railway and Electric Company was not exempted from this overall industry trend; during the spring and summer of 1926, it came under the control of the Southeastern Power and Light Company, which also absorbed the Georgia Railway and Power Company. Within the same year, numerous other companies around the state, all in the street railroad and/or gas and electric utilities field, joined this collective, including those based in the cities of Macon, Miledgeville, Rome, Dublin, Darien, and Brunswick.[117] Culminating various efforts at integration that were carried on throughout 1926, the Georgia Power Company was ultimately chartered in February 1927, as the division of Southeastern Power and Light charged with assimilating and managing all of the newly acquired properties throughout the state.[118] At the outset of this statewide consolidation, C.D. Flanigen was the President of the Athens Railway and Electric Company, and he played a major role in instigating and seeing through the complicated developments.[119] Due to his efforts and leadership, he assumed the new

[116] Reap, 114.

[117] Wade Wright, "Formation of Georgia Power Company," *History of the Georgia Power Company: 1855-1956* (Atlanta, Georgia: 1957), 229. Courtesy of the Georgia Power Company Corporate Archives, Atlanta.

[118] "History," *Georgia Power Company Yearbook: 1927-1928*, (Atlanta, Georgia: 1928), 9. Courtesy of the Georgia Power Company Corporate Archives, Atlanta.

[119] Scott Lofton, *The Electrification of Athens from 1890-1940* (Athens, Georgia: University of Georgia), 8.

status of Vice President of Georgia Power, while continuing in his old role as the divisional manager of the company's Athens operations.[120]

A brochure, issued in 1926 by the newly combined Athens Railway and Electric Company and the Athens Gas, Light and Fuel Company to explain their merger under the auspices of Southeastern Power and Light, explains that the company "provides street railway transportation to Athens and suburbs over ten miles of track," and adds its assurance that "present equipment is modern, operators are well trained, schedules are fast, and the service is reliable and adequate."[121] As is the implicit goal of all corporate publicity campaigns, this language leaves the impression that this service and its users were of utmost importance to the company. Yet, despite the fact that the Athens Railway and Electric Company's earlier title was kept wholly intact during its transition to a subsidiary, the placement of this brief, one-paragraph discussion, entitled "Street Railway," is telling, for, after the "Foreword" and "History," it comes third in line, behind the headings "Generating Stations" and "The Gas Company." According to the topical arrangement of this pamphlet, the company name should probably have, by then, been changed to the "Athens Electric Company and Railway," to reflect the transformation in the company's priorities; perhaps, even more appropriately, the "Railway" reference should have been dropped altogether.

Ultimately, the change in the company's priorities was not so much a result of the company's own desires, but rather a response to the will of the public. Ridership in many cities across the nation had already peaked early in the decade, and was beginning to decline, often precipitously. The heyday of the streetcar, and its primacy as the nation's most modern, most

[120] M.L. St. John, "Horse-Drawn Street Cars Here Forerunners of Huge Business – Georgia Power Company Has Interesting History in Athens," *Athens Banner-Herald*, 24 September 1933.

[121] *Athens Railway and Electric Co. / Athens Gas, Light, and Fuel Co.* (Athens, Georgia: 1926). Courtesy of Georgia Power Company Corporate Archives, Atlanta.

rapid, and thus most important means of local transportation, really lasted only approximately thirty years, from the time of the installation of Frank Sprague's Richmond system, in 1888, until the close of World War I. When the United States entered this war, in 1917, the nation's street railways, all together, utilized "44,800 miles of track, employed 295,000 people, and carried 11.3 billion people [on individual rides] per year."[122] As Frank Rowsome proclaims in his *Trolley Car Treasury*, "For street-railway men, the exciting years before 1917 posed only the problems of success – of mounting passenger totals, record gross incomes, steadily climbing trackage."[123]

But, the First World War, like the one after it, was a time of great advancement in mechanical capability; the reliability and effectiveness of self-propelled motorized vehicles, such as airplanes, cars and trucks, increased rapidly in a short period of time, because they were relied upon heavily by the armies involved. Moreover, following the war, production of Ford's Model T was ramped-up to satisfy the public's huge, pent-up demand, which had been caused by a shortage of raw materials during the war years. The flood of Model T sales was dramatically enhanced by the company's introduction of electric self-starting, in 1919. Although the model, in all its various forms, was manufactured throughout the eighteen years between 1909 and 1927, two-thirds of the total volume was built between about 1917 and 1925. Production approached a million cars annually in 1920, and vaulted to two-million in 1923.[124] Not coincidentally, this year, the absolute high-water mark of Model T sales, also happened to be the peak year for streetcar ridership. However, while overall automobile car sales kept climbing ever afterwards, streetcar patronage did the opposite, as is described by Frank Rowsome:

> The mileage of electrified track had hits its peak back in 1918, and had steadily dwindled each year since. Somewhat like a moribund whale, the trolley industry was so large that

[122] Rowsome, 170.
[123] Ibid, 164.
[124] Model T Ford Club of America, "Model T Encyclopedia, Model T Ford Production, 1917 to 1920 – the New Ford Cars"; available from http://www.mtfca.com; Internet; accessed 16 January 2005.

> it kept growing even after it had begun to die. Passenger riding kept inching slowly upward until 1923, when the total hit 14 billion rides annually. Then riding, too, began to slope steeply downward.[125]

Writing in 1956, with the benefit of the perspective of several decades, Rowsome summarizes the state of the industry then, concluding that "it was painfully clear during the 1920s that trolleys were coasting downhill fast."[126]

The very next year, Wade Wright imparts, through his *History of the Georgia Power Company: 1855-1956*, that, by the middle of the 1920s, Georgia's remaining electric streetcar lines reflected the national trend of declining fortunes for streetcar operators. He posits that, in the run-up to the 1927 formation of the Georgia Power Company under the auspices of the Southeastern Power and Light Company, the companies involved in the merger "were in need of additional capital with which to meet the growing demands for [electrical] service. But because of their corporate structures, and because of the fact that a large part of the assets of most of them were tied up in street railway properties, it was impossible for them to secure additional funds except at prohibitive cost."[127] In comparison to many of their peer corporations around the rest of the nation, Georgia's streetcar operators were generally better off, in that they still had a profitable business to fall back on: they could still reliably generate income from the production of electricity for resale to separate companies and consumers. Consequently, it seems clear that, by 1926, the constituent companies of the pending Georgia Power Company, as well as the proposed new concern itself, no longer viewed the continuance of streetcar operations as their primary business, but, instead, as an albatross to their financial performance. As Wright explains, "They had reached an impasse and were unable, of themselves, to enlarge or extend their facilities, or to pay off or refund existing obligations as they matured. Consequently, power

[125] Rowsome, 176.
[126] Ibid., 175.
[127] Wright, 229.

development in the State was almost at a standstill."[128] As he puts it, these independent Georgia companies were driven to the merger by the operation of their streetcar facilities, and the new conglomerate was a way to break out from under the weight of the failing trolley enterprises, and invest in the profitable side of their business. Hence, for the first time in the heretofore 35-year corporate history of Athens' sequence of electric street railway ventures, the operating entity did not include any reference to a "railway" in its official moniker.

Nevertheless, because the tracks and other street railway infrastructure were already in place, the newly organized Georgia Power Company did allow those utilities, in the several cities around the state that still ran electric trolleys, to maintain their service and try to make it successful. As late as 1928, when Georgia Power published its *Yearbook for 1927-1928*, the company dedicated almost three pages to the discussion of its subsidiaries' remnant streetcar operations, which "furnished [service] in Atlanta, Macon, Athens, and Rome."[129] This yearbook openly acknowledges the downturn in ridership that had occurred during the decade, but trumpets the firm's efforts to reverse this trend: "The Company has been successful in applying modern merchandising methods in the sale of streetcar rides in Atlanta, and in the other cities served…. These … are tending to eliminate the decrease in the number of car riders, which for several years was suffered by street railways generally, due to the increased use of private transportation."[130] Their main push was, logically, limited to Atlanta, and the *Yearbook* enumerates how much new equipment was bought for Atlanta during 1926 and 1927, when they purchased sixty and forty new trolleys, respectively. Clearly, this constituted a significant investment, and proves that the Georgia Power Company was trying to turn the tide. But, the

[128] Ibid, 229.

[129] "History," *Georgia Power Company Yearbook: 1927-1928*, (Atlanta, Georgia: 1928), 23. Courtesy of the Georgia Power Company Corporate Archives, Atlanta.

[130] Ibid, 23.

Yearbook is less effusive about its other operations, which are grouped under the heading, "Good Systems in Other Cities." As detailed, the systems in Athens and Rome maintained their traditional equality of size and reach: "In Rome, safety cars are operated over 13 miles of track, extending to all sections of the city, while cars of the same type are operated over 12 miles of track by the Company in Athens."[131]

This commentary reveals that Athens' trolleys were relatively modern and up-to-date during the city's final years of service, since the 'Birney Safety Car,' the progenitor of the entire genre of 'safety car,' was not introduced until the Fall of 1916.[132] Invented by engineer Charles O. Birney, his single-truck design weighed, at a little over six tons, less than half that of most prior streetcars, and could be operated by one man. Because the safety car's motorman was the only employee aboard, wage outlays could be minimized; these trolleys were also more efficient in motion, because of their light weight. This enabled them to use less electricity and to reduce the normal rate of wear on the tracks. They also accelerated and slowed more quickly, which helped to both maintain more frequent headway schedules and to avoid accidents, at least in most situations or conditions.[133] Besides the fact that they could carry fewer people, the other significant tradeoff was that they were more easily derailed than the typical double truck cars, which could weight as much as 30,000 or 40,000 pounds. Sometimes, Birney's safety cars simply lacked the mass to press them to the rails, and give them sufficient traction. This was especially true during snowy conditions of winters in the northern climes.[134] Derailments at the hands of snow banks were obviously less of a problem in Athens, but, as Dean Tate's story of the

[131] Ibid, 25.
[132] Rowsome, 171-172.
[133] Ibid, 172.
[134] Ibid, 172.

Lumpkin Hill streetcar slide intimates, these light safety cars were likely more susceptible to the hijinks of the University's students.

Despite the efforts of the Georgia Power Company to apply the most "modern merchandising methods," they were apparently not able to successfully continue "tending to eliminate the decrease in the number of car riders."[135] Only two years after the publication of these sentiments in the firm's *1927-1928 Yearbook,* Athens' utilization of electric powered trolleys for city transit service was halted on March 31, 1930.[136] In a somewhat odd move for a company that had essentially morphed into an electric utility, the Georgia Power Company branch in Athens remained committed to offering public transportation, and established a new bus service as a replacement for the streetcar service. Under the lead-in, "Speeding Up Transportation Service in Athens," the company's *Snap Shots* newsletter from June 1930 shows photographs of the collection of five new General Motors motor coaches lined up in front of the Boulevard street car barn, where they were apparently stored. Another photograph and caption relates that these had been driven all the way to Georgia from GM's Pontiac, Michigan plant, by a group of drivers from the Atlanta division. At their new home in Athens, the five coaches sit side-by-side atop the now disused trolley rails, poised to begin their first runs on June 1st. Their signboards, at the top of the cabs, denote which routes were adopted: 'Milledge', 'Prince', 'Boulevard', 'Lumpkin', and, lastly, 'Special'(although this is ultimately supposition, as it is not clearly legible).[137] This indicates that those major thoroughfares that were formerly plied by the streetcar lines retained regular transit service, while the fifth bus could be sent where it was needed at any particular time, thereby taking advantage of the motor vehicle's inherent

[135] Georgia Power Company, 23.
[136] Doster, 132.
[137] "Modern Coaches Replace Athens Street Cars," S*nap Shots*, June 1930, 3. Courtesy of Georgia Power Company Corporate Archives, Atlanta.

flexibility. What is not outlined is how the coaches negotiated these routes, since Prince and Boulevard would have previously both contributed to the 'Prince Ave. Belt,' and Milledge and Lumpkin would have together constituted another circuit. The buses might have driven back and forth along these particular streets, or they may have radiated out from downtown toward these specific destinations. These specifics are largely immaterial to Athens' streetcar history, and the bus service, itself, turned out to be largely immaterial, for it was short-lived, closing down after only three years, on July 6, 1934.[138]

It would be interesting to know what Mr. Fred Birchmore's thoughts were at the time of the introduction of the new buses. Then eighteen years old in 1930, he was perhaps too grown-up to retain his childhood impression that the streetcars allowed one to "ride and ride forever."[139] He might have even been excited about the introduction of the new, modern motor coaches, expecting that they would help him get where he needed to be more quickly. All things considered, it is more likely that, by this time, he dreamed of having a car of his own, which would allow him the ultimate freedom to ride forever and wherever, as long as there was gasoline in the tank. Yet, Mr. Birchmore was by no means the only child of Athens who had once looked to the trolleys for entertainment. In an interview in 2000, another longtime resident of Athens, centenarian Harriette Minder, reminisced: "We children rode the streetcar around for fun. We'd all ride it around Prince and Boulevard one Sunday, and the next Sunday we'd ride around Prince and Milledge. It cost a nickel to ride the streetcar and a nickel to go to the movies."[140] One wonders if Athens' pre-adolescent children in the early 1930s ever considered riding the buses for fun, at least after their first, curious trip or two. Perhaps they did, but,

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[138] Doster, 132.

[139] "New Historic Designation Could Preserve Face of Downtown Athens," *Athens Banner-Herald*, 17 January 2004.

[140] "Classic Profile: Harriette Minder," *Athens Banner-Herald*, 26 March 2005.

regardless, it would surely be difficult to imagine one of today's youths equating the entertainment value of a bus ride with that of a visit to the movie theater. In his chapter on the streetcar's "Ride Downhill," Frank Rowsome surmises that, "Once the gaiety and lights of Electric Park had magically attracted family groups and courting couples; now the independence and freedom conferred by the family car made trolley riding seem entirely different, utilitarian and a little grubby."[141] As he proffers, the country no longer regarded electric streetcars as new or exciting, but rather associated them with the pedestrian and inferior. The new motor coaches were an attempt to ride the coattails of the popularity of the motor driven vehicle, but they were essentially a stop-gap measure that was shunned by the general public from early on. Americans were ready to wholeheartedly adopt and sustain an automobile-oriented culture, and public transportation systems completed their transition from being the most modern and rapid way to get around, to being defined as the mode of travel for those who could not afford cars of their own.

[141] Rowsome, 177.

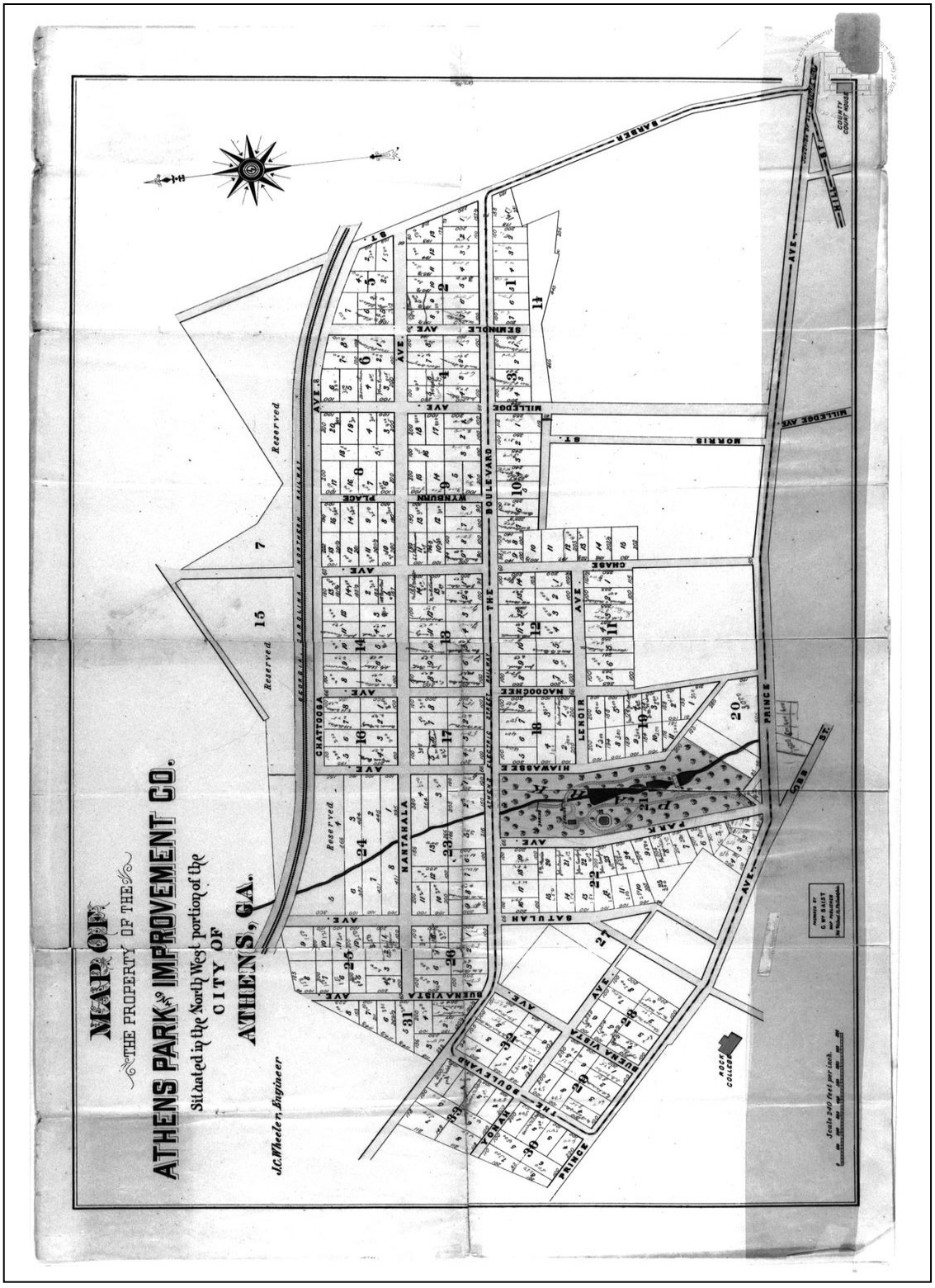

Figure 2.1: *Map of the Property of the Athens Park and Improvement Company*
Published by G. Wm. Baist, circa 1890
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

Figure 2.2: *Map of the City of Athens, Ga.*
Surveyed and drawn in 1893 by Charles Morton Strahan, C.M.E.
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

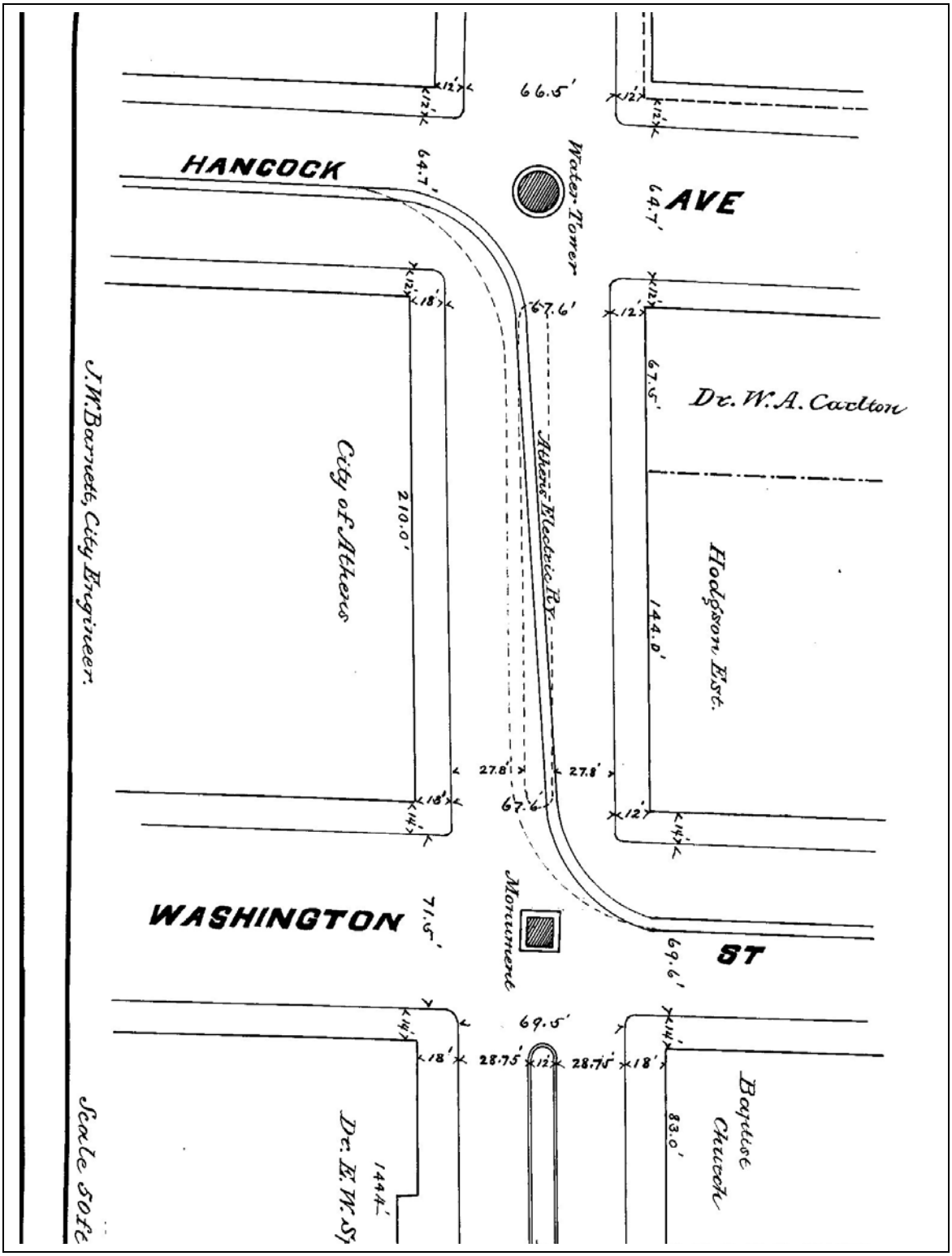

Figure 2.3: Revisions to the Athens Electric Ry. tracks on College Avenue
Drawn by J.W. Barnett, City Engineer, between 1893 and 1896
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

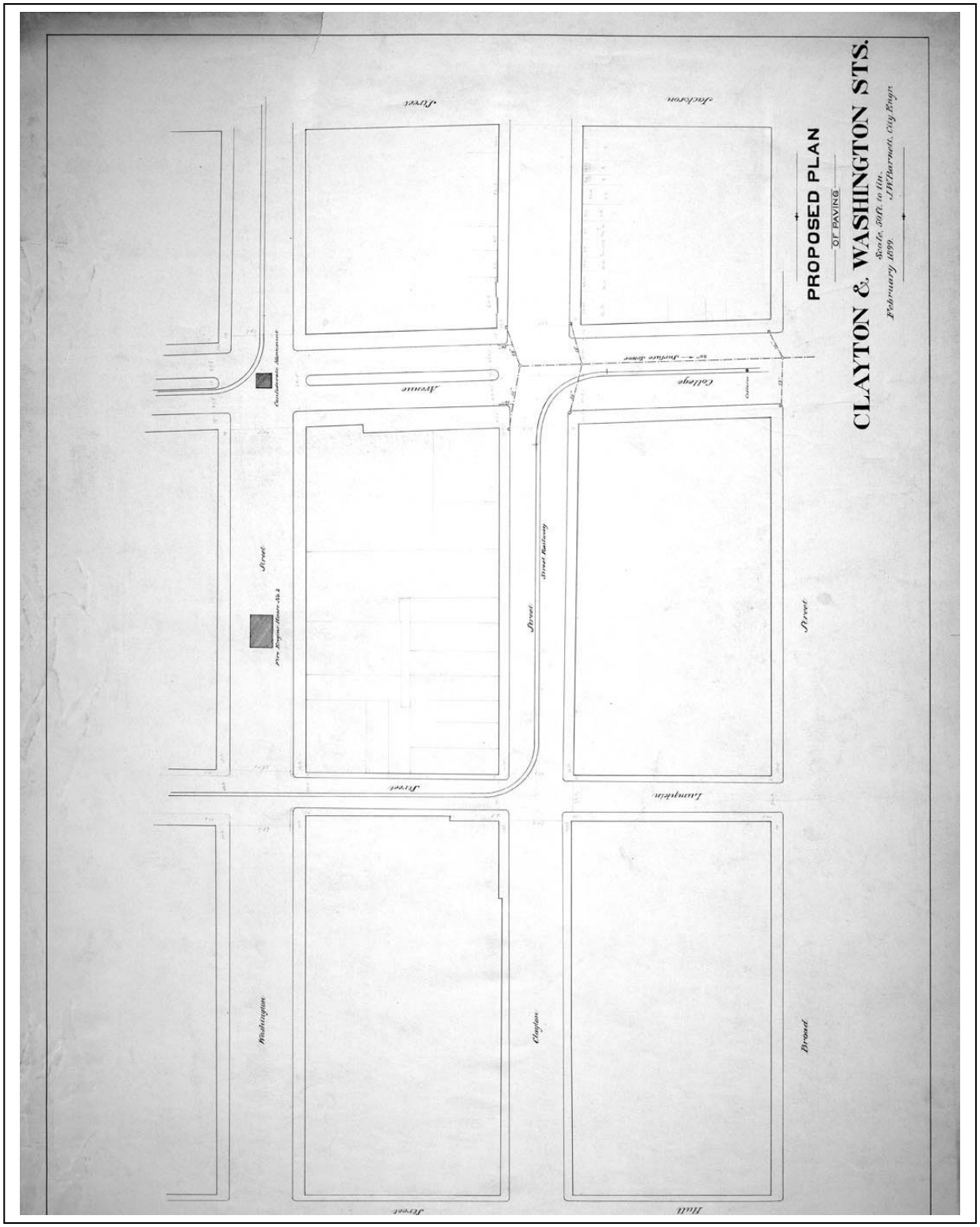

Figure 2.4: *Proposed Plan of Paving Clayton & Washington Sts.*
Drawn by J.W. Barnett, City Engineer, in February 1899
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

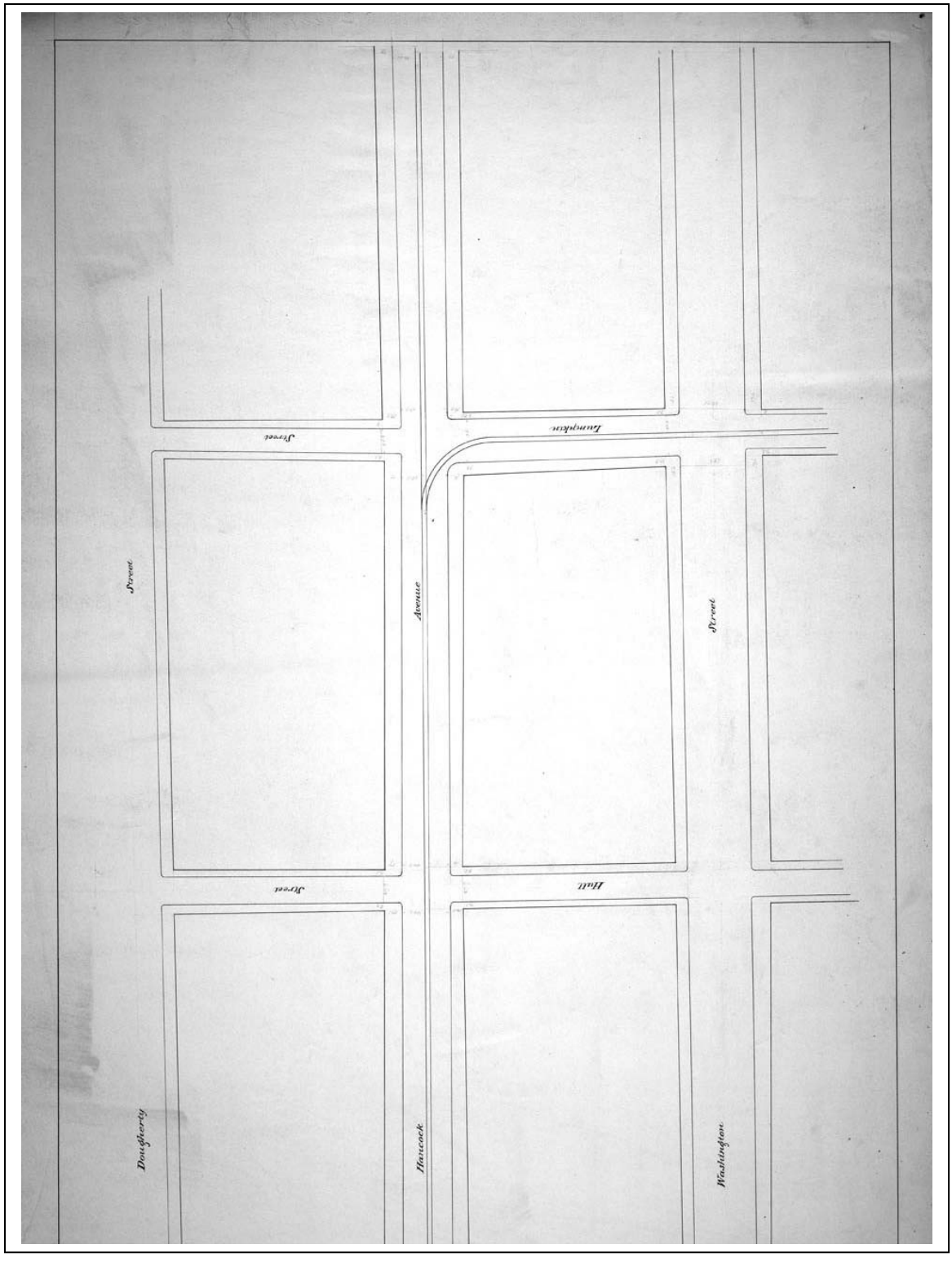

Figure 2.5: *Proposed Plan of Paving Clayton & Washington Sts.*
Drawn by J.W. Barnett, City Engineer, in February 1899
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

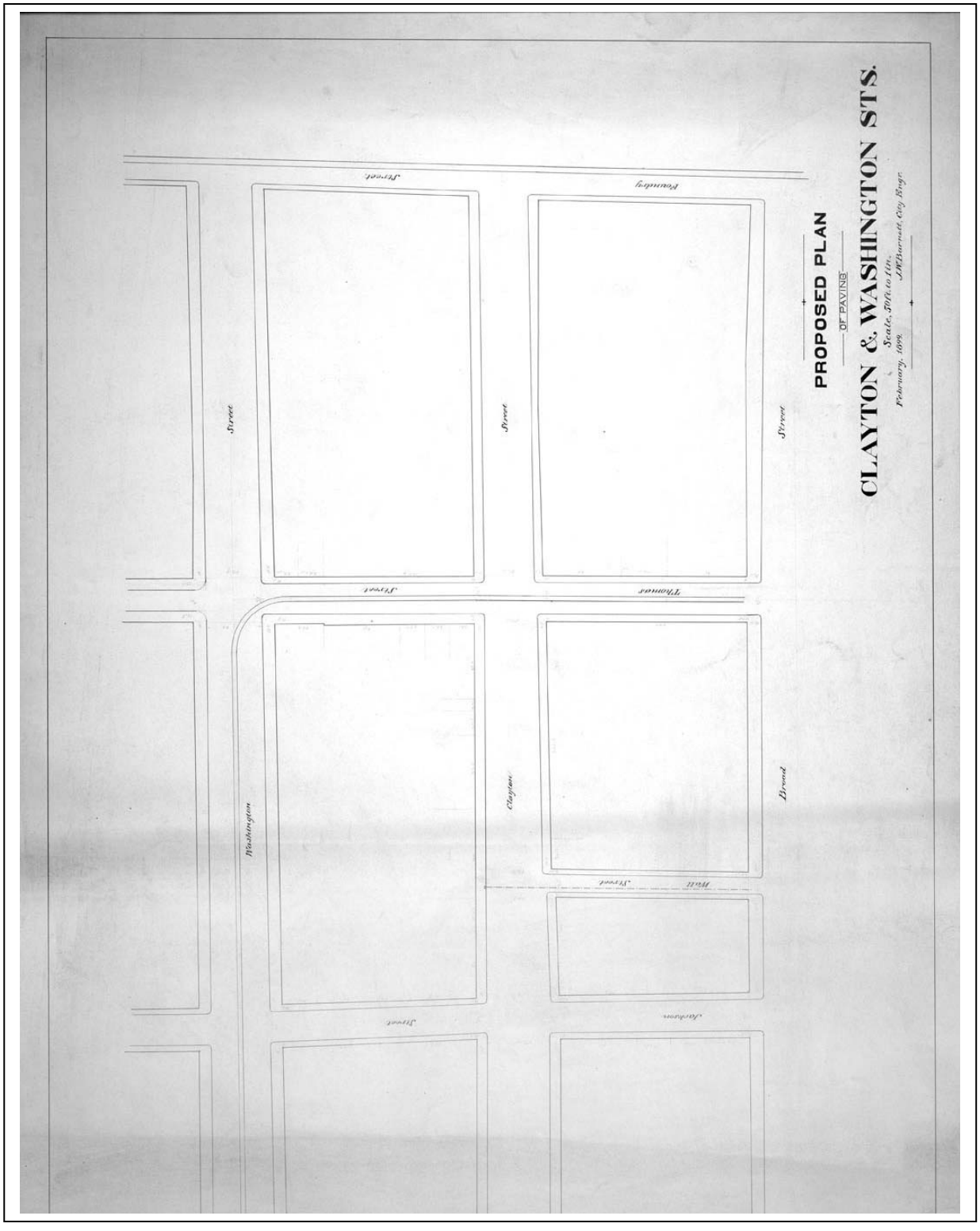

Figure 2.6: *Proposed Plan of Paving Clayton & Washington Sts.*
Drawn by J.W. Barnett, City Engineer, in February 1899
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

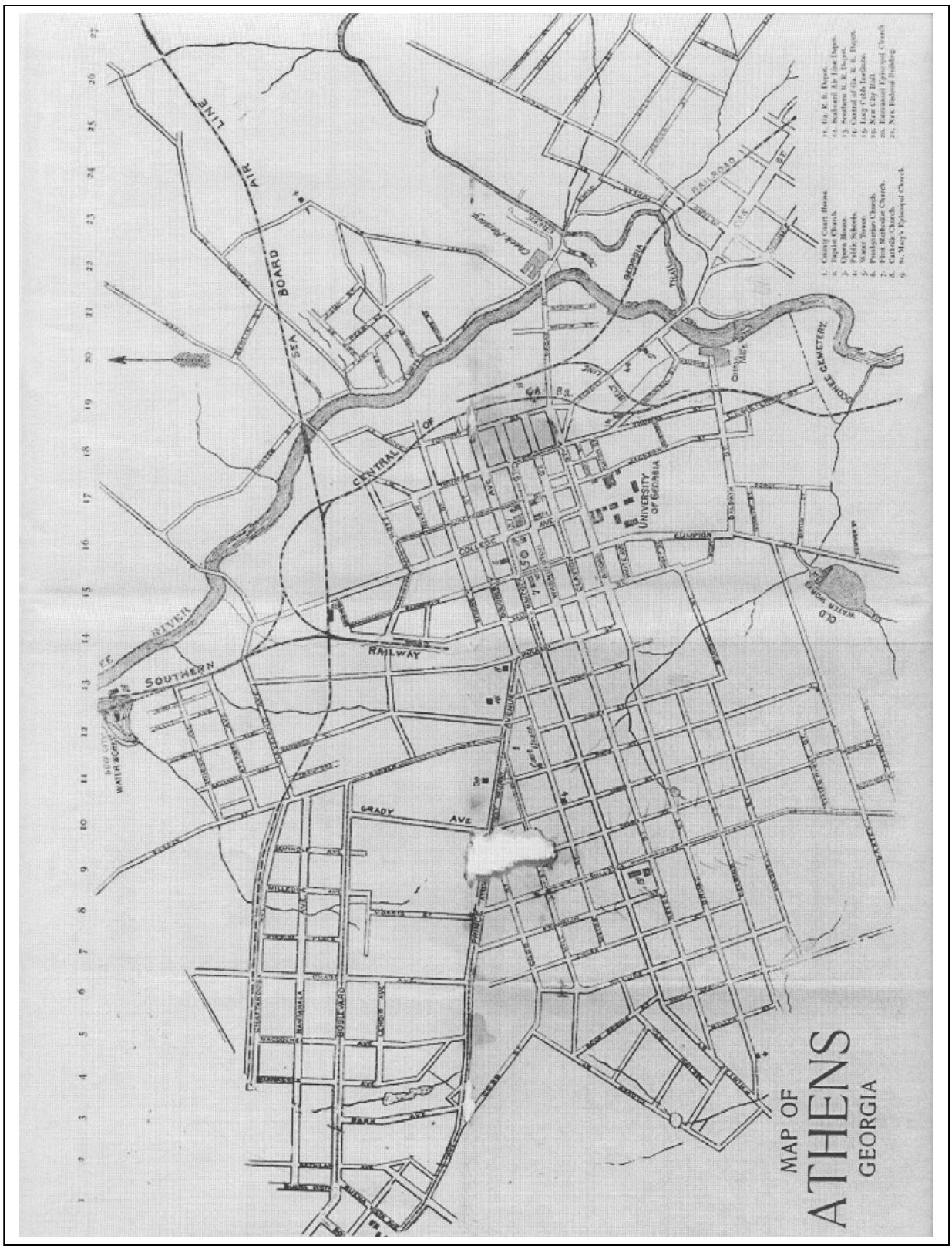

Figure 2.7: *Map of Athens, Georgia*, circa 1905
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

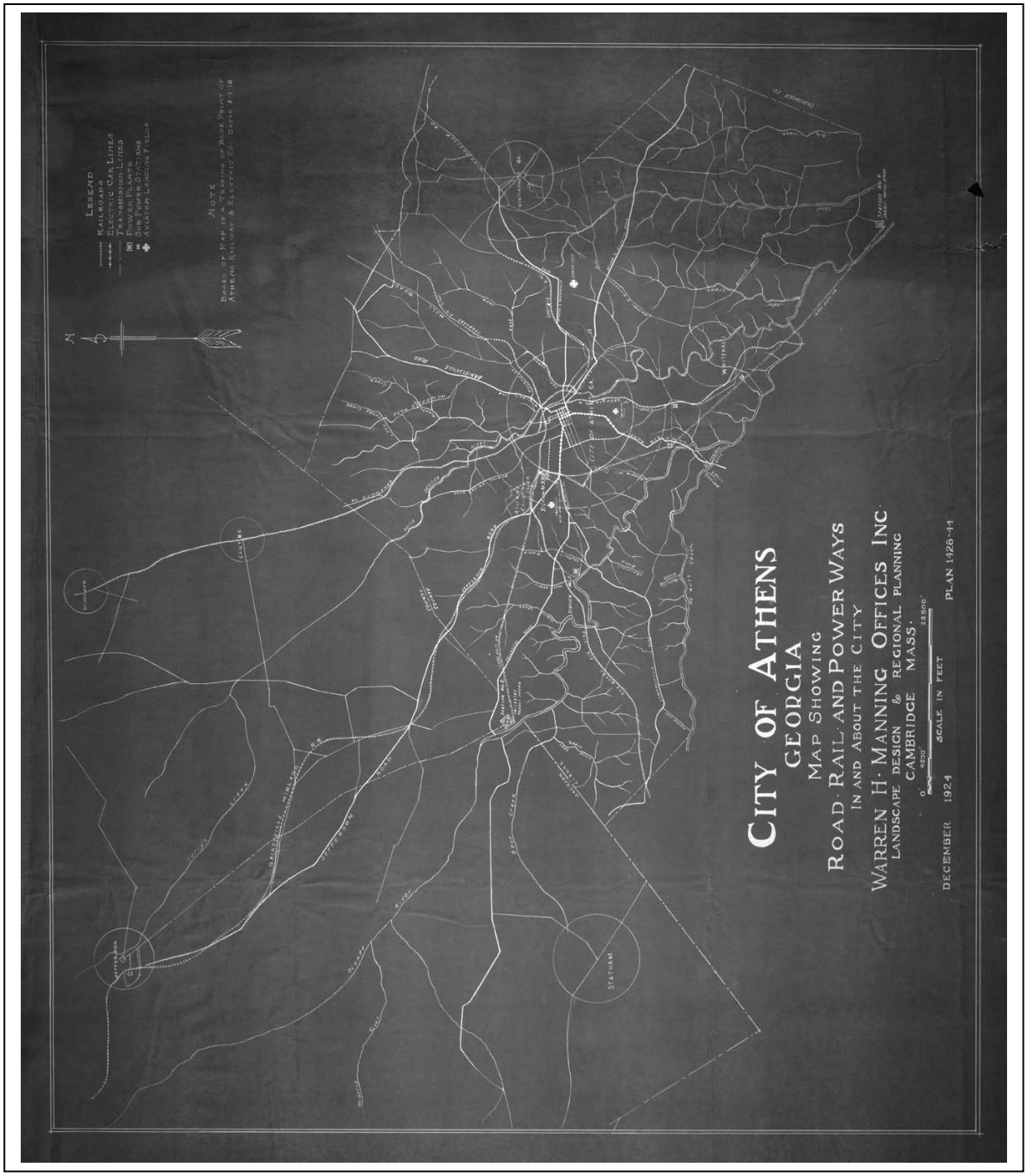

Figure 2.8: *City of Athens, Georgia - Map Showing Road, Rail, and Power Ways*
Warren H. Manning Offices, Inc., December 1924
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

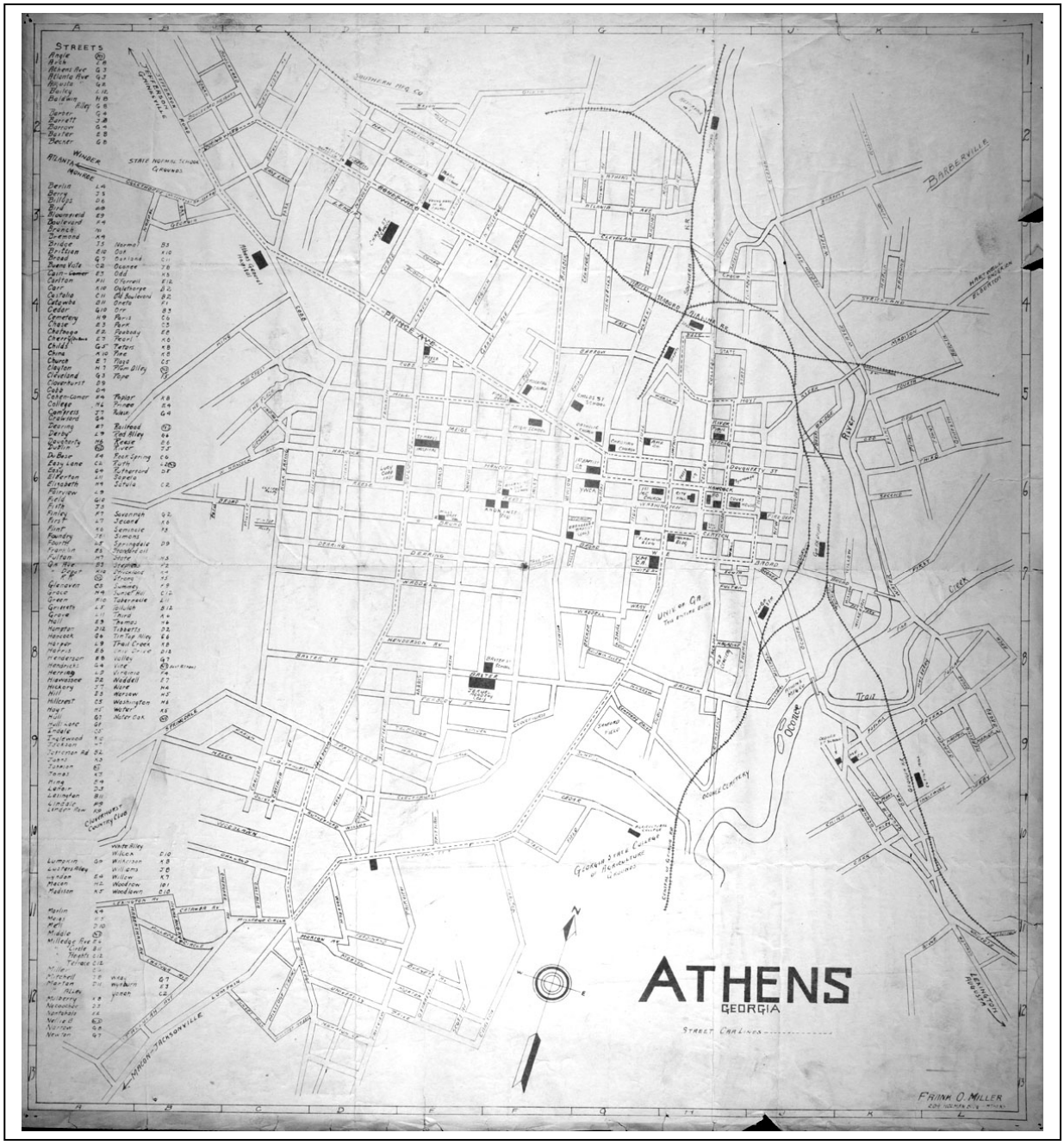

Figure 2.9: *Athens, Georgia (Street Car Lines)*
Frank O. Miller, circa 1925
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

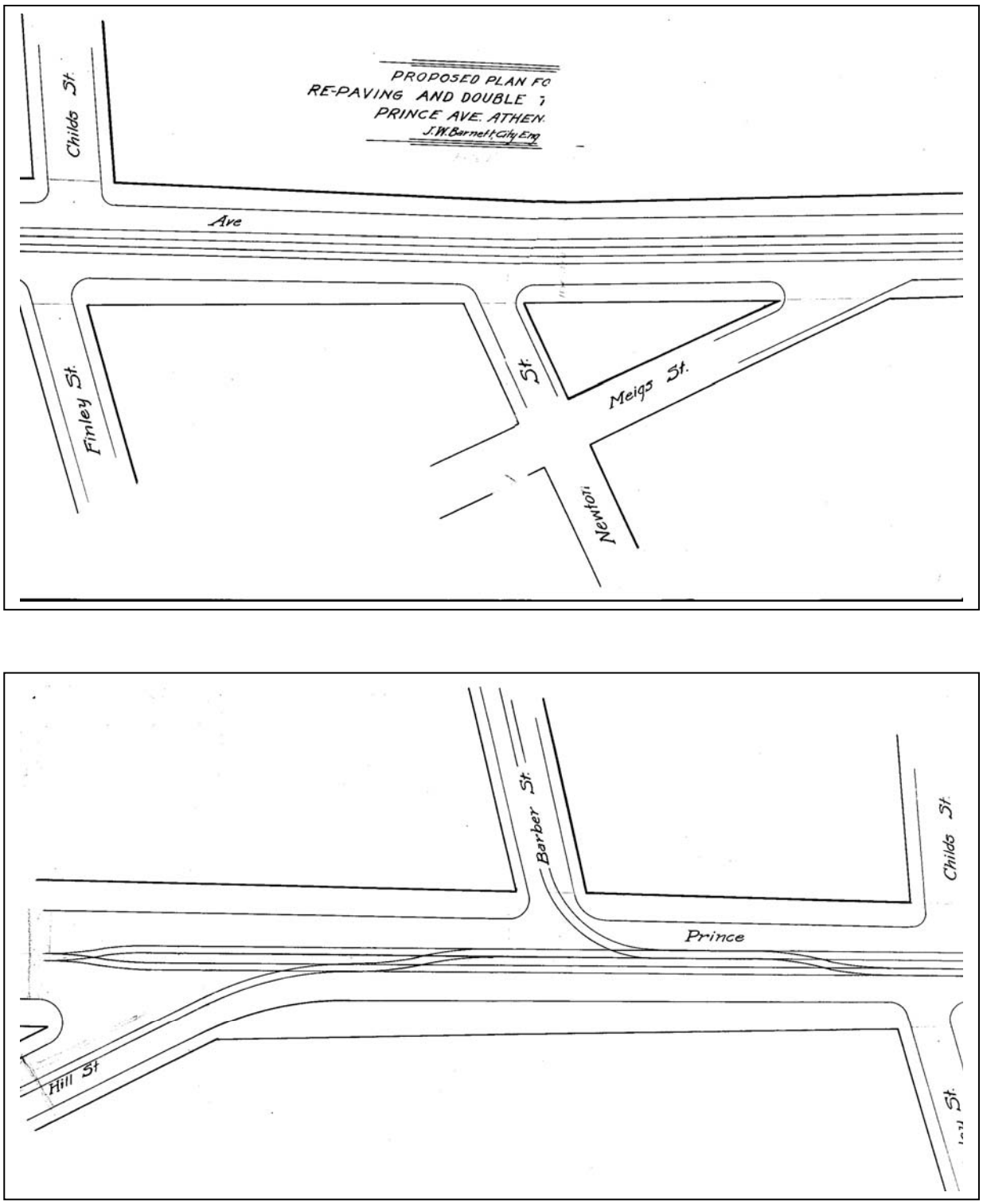

Figure 2.10: *Proposed Plan for Re-paving & Double Tracking Prince Ave., Athens*
J.W. Barnett, City Engineer, date unknown
Courtesy of Hargrett Rare Book & Manuscript Library / University of Georgia Libraries

CHAPTER 3:

APPRAISALS OF SOME POSSIBLE ROUTES FOR USE BY A REINTRODUCED STREETCAR SYSTEM IN ATHENS

Seventy-five years after Athens abandoned the use of its streetcars, largely because its citizens were eager to experience the brave new world of an automobile-oriented lifestyle, another paradigm shift has begun to take place in the world of transportation. As has been discussed in the previous chapter, streetcars were, by the close of the 1920s, widely considered to be slow, antiquated, and essentially obsolete, offering little of the speed, excitement, and sense of adventure that even the shortest of trips by car could muster. By this time, electric streetcars had completed a transition of status, from representing the most rapid and technologically advanced method of local transportation - as was the case during the 1890s - to being reserved mostly for use by the lower classes, who couldn't afford better. In this way, they were perhaps the first form of modern transportation to bear the stigma associated with being branded as 'public transportation.'

But, to borrow an aphorism commonly used in the fashion world, "everything old is new again"; this saying is appropriate for streetcars, for they are now coming back into fashion. Whereas automobiles were once synonymous with unlimited freedom, the general public now largely considers most cars to be bland and 'workaday' commodities, due to their ready availability, their sheer numbers, and the fact that, in many places, one is now needed to get anywhere. Drivers who are now forced to sit alone in their personal vehicles in long traffic jams are commonly perceived of as 'the humble masses.' Similarly, the motor buses that largely

replaced streetcars across the nation have now assumed the role of symbolizing the basest form of public transportation.

Now, many people have come to appreciate a ride by streetcar as a pleasant or even special experience. In a way, the sense of excitement that once surrounded travel by streetcar in their heyday is now back, at least in cities where they are available to ride. As Jim Graebner, chairman of the American Public Transportation Association's Heritage Trolley Task Force opines, "People don't like riding buses, but streetcars draw riders. They have a charisma; people like them."[142] But, in order for the citizens of a city, such as Athens, to be able to experience and take advantage of the ability to travel by streetcar, a line or circuit has to be installed or reinstalled, as the case may be. Before this installation of rails, catenary poles, and wires can occur, a practical and practicable route and alignment has to be developed.

Conventional wisdom within the transit industry posits that the three most important factors in determining the potential success or failure of a transit line are the "Three R's": Route, Ridership, and Revenue. This simple premise espouses that the transit agency needs to either delineate and provide a route whose convenience and efficiency will likely induce ridership, or identify a potential demographic that is likely to enthusiastically support and utilize a newly introduced transit line, and design a route to reach it. Whether route or ridership takes initial precedence in the planning stages, the common purpose and ultimate goal of both is, obviously, to create revenue that is sufficient to justify and help maintain the continued operation of the transit system. In this regard, transit operations are really no different than almost any newly planned or created business.

[142] "Renewed Desire for Streetcars," *The Associated Press (via New Orleans Times-Picayune)*, 18 July 2004.

Yet, logic argues that two of these "Three R's" are extraneous or, at least, subordinate factors during consideration of the possible introduction of a transit system. Instead, all attempts at transit planning can seemingly be boiled down to one simple concept, based one simple question: "What is the primary purpose of the system?" Furthermore, since all transit systems strive to move people from place to place, this basic question can be made more specific, in order to answer, "Who is the system intending to serve?" While the "Three R's" of route, ridership, and revenue are all crucially important facets of conceptualizing a new streetcar system, without the existence, or, at least, the promise of a reasonably reliable ridership, any other analysis of the role and purpose of the transit system only poses a moot point. As should be self-evident with transit systems, including those operating streetcars, there is no compelling need for the long-term operation of service over any route without sustained ridership.

With this in mind, one may begin to consider, and try to resolve, what particular technology, mechanism, or system type might best 'serve' the projected ridership. The definition of the term 'serve' also needs to be quantified, since the concept of 'serving the ridership' may be focused upon either the most time-efficient service or the most cost-effective service, or it may look at other, more intangible factors, such as aesthetic compatibility with historic buildings and the contribution the service can make toward district redevelopment. Although any devised route and mode of service may tend to favor one or more of the above aspects over another, even within different locations along the route, a degree of balance needs to be achieved amongst the different focal points to be addressed.

Taking all of the above into account, it can be fairly argued that Athens - or at least the area around downtown and the University of Georgia - might be particularly well-suited to the successful reintroduction of electric streetcars. The University's student body certainly provides

the critical mass of people that is necessary to justify the initial, speculative investment required to implement such a system. The large mass of students to target, and the indisputable lack of parking around the campus, presents an uncommon situation: a large number of people who need to move about from place to place (from building to building, and classroom to classroom) within a specific, well-defined area, throughout the day, and on a consistent basis. In many respects, Athens offers the ideal scenario for public transit planners. In most urban environments, planners have to assimilate and manage traffic discrepancies between varying load peaks: morning rush hour, lunch crowds, and afternoon rush hours. In concert with the periods of low or reduced ridership in between, these spikes in demand create a scheduling problem that has plagued streetcar systems from the time of their initial introduction. The system operators must provide sufficient capacity to handle the heavy usage during certain limited times of the day, while taking pains to avoid or minimize the inefficiency and expense of running underutilized service during the other hours. Conceivably, Athens' transit planners would rarely face this conundrum, because the University's students are forced to continually move around campus throughout the day as part of their scholastic routine.

A number of concepts have been mooted for rail-based travel in Athens over the last few years, arising out of the general interest in the topic that has been generated by the State of Georgia's studies for an Athens-to-Atlanta commuter rail line, as well as the development of the Multi-Modal Transportation Center (MMTC), whose construction is now proceeding apace on its site, just east of Foundry Street and the Classic Center. Both the MMTC and the proposed eastern railhead for the commuter rail train are based upon the utilization of the existing Norfolk Southern railroad corridor, which runs along the east side of the University of Georgia campus, roughly following a north-south axis. This rail line began its operational life in 1889, in service

of the Macon & Northern Railroad; it is now closely paralleled by the alignment of South Thomas Street / East Campus Drive, which is immediately adjacent, to the west.[143] One concept that has been bandied about postulates that trams could be run along these same tracks, southward from beside the parking lot that currently occupies the space on top of the Baldwin/Oconee Street trestle. This open area has also been considered as the layover site for the Athens-Atlanta Commuter Rail trains, and, potentially, for a final University of Georgia station stop. These trams could carry students to park-and-ride lots at the far southern end of the campus. The Macon & Northern Railroad line, which was purchased by the Central of Georgia only a few years after its origin, and later became a part of the Southern Railway's system, has certainly played a significant role in Athens' rail history. Yet, this dedicated railroad corridor has obviously played no part in the city's history of street railway service, since it has - to this point - always carried full-size steam and diesel-powered locomotives and trains.

An Assessment of the Reutilization of Athens' Historic Streetcar Routes

Just as various measures to employ Athens' historic railroad lines for transit purposes are already being pursued, it would likewise seem prudent to thoroughly assess the feasibility for a return of electric trolleys along the actual original alignments of the city's historic circuits, if all available alternative routes for reintroduced streetcar service in Athens are to be fully considered. These previously existent routes provide precedents for both success and failure, and constitute sources of proven engineering knowledge that might still be pertinent today, and could be tapped through their reutilization. For instance:

[143] Steve Storey, *Georgia's Railroad History and Heritage*, "Covington & Macon Railroad"; available from http://www.railga.com/covmacon.html; "Macon & Northern Railroad"; available from http://www.railga.com/macnrthn.html; Internet; accessed 10 March 2005.

- Less study would be required of the suitability of certain gradients, for, as long ago as 1924, it has been proven that electric streetcars are able to climb all the slopes that these streets have to offer.
- Very little, if any, new grading work would be required, for the profiles of the streets are no worse than when they were last plied by streetcars; if any changes to inclinations and declinations have been made during the interim years, they would undoubtedly have been made in the interest of increased safety, and so would probably have lessened gradients.
- Those streets that were utilized by the street railway during its four decades of prior operation were traveled for well-considered reasons. It was crucial that the selected streets traversed low to moderate gradients. It was also important that those streets that passed the topographical test were also relatively wide and prominent city thoroughfares, so they could accommodate the streetcar tracks without fully impeding other traffic, and represented places to which people wanted to go.

On the other hand, the reintroduction of some or all of these original routes would require significant disruption of the heavy city traffic that still exists on these major thoroughfares, which are currently crowded with vehicles for largely the same reasons that the trolley lines formerly used them. Most of these prominent thoroughfares are wider, straighter, and longer than the average street in Athens, and are therefore able to accommodate the dedicated turn lanes and/or multiple travel lanes, which generally allow them to carry higher traffic volumes. Apart from contemplating the impediments to automobile traffic that daily operation of a newly 'imposed' streetcar line would create, the disruptions of traffic flow that might be caused by the line's actual construction would possibly turn off many people to the advantages of the reintroduced system, before they even had a chance to ride it.

Memphis' recent extension to their twelve-year old Main Street line provides an example of the controversy that this temporary upheaval of streets can provoke amongst the public, including both commuters and business owners alike. Unlike the original line down Main Street, which is not open to automobile traffic, this extension uses the middle two of Madison Avenue's four lanes, meaning that the streetcars are integrated into the normal vehicular flow of the street. Unfortunately, utilizing the existing travel lanes of surface streets means that the lanes have to be closed for at least some part of the construction period, as was the case during construction of the 2.5 mile length of the Madison Avenue Line, which links downtown with Memphis's Medical Center area. Local businesses soon complained that the construction was diminishing their sales volume, and thus hurting their income, by reducing drive-by traffic volumes and making it difficult for drivers to reach their premises. This caused Memphis Area Transit (MATA) officials to hold a meeting with the local business owners and managers, to listen to and discuss concerns about the temporary "negative impacts." At this meeting, the MATA representatives went so far as to admit that "they were aware that construction of the original Main Street trolley had contributed to the closings of several businesses along the mall."[144] But, at this point, the damage was already done, and acknowledgement of and apologies for the construction's 'collateral damage' was about all that MATA could offer. Working in their favor was the reality that this particular part of downtown Memphis was economically depressed and visually down-at-heel. The rundown state of the neighborhood allowed them to depict the streetcar line's period of actual construction as the equivalent of bad-tasting but necessary medicine, which, in view of the hopeful net gain in traffic through the area, and the potential economic benefits to be ultimately derived, was worth the sacrifices to put it in place. However, since most parts of downtown Athens are in much less dire condition than are certain parts of downtown Memphis,

[144] "MATA and Madison Business Not in Sync," *Memphis Flyer*, 1 February 2002.

it is unlikely that such an argument would hold as much water with local business owners, if faced with the real possibility of any obstacles to visits by their customers, whether new conquests or their normal clientele.

Nevertheless, few positive developments come without some sacrifices, and an evaluation of the potential suitability of the modern reuse of the historic routes is certainly warranted, if for no other reason than what has proved successful before may always prove successful again, and should not be disregarded simply because a new concept comes along. This premise, which is a hallmark of the historic preservation movement, applies to planning and development principles just as it applies to individual buildings and historic districts, and, as such, constitutes a primary tenet of the 'Smart Growth' movement, as well. Since the prevailing national trend of the reintroduction of streetcars fits hand-in-glove with 'Smart Growth' values, it would be both misguided and neglectful to overlook the routes of Athens' past, for the potential advantages that they offer are too beneficial to be discounted or ignored.

Discussed hereafter are some of the potential positive and negative attributes that, it is envisioned, could result from the reintroduction of electric-powered streetcars down each of the following individual corridors, which once comprised Athens' historic circuits away from downtown:

<u>Boulevard</u>:

Positives

- **Community that is likely to be receptive and supportive of streetcars -**

  A common generalization about people who live in the Boulevard area is that they are often both environmentally and socially active, and therefore might be more likely than most to ride, and routinely utilize, a reintroduced streetcar service. Similarly, Boulevard

residents also tend to be some of Athens' citizens who are more likely to spend a higher than average amount of time and money downtown.

- **Potential for the restoration of the Boulevard Car Barn's original use -**

  Importantly, the reintroduction of the Boulevard line could facilitate the potential reuse of the Boulevard car barn for its original purpose, if Georgia Power were brought on board and were agreeable. This 'non-adaptive' reuse would or could potentially allow a multi-million dollar savings on construction costs for a new barn, and would be the most historically appropriate use for the building.

Negatives

- **Lack of commercial destinations -**

  There are very few remaining businesses on Boulevard, but, in actuality, commerce was never historically a focus of the street, since it was laid out as the main artery of a residential neighborhood, one that was to be accessed primarily by streetcars. Thus, Boulevard residents would still have to use their cars to reach most shopping destinations, such as groceries, etc. In today's Athens, these are generally located out on the Atlanta Highway or Alps Road. Realistically speaking, it's not likely that people will ever want to return, en masse, to shopping for groceries via a trolley, as they often have far too many things to carry by hand.

- **Lack of ridership throughout the day -**

  Perhaps most significantly, there would not likely be much ridership during the day, for some of the reasons mentioned above. Admittedly, many students live in the Boulevard area who could utilize the streetcars to reach and return from their classes, but the

numbers of students who live over near Milledge and/or Baxter are much more substantial.

<u>Prince Avenue</u>:

Positives

- **Potential for the restoration of the Boulevard Car Barn's original use -**

  If it stretched all the way to Normaltown, a line down Prince Avenue would, again, be close to the original Boulevard Car Barn, which could potentially allow a conversion of the building back to its original use. This would certainly be feasible if the reintroduced line accompanied a reintroduced Boulevard line. However, if the Boulevard route were omitted, and a route out Prince Avenue was devised, independent of its original loop circuit, it is questionable whether the expense of extending a spur line, down Park Avenue for instance, would be worth the potential savings to be conferred by the utilization of the existing building.

- **Potential for pedestrian-oriented redevelopment of Prince Avenue -**

  It could be rationally argued that, since Prince Avenue has already been largely disturbed and compromised by architecturally incompatible commercial infill, the streetcar could increase redevelopment efforts and enable greater density, by helping lead to the infill of parcels that have become parking lots. This could allow, for example, the Dunkin Donuts on the southeast corner of Prince Avenue and Milledge Avenue to be converted and reoriented, from an automobile dependent, commercial-strip business to something that is more pedestrian-oriented, such as the type displayed on Prince by the recent Bottleworks development.

- **Promote and stimulate interaction between Downtown and Normaltown -**

  The introduction of a streetcar line out Prince Avenue from Downtown Athens could provide convenient links between the shops and businesses of Normaltown, including the Athens Regional Hospital complex, and downtown restaurants, and would, conversely, allow ready access to Normaltown restaurants for those who work downtown. In either direction, streetcar patrons would be able to avoid the common hassle of attaining an open, on-street parking space.

Negatives

- **Successful redevelopment would require targeted efforts in other areas -**

  Taking full advantage of the potential redevelopment stimulus afforded by a trolley line, not to mention the quality of the redevelopment, would depend just as much on the strength of zoning and architectural review boards, along with the effectiveness of stakeholder organizations such as the recently initiated CAPPA (Community Approach to Planning Prince Avenue), as it would on a reincarnated streetcar service.
- **Lack of significant commercial destinations, to allow abandonment of cars –**Prince Avenue certainly offers more commercial destinations than Boulevard, but, it still does not provide any major groceries, clothing stores, etc.

<u>Milledge Avenue & Five Points</u>:

Positives

- **Potential for restoration of Milledge Avenue's identity and reputation -**

  Most citizens of Athens would probably now agree that Milledge Avenue, like Prince Avenue at its north end, has lost some of its luster. Aesthetically speaking, the avenue is nowhere near as notable as it once was, since numerous losses of original buildings and

frequent instances of incompatible infill mean that it no longer offers the full allure of its architectural heyday. Having a streetcar line reassume its rightful place on Milledge Avenue would add physical character to the corridor and could help return or, perhaps more accurately, legitimize Milledge's status as one of Athens' premier, or signature streets.

- **Potential for consistent ridership throughout the day –**

  Large numbers of students live along the Milledge Avenue corridor, since it is lined by many fraternity and sorority houses. Also, a number of apartment buildings are located along Milledge itself, while a great many other residential complexes, rental houses, or garage apartments front the side streets, within short walking distances of only a few blocks. The designated stops of the University bus service are usually crowded with students, and reintroduced streetcars would likewise allow these off-campus student residents to get to campus without their cars, and home without having to walk back up the Baxter Street hill. Due to all this nearby student residential activity, the potential exists for steady ridership throughout the day, as it does around the Five Points area, as well.

<u>Lumpkin Street</u>:

Negatives

- **The Lumpkin Street Hill is an ever-present topographic challenge –**

  Even though Athens historic streetcars were able to negotiate the long, steep hills to either side of the Tanyard Branch valley as early as 1910, the sustained, sloping topography of this corridor remains a technical challenge, even without the introduction of soap on the rails.

- **The current widths of the four lanes on Lumpkin Street are narrow –**

  As Lumpkin Street is presently laid out, it consists of a pair of travel lanes in each direction. Because of Lumpkin Street's restrictive rights-of-way, this arrangement is predicated on the use of minimum lane widths, along with a lack of any median or turning lanes. Furthermore, Lumpkin Street consistently carries heavy concentrations of automobile traffic, and the introduction of a streetcar into this mix could create many complaints from local drivers who might cite the trolleys as unnecessary impediments to their progress.

Positives

- **Introducing streetcars could increase safety for pedestrians on Lumpkin –**

  Those potential negative aspects associated with the narrowness of Lumpkin Street, could, inversely, also be regarded as opportunities, whereby the positive impacts of streetcars can potentially be clearly demonstrated. For instance, although some drivers might be irritated by having to share space on the street with trolleys, the electric streetcars would likely go some way towards slowing traffic, due to their regular stop intervals and their slower speeds relative to automobiles, in terms of acceleration, deceleration, and top speed. Hopefully, they would also entice a number of local automobile users to leave their cars at home and ride the streetcars, thus contributing to the overall lessening of automobile traffic within the Lumpkin Street corridor.

- **Installation of streetcars might trigger the 'Baxterization' of Lumpkin -**

  The delineation of four narrow lanes on Lumpkin Street only extends from its intersection with Broad Street (Downtown) out to Milledge (Five Points), so lanes could conceivably be reduced, thereby mimicking Baxter Street's prior lane reduction, and

falling into line with the two and three-lane arrangements at the northern and southern ends of Lumpkin Street. If the lane arrangements were reconsidered, they could be reduced from the present four down to two, with a central turn-lane that could also be utilized by the streetcar tracks. As has been tangibly displayed on Baxter Street, the reduction to three lanes could also create new space for a demarcated bicycle lane along either shoulder. Or, if a lane reduction was not ultimately palatable, then the streetcar tracks could use the outside lanes, with two-interior lanes and without the middle turn-lane.

Downtown:

Downtown Athens' tight, geometric grid of rectangular blocks presents a much more complex situation than that posed by the traffic conditions of the long, straight corridors of Athens' early suburban thoroughfares, such as Prince and Milledge avenues. Notably, these outlying streets offer few instances (excepting Normaltown) where they provide marked spaces for on-street parking.

Any honest analysis of the feasibility of reintroducing streetcars into the downtown environment can produce many pros and cons, which could, dependent upon perspective, be cited by both proponents and detractors alike. But, given that the underlying goal for the premise of reinstalling streetcars in the city center is to benefit the maintenance and furtherance of the health of the historic downtown commercial district, consideration of concepts must acknowledge that the well-intended plans may have some significant downsides. Unlike the previously discussed long, linear corridors, such as Prince and Milledge avenues, the streets that provide access to the individual blocks of the collective downtown are, for the most part, destinations rather than thoroughfares. In general, downtown's perimeter streets, such as Broad,

Dougherty, Pulaski, or Thomas, are the ones most likely to be traveled by drivers trying only to get from one side of the city to another. To many Athens' drivers, the others chiefly serve as the way to reach the front door of a particular establishment, such as a bar, restaurant, music venue, or clothing store, or as the potential location of a curb side parking space, which would then allow visits to multiple establishments on foot. On a seemingly more pronounced level than is apparent with regard to the outlying thoroughfares, it seems that the replication of the former presence of streetcars in downtown Athens can have prominent unintended consequences, which, if not resolved, could actually do more harm than good to some downtown enterprises.

There are two major traffic-related issues that could pose significant hindrances to the reintroduction of streetcars downtown. In order for such a program to proceed, it would be essential to seek and find solutions to these problems, if, indeed, any solutions which are satisfactory to all of the interested parties in the downtown district are possible.

The first potential hurdle stems from the fact that many of downtown's streets are now configured as one-way streets:

- LUMPKIN ST. – one-way northbound, between Broad & Dougherty
- CLAYTON ST. – one-way eastbound, between Pulaski & Thomas
- WASHINGTON ST. – one-way westbound, between Thomas & Pulaski
- COLLEGE AVE. – one-way southbound, for the block between Clayton & Broad

Since Clayton & Washington streets, as well as College Avenue, are all now one-way streets, they would not, according to their current traffic flow patterns, allow the reintroduction of the original downtown streetcar circuit, no matter which version of the original route, or direction of travel, were utilized. Trolleys could travel east on Clayton Street, according to the original route, and then turn south on College Avenue to reach Broad Street, all in keeping with historical precedent; however, they could not currently go south on Lumpkin Street to reach Clayton Street

in the first place. Therefore, the traditional downtown loop could only be made to work if Lumpkin Street was converted back to a two-way street.

The second potential stumbling block is a corollary to the fact that the center lanes of many downtown streets, especially Clayton and Washington, are now routinely occupied by parked delivery trucks. Athens' original streetcars ran down the middle of all the downtown streets, which was a logical, unobtrusive arrangement at the time: there was little traffic to interfere with, and the central tracks made boarding equally accessible from either side of the street. Now, however, the central lanes are used, on a regular, legally-authorized basis, as an unloading zone for deliveries to the many bars and restaurants that make up a majority of downtown's businesses. These deliveries sustain the entire downtown business environment, so it is highly unlikely that this practice could or would be nullified, since Athens' downtown rarely offers the rear or side service alleys that are common in many other cities. With all the competition for space downtown, between cars, pedestrians, scooters, and bicycles, it is questionable whether it would be wise to have streetcar passengers dumped out into this mix, by offloading into the middle of the street.

Although the adherence to the current system of one-way travel on many downtown streets creates difficulties for the potential routing of streetcars, it also creates opportunities that might not be available with a return to a prevailing pattern of two-way travel. For instance, a noteworthy downside of one-way travel (which is currently imposed on Clayton Street, Washington Street, and the south block of College Avenue) is that it would limit the streetcars to one direction by which to negotiate the downtown circuit. The upside of the prevailing, one-way conditions on Clayton, Washington, and College, is that they now offer three full-width lanes, which would seem to leave plenty of space for streetcar tracks, without terribly inconveniencing

automobile traffic. One might therefore suppose that these streets could be readily adapted to the introduction of tracks within the far right-lane. Yet, as it is almost everywhere, parking is the unassailable priority for downtown businesses. Unfortunately, automobiles reversing out of Athens' angled, curb-side parking spaces would frequently impede new streetcars running along the right-side lanes. Steady, rapid progress would often be thwarted, along with attempts to maintain a routine headway interval.

For any potential alignment to be workable, and to still retain a downtown street network that relies primarily on one-way streets, Lumpkin Street between Broad and at least Hancock (and also likely between Hancock and Dougherty) would need to revert to a full two-way street, just as Jackson Street remains. This would be most likely to happen, and would, perhaps, be the least confusing for motorists, if Lumpkin Street south of Broad were "Baxterized," so that its four travel lanes were replaced by a single travel lane in each direction, and a turn lane in the middle. To the north, between Broad and Dougherty streets, Lumpkin Street is already wide enough to also accommodate two travel lanes and a central turn-lane, since it currently offers three parallel, unidirectional travel lanes.

Such a change in the directional flow of traffic on Lumpkin Street would at least allow a version of the historically-correct downtown streetcar circuit to be feasible for implementation. Then, if it were determined that streetcars were definitely desired in the downtown again, the problem of parked cars constantly backing out of the angled parking spaces on the right-hand sides of Clayton and Washington streets would have to be addressed. If streetcars operated within the right-hand travel lanes, as would appear to be the only palatable option, concerns would still exist about letting off passengers next to the rear bumpers and license plates of the parked cars. Such a debarkation point would leave the former riders stranded in a veritable 'no-

man's land,' with no pleasant access to the sidewalk. In one sense, they would thus be no different from drivers of parked automobiles who are stashing or retrieving items in their trunks, but it would not lend much of a sense of decorum to riding the streetcars, and it would likely pose a liability risk, as well.

One potential solution would be to only drop off and pick up passengers at the corner islands that are already in place at downtown intersections. These islands, or more accurately, peninsulas or beachheads, project out into the streets a short distance, and are generally surfaced with concrete or brick pavers. This solution would not compromise or reduce the existing parking spaces, and it would limit the stops the streetcars would have to make, thereby speeding up their headway times. On the other hand, people can be pretty lazy, and if potential passengers could not get on at any point along the route, they might just decide to pass up the ride.

Another potential solution addresses most of these concerns, but would undoubtedly be more expensive and complicated; it might create some new concerns and problems of its own, some of which may remain unforeseen until the project is implemented. Under this proposal, a dedicated trolley lane could be installed hard-by the existing right-hand sidewalks (the north sidewalk on Washington and south sidewalk on Clayton). As they have done in Portland, Oregon, the rails could be imbedded in a path of concrete or brick pads that are raised slightly above the surface of the asphalt-paved street, but are still below that of the sidewalk. The lane would therefore represent an in-between travel lane, which is protected from cars, and could also be used by bicyclists, scooters, rollerblades, etc. The current parking spaces would be moved out into the street to take over the space currently reserved for the right-side lane, so that the streetcars are not constantly slowed by reversing cars. This plan would undoubtedly be highly controversial, since it would cause a reduction in the street's lane count. The center lane would

have to be sacrificed, thereby eliminating loading zones for delivery trucks, unless provisions were made to systematically reserve some of the on-street parking spaces for service vehicles only. Since doing so would require the loss of some customer parking spaces, either outcome would cause great consternation amongst downtown businesses. This undertaking would also necessitate the removal of the existing trees that line the streets, doubtlessly causing consternation amongst other parties. Those opposed could also fairly claim that this option takes up too much space for the amount of overall benefit that it provides.

If a satisfactory arrangement for lane assignments and stopping points could be developed that would somehow allay the fears of all or most of downtown's concerned stakeholders, then the next issue to be vetted would be the layout of the circuit through downtown. The foremost question would revolve around whether to practice strict adherence to the historically accurate route, or to determine that, for the sake of efficiency and practicality, downtown's historic route should be altered somewhat. For example, would it now make sense to try to get involved in the heavy traffic on Broad Street, much of which is passing through downtown on the way out to East Athens and beyond? Or, would it be worthwhile to have trolleys enter into the midst of the crowded and usually confused mix that constitutes the one block of College between Clayton and Broad? Which lane would the trolley utilize, and would College Avenue, like Lumpkin Street, also need to revert to two-way traffic? If it did, the trolleys might come under intense pressure and scrutiny from the drivers of the many cars who are almost always trying to turn right (or west) onto Broad. When one also takes into account the many students who cross Broad Street here, by the Confederate Memorial Monument, delays of both cars and streetcars might become even more significant than they already are at this intersection.

On the other hand, avoiding Broad Street would forego a great and memorable 'photo-op' for sentimental, postcard-like images of streetcars once again plying the lanes of Broad Street, directly in front of the Old Campus. The reborn streetcar service would thus also forego a special marketing opportunity to become a readily identifiable Athens landmark again. Of course, eschewing Broad Street would also definitely hurt the integrity of adherence to the original routes, and give rise to questions about why there was ever any attempt to adhere at all.

Regardless, the most seemingly realistic and effective route would be one that proceeds from Hancock to Lumpkin to Clayton, all the way down to Thomas Street, north to Hancock and back west to the start of the downtown loop. This would, admittedly, once again alter the integrity of the historic route by bypassing Washington Street, but if Broad Street is bypassed in favor of continuing down Clayton Street to Thomas, then heading back westbound on Washington would not provide enough separation to provide good coverage of the commercial district. This proposed route would foresake a direct, adjacent pass in front of the North Campus 'Arches,' but it would still be visible from them, only one block north up College Avenue. It would also help serve and strengthen the area around the Michael Brothers Building and the coming hotel. The modified course would bypass the front of the courthouse, but would certainly be within easy walking distance from both Thomas and Hancock. Perhaps most importantly, it might trigger some redevelopment and revitalization of the east section of Hancock Avenue, and hopefully provide the impetus for new building over some of the open parking lots in the northeast section of the city, near and next to the Church-Waddell-Brumby House.

Whether or not it includes the above ideas, any concept for the reintroduction of streetcar lines through downtown can only have value if it at least keeps in mind the aforementioned

potential restrictions, as well as the fine balance that is required to meet the needs and demands of all of downtown's different constituencies. Having streetcars once again wend their way through downtown would, ideally, be a boon to downtown businesses, since they could conceivably help potential customers get around town more easily and quickly. Yet, like a trolley on the soaped rails of Lumpkin Hill, any concept will never gain traction with the influential public if its designers don't court the opinions of the owners and managers of downtown's properties and businesses, and strive to pacify their qualms. Even if their cooperation and blessings were, in principle, eventually garnered, it might still be decided that the system would present too many tradeoffs and dilemmas to ultimately be technically feasible, or to justify the initial costs of construction and requisite modifications to the existing downtown infrastructure.

An Analysis of a Campus-Oriented Circuit that Caters to the Transportation Needs of Students at The University of Georgia

As mentioned in the introduction, the city of Detroit recently became the first major entity to cease operations of a reborn streetcar line. According to the American Public Transit Association's (APTA) Heritage Trolley and Streetcar Site, the so-called Detroit Citizens Railway was "the first urban vintage trolley project in the country, commencing operations on September 20, 1976. The line was implemented as a Bicentennial project, and was intended to help revitalize the downtown."[145] Obviously, Detroit's streetcar project was an optimistic gamble, whereby they tried to create tourist demand, and tourism itself, where none existed. In effect, the city leaders envisioned these nine streetcars, which were acquired from Lisbon, Portugal and

[145] American Public Transit Association's Heritage Trolley and Streetcar Site, "Detroit, Michigan System Overview"; available from http://www.heritagetrolley.org/existDetroit.htm: Internet; accessed 10 March 2005.

dated from between 1895 and 1925, as primary generators of tourism, instead of primarily as vehicles to move people, and perhaps tourists, from one downtown destination to another[146].

Essentially, this tactic relied on the novelty value of the streetcar, which Detroit's effort certainly had back in the 1970s, when it was implemented. Besides New Orleans and San Francisco, there were no other major cities in the nation that were operating streetcars, and even New Orleans and San Francisco had not undertaken the leap of trying to reintroduce service. Instead, they had just never fully abandoned their existing service. So, Detroit certainly had the 'advantage' of being a novelty act, but, ultimately, this novelty wore off - as novelties do - and the system was not left with enough core purpose or perceived functionality to sustain it. As a result, a local newspaper reported that by 2003, those few of the nine original cars that were still functional were "often characterized as quaint but riderless."[147] The APTA's published ridership figures confirm this reality, stating that the system, by then pared down to a single operable streetcar, carried only 3350 passengers during the whole of 1997. Tellingly, their accompanying overview of the Detroit system quotes a local official as explaining, self-evidently, that "the reason so few people ride the trolley … is because there are so few people downtown."[148]

Unlike Detroit's, Athens' downtown is still a bustling place with many successful businesses, and has lived through and overcome the nation's post-World War II rush to suburbia, that same rush that so crippled downtown Detroit and continues to hampers its redevelopment efforts. Many visitors to downtown Athens are undoubtedly amazed by how many people consistently amble around the district on foot. The idea that downtown Athens, in comparison to Detroit, serves, and is home to, a higher concentration of people who would support a reborn

[146] "Near the End of the Riderless Line: Detroit Plans to Sell Its 9 Trolleys." *Detroit Free Press*, 31 October 2003.
[147] Ibid.
[148] Ibid.

streetcar service is probably legitimate. Nonetheless, the failure of the Detroit system, which was the most long-lived of the reinstituted systems, but also the first to be closed down again, is instructive, and provides lessons that Athens should heed.

Yet, Athens benefits from a rare situation, one that allows the city to reinstall trolley service, and yet not really have to commit to the leap of faith that Detroit took. Almost any new endeavor qualifies as a gamble of sorts, as there is always some uncertainty about the reception of the target audience. Despite this reality, Athens and, specifically, the University of Georgia, can revel in a concentrated critical mass of potential riders; its students constitute a captive audience which the school can largely control, by way of the parking and transportation options that it offers. Ultimately, the University administration can, with approval from the city, ban automobiles from more and more campus streets, as well as more and more parking areas. They can also decide what kind of student transportation system they want to offer, and thus, what many of their students will ride.

Furthermore, the University of Georgia continues to face two significant physical and developmental challenges: one involves geography and the other involves demography. The first quandary has plagued the University ever since the erection of Conner Hall (the College of Agriculture) and the initial development of the South Campus on what is known as Agriculture Hill; it is due to the hilly topography of Athens and the UGA campus, as well as the relatively long, linear layout of the overall campus. In his memoirs about campus life during the 1920s and 1930s, Dean Tate recounts that back then, it was "woe to a student who had English 101 in the Academic Building, then Horticulture 100 in Conner Hall the next period."[149] Even with the easy conveyance over Tanyard Creek now provided by 1962's Jim L. Gillis bridge - "which occupies vertically the place of a path … [that] came down the hill from North Campus, then

[149] Tate, 49.

across the bottoms, then over a wooden foot bridge spanning Tanyard Branch" - the campus' long, linear nature means that there are still many trips that students must make on days of classes, which are beyond the scope of effort and time that is reasonable or, due to tight class schedules, available for pedestrian travel.[150]

The second planning predicament results from the fact that the University's enrollment continues to increase, in part to adjust for the state's rapidly growing population. Yet, this burgeoning student body must cram into the same size campus, one which is very limited in terms of its potential to physically expand its boundaries. With regard to movement of these students about campus, the difficulties that these increasing numbers have created have been compounded over the years, as more and more students gain the use of automobiles, at a younger and younger age. The crux of the problem is that there are not enough places to park these cars, while still maintaining the intimate campus setting, in which the University takes pride.

Steps have already been taken to try to rectify the dilemma of encouraging and allowing for easy, rapid movement about campus while limiting the amount of automobiles and traffic. The University of Georgia long ago implemented a campus bus service, in 1966.[151] Over the years, the coverage of the routes traveled by the buses has become more comprehensive; buses of the nine current daytime routes both criss-cross throughout campus, as well as orbit it, and they extend out to off-campus areas that are home to or frequented by students, such as Milledge Avenue. The thoroughly developed and refined bus service that is now offered is highly effective; in fact, it is so heavily patronized that the Campus Transit System is able to claim that they carry "the largest volume of passengers of any university transit system in the United

[150] Ibid.

[151] University of Georgia Campus Transit System, "UGA Campus Transit Facts, 2004-2005 Fact Sheet"; available from http://www.transit.uga.edu/facts.html; Internet; accessed 6 March 2005.

States."[152] During the fiscal year consisting of the months between July 2003 and June 2004, ridership averaged 29,185 passenger trips per day of operation, for a year-end total of 8,726,209 individual trips (defined by an instance of one person boarding a bus and then dismounting at a destination).[153]

To continue to advance usage of this campus bus system, the University has also moved steadily to limit the access of private automobiles to certain areas of campus, at least during the day, and to restrict the access to parking lots. On weekdays from 8:00 A.M. to 4:30 P.M, the segment of Sanford Drive between its intersection with Baldwin Street and its intersection with Field Street (just south of Tanyard Creek) is now open to "Buses & Service Vehicles Only." In 2002, the University's Parking Services office adopted a new plan by which to assign parking spaces across the campus. One of the four stated goals of the new plan was to "reduce traffic across campus … by restricting permit holders to their assigned lots."[154] Parking Services further explained that the express orientation behind the development of this new plan was to "mitigate traffic congestion and improve pedestrian safety, by restricting parking to a selected area. This reduces cross-campus traffic, thereby increasing the efficiency of the bus system."[155] Consequently, each member of one of the University's groups of potential users of parking - be they students, administrators, faculty, or staff - who requests and is eligible for a parking space, now receives access to only one particular area across the entire campus. The specific lots are also now assigned based upon how much the user is willing to pay for parking convenience; specifically, those areas within the "core campus" are priced higher than those of the "core

[152] Ibid.
[153] Ibid.
[154] University of Georgia Parking Services, "Parking Priority System"; available from http://www.parking.uga.edu/content/registration/priority.htm; Internet; accessed 6 March 2005, 1.
[155] Ibid, 6.

campus periphery," which are, in turn, more expensive than those around the outer perimeter of campus.[156]

There also continues to be periodic discussion about the possibility of eventually banning cars for freshman students who live in campus facilities. This action would be accomplished by simply denying, to all first year students, the availability of those parking passes that allow access to campus spaces. A beneficial side effect of reducing parking spaces on campus is that the lands now occupied by surface parking lots can then be reclaimed for new building sites. This prevailing campus planning initiative is intended to help the University maintain its basic existing footprint despite the increasing size of the student body. The hope is that such a planning program can negate, or at least indefinitely forestall, the expensive and surely controversial need to expand farther into the surrounding Athens community. Moreover, eliminating these unattractive, asphalt-covered spaces can not only beautify the campus (depending on specific building designs and one's architectural perspective, of course), but also pursues the goal of further developing a compact, easily walkable campus.

In accordance with the orientation towards largely ridding the North and South Campuses of surface parking, there is, as discussed earlier, an obvious potential for the University to acquire and make use of the nearly abandoned Macon & Northern / Central of Georgia railroad corridor, which runs along East Campus Drive. Conceivably, plans could revolve around the installation of park-and-ride lots in the more open, University-owned lands south of the primary campus, with trams running from these lots into campus via the railroad tracks. Of course, this same basic park-and-ride concept, in which commuter students and others use satellite parking lots, could be implemented with shuttle buses instead of trams. Yet, these buses could clog Milledge Avenue and/or College Station Road, thus creating the potential for new traffic jams

[156] Ibid.

and causing a situation whereby, metaphorically speaking, the cure is worse than the disease. Despite the advantages of shuttling by rail, these conceptual plans do not specifically address any new means to move students around the campus once they reach it, other than by maintaining the current bus system.

However, these buses rely on student drivers, and despite the extensive training that the drivers receive, several accidents involving pedestrians and buses have occurred over the years. Accidents are not entirely surprising, and in fact might be expected, given the narrow, winding streets and sharp corners that the long buses must negotiate, along with the sheer number of students walking about and crossing streets - often distractedly - when involved in conversations with accompanying friends and classmates. Moreover, although the Campus Transit System's forty-three buses are well-maintained by its ten full-time mechanics, they are powered by diesel engines that, as a byproduct of their operation, spew particulate pollution into the air around campus.[157]

Therefore, if University officials were to go through the effort and expense of designing and implementing a tram service from park-and-ride lots to the main campus, it seems that a reasonable case might be made that they should at least consider taking the next logical step, by studying the possibilities for the extension of rail-based travel systems within and throughout the campus itself. After all, UGA Campus Transit's own website opines that "the Campus Transit System provides an ideal and invaluable laboratory for testing new technologies."[158]

While not exactly constituting examples of new technology, rail-based transit vehicles that are powered by electricity, as are streetcars, introduce almost no airborne pollutants, at least not directly into the specific environment in which they are operating (how and where the needed

[157] Ibid.
[158] Ibid.

electricity is produced is and could be the topic of many other papers). Running on rails does introduce a safety factor, since the transit vehicles are limited to the specific, pre-determined, and tightly controlled path provided by the rails themselves. Certainly, streetcar operators still have to be supremely aware of their surroundings and potential obstacles, and they have to brake and accelerate the vehicle just as a bus driver does. On the other hand, they do not have to concern themselves with actively steering the vehicle, as the bus driver obviously does. Consequently, conversion from a rubber-tired bus, in which the driver is in full command of every control aspect of the vehicle, to a rail-following vehicle, immediately eliminates half of the responsibility for controlling motive inputs. Such a conversion would by no means preclude accidents, since streetcars can and do still run into objects, and can even be derailed. But, it would remove a major, highly variable element from any situational scenario that could lead to vehicular accident – that of improper steering input.

As a side benefit, the introduction of a rail-based system through parts of the University campus might also constitute the least controversial, most risk-free opportunity to reintroduce a streetcar line into the Athens community. As mentioned previously, precedent and existing knowledge is available from the re-utilization of previously existing routes, but, obviously, none exists for brand new streetcar routes dreamed up by the likes of a graduate student. Yet, in this particular case, there also seem to be some potentially significant benefits to diverging from the historically accurate and appropriate paths of the former circuits. The crux of the matter is that complete, historically inaccurate deviation might enable the development of the most direct means to address and serve the most demonstrable need in Athens - that of moving students around the UGA campus without their cars. In order to effectively target the UGA student audience, and thereby guarantee ridership, the proposed routes would need to concentrate less on

historical accuracy and authenticity, and more on routes that would most quickly and reliably move students back and forth between the North and South Campus.

Despite numerous and vigorously proffered claims by streetcar advocates that the costs for the installation of streetcar lines are rarely analyzed in a fair, even manner when compared to the prices of bus fleets, or, ultimately, to the enormous costs of building new roads (subjects that are cause for papers all their own), there is no getting around the fact that their implementation is not cheap, and veers towards the expensive, if looked at solely on a 'per mile' basis. Keeping this in mind, and the small relative size and total economy of the Athens area, it seems reasonable to conclude that the first attempt at reintroduction needs to be successful, as it is a huge commitment for a small to medium-size city. Whenever such programs are undertaken, there are always going to be some risks and unknown factors. Yet, because Athens has a known, quantifiable entity that most cities don't have - namely the presence of thousands of students who will find it harder and harder to use their cars over the coming years - the city has an almost guaranteed ridership that, if targeted with an effective system of routes, can greatly minimize the usual risk of low patronage, and thus, the failure of the program. If the campus system is well received and becomes popular, then the city would have more leverage - in terms of tangible first-hand evidence of both success, and of the physical features of installation - to use in its efforts to sell the idea of an expanded system to the public-at-large. An expanded, integrated system might then be developed to extend out from campus into the surrounding neighborhoods and/or the downtown commercial district, and might even provide the opportunity for the reuse of all or some parts of the historically-accurate circuits.

Potential Routes Through the University of Georgia Campus, and Potential Obstacles

As mentioned previously, there is no direct precedent or existing knowledge available for any potential new streetcar lines through the University of Georgia campus, since it is an entirely new (and groundbreaking!) concept. Likewise, it is an unquestionable stretch for a graduate student to be able to understand and assimilate all of the issues and technical specifications that would be involved in the development of an actual route alignment. Nevertheless, the development of a rough outline of an imagined route may have some worth, at least as a means to begin to evaluate the physical feasibility of installing such a system. The conceptual circuit outline detailed below tries to take into account the potential effects of the hilly terrain of the University of Georgia campus, as well as the peculiarities of its street layouts, while identifying and/or assessing some specific decisions that would need to be made if a similar circuit were eventually devised.

These proposed alignment options for an introductory campus streetcar line are based upon the premise that Sanford Drive is the University's central transportation artery, especially now that the parallel street corridor to the east, D.W. Brooks Drive, has been converted to a grassed mall through the heart of the South Campus, between Cedar and Carlton streets. Whereas automobile traffic is, by design, much heavier and more concentrated on Lumpkin Street and East Campus Drive - the respective westside and eastside arterial thoroughfares on the campus' perimeter - Sanford Drive and its sidewalks constitute a spinal axis that generally functions as the most convenient link between the North Campus and South Campus, particularly for alternative transportation options such as buses, scooters, bicycles, and, last but not least, pedestrians. As posited hereafter, a new streetcar line could essentially take the place of the existing bus service that travels this spine, which is currently described as the *North/South (NS)*

bus route on the UGA Campus Transit System *Rider's Guide: 2004-2005*. This was the first bus route that the transit system ever established, and it could thus become its inaugural streetcar route, as well.[159]

Starting from an arbitrary point between the Tate Student Center and Sanford Stadium, the buses that traverse the roads on this *North/South (NS)* route head north along Sanford Drive, all the way to its end at Baldwin Street. From this tee-intersection, they turn right, and travel east on Baldwin Street to the next intersection, at Jackson Street. Here, they turn left and venture north on Jackson, beginning a north loop that takes them right onto Fulton Street and east for a block, then right again onto Mitchell Street for another block down to Thomas Street. Once on Thomas, the buses drive south to Hooper Street, the next intersection south of Baldwin Street. Hooper Street is used to carry the buses back west to Sanford Drive, for the start of their southbound trek through the middle of campus. They continue all the way south on Sanford Drive to where it ends, by teeing into Smith Street at the northwest corner of Stegeman Coliseum. The buses loop around the arena on Smith Street, and come out onto Carlton Street, driving east. After a short downhill stretch, they turn right onto the remaining open section of D.W. Brooks Drive, and run due south, past the kink where the road turns into Agriculture Drive, and all the way to its four-way intersection with Southview Drive. The buses here make a left turn, and drive due east one block, beginning a triangular circuit that takes them through the center and around the south perimeter of the "University Village," the apartments that serve as Family & Graduate Housing for UGA students. At the end of the block, they turn right, or southwest, onto East Campus Drive, which forms the hypotenuse of the triangle, but then soon negotiate the acute angle corner back onto Agriculture Drive, for the return journey into the heart

[159] University of Georgia Campus Transit System, "UGA Campus Transit Facts, 2004-2005 Fact Sheet"; available from http://www.transit.uga.edu/facts.html; Internet; accessed 6 March 2005, 2.

of campus. On the way back to Sanford Stadium and the Tate Student Center, the UGA transit buses follow essentially the same path in reverse; the only exception is that they bypass Smith Street, and continue northwest along Carlton Street, straight to a right, northbound turn back onto the spinal artery, Sanford Drive.

Since the existing bus route is already in place, and was doubtlessly concocted based upon the appraised needs of students and their projected ridership, the basic outline for a potential streetcar line is already in place, and has been field tested, so to speak. Thus, the consideration of primary importance is not about whether a useful circuit can be devised, but is, instead, about whether this existing bus route is topographically suitable for streetcars, and whether it can be physically adapted to their specific requirements for operation. From the same point on Sanford Drive, between the Tate Student Center and Sanford Stadium, an installed streetcar line could conceivably continue out Sanford Drive all the way to Stegeman Coliseum. Two principle factors along this corridor could pose impediments to the technically feasibility of this alignment, and would require further study to fully alleviate concerns**.**

The first potential hurdle involves the weight rating of the Jim L. Gillis Bridge on Sanford Drive, which carries traffic above the floor of the Tanyard Creek valley and past the west end of Sanford Stadium, thereby connecting the North and South campuses. The gross vehicle weight ratings of those various streetcar models currently available on the market would have to be carefully researched and then compared to the load limits of the Gillis Bridge, in order to confirm that the bridge structure could support the newly introduced weights. This assessment would need to consider not only the weight of the trolleys themselves with a full load of passengers, but also the weight of the new rail infrastructure. The Georgia Department of Transportation's (GDOT) Bridge Inventory Data Listing sheet for this bridge, which was erected

in 1962, enumerates that it is 554 feet long with a total deck width of 48.3, but a roadway width of only 27.1 feet.[160] Each of the two travel lanes, measuring 13.55 across, is accompanied by a sidewalk of 9.1 feet, thereby offering plenty of space for the installation of one or two sets of tracks carrying streetcars of the typical width of between 8 and 9 feet, all while still maintaining bicycle and pedestrian access over the existing sidewalks. Of GDOT's various weight limit classifications, a typical, double-truck streetcar with four axles appears to most closely resemble either a "4-axle timber truck," or a 5-axle truck, which is referenced on the inventory sheet as a "3s2," but is more commonly known as an '18-wheeler.' A streetcar perhaps most accurately falls somewhere in between the two designations, which are, for the Gillis Bridge, assigned weight limits of 32 tons and 35 tons, respectively.[161] These restrictions are based not simply upon the total potential gross vehicle weights of an individual truck, but on analyses of the potential loads carried by each individual axle; this is how a larger truck with 18-wheels may be allowed a higher passable tonnage than a 14-wheel truck. These potential individual axle loads are input into and derived from larger equations that also take into account the lengths of the bridge's individual spans between bents, instead of the bridge's overall length. Hence, while the bridge measures a total of 554 feet, its maximum individual span length of 66 feet is much more crucial to determining its maximum safe load rating.

A perusal of specifications presented on the website for the Gomaco Trolley Company of Iowa (the only existing company in the US dedicated solely to building and refurbishing streetcars) reveals that they can provide new or rebuilt, steel-framed, double-truck models weighing anywhere between approximately 35,000 and 55,000 pounds, with a reduction to

[160] Georgia Department of Transportation, "Bridge Inventory Data Listing Structure ID: 059-5015-0," Report Date: 12 July 2001.
[161] Ibid.

approximately 25,000 pounds for a single-truck model.[162] Tampa, Florida's new TECO Line streetcar system, which opened in 2002, uses eight, steel-framed, double-truck replicas of historic Birney safety cars. Built by Gomaco, each weighs 46,000 pounds, complete with factory-installed (and now essentially obligatory) air-conditioning.[163] Since 32 tons and 35 tons convert to 64,000 and 70,000 pounds, respectively, and because these limits only apply to a single vehicle in one lane of a particular span, it does not seem that this bridge's structural attributes would present a prohibitive obstacle for implementation of a streetcar line across its deck.

Furthermore, it seems possible that much of the line's track infrastructure could be laid within the current depths of the sidewalls of the bridge's existing curbing, which separates the travel lanes from the two sidewalks. This curbing reaches a continuous height of 10 ½ inches on the east side of the bridge, and 7 inches along the west side. When the city of Portland, Oregon began building the infrastructure for its Central City Streetcar (now Portland Streetcar) line, in 1999, it utilized one of the first installations of a new design for a shallow track slab, in which the tracks are imbedded in concrete slabs requiring an excavated depth of only 12 inches.[164] This decision was a bellwether, and this construction technique has been widely adopted for subsequent lines, since it is faster, cheaper, and less disruptive to both traffic and existing underground utility systems. Without benefit of an extensive engineering feasibility test, it seems plausible that the extensive depth of the present curbing on the Gillis Bridge might allow a similar iteration of these track slabs to be installed right over the top of the existing bridge deck,

[162] Gomaco Trolley Company; available from http://www.gomacotrolley.com/Resources.html; Internet; accessed 5 March 2005.

[163] "Tampa's TECO Line Streetcar System"; available from http://www.tecolinestreetcar.org/about/about_vehicles.html; Internet; accessed 14 August 2000.

[164] Portland Streetcar, Inc., "Portland's Central City" available from http://www.portlandstreetcar.org; Internet; accessed 12 August 2004.

while requiring only the pouring of a few more inches of concrete on top of the current curbing and sidewalks, to separate them from the street surface.

The second possible physical obstacle to streetcar operation exists just south of the southern end of the Gillis Bridge, in the form a short but sharp crest that extends perpendicularly across the roadbed of Sanford Drive, in alignment with the intersecting roadbed of Field Street. This narrow street veers away to the east from Sanford Drive, to continue behind the south stands of Sanford Stadium. Somewhat akin to a 'mogul' on a ski slope, the little ridge created by the intersection of these roadbeds already appears to visibly upset the balance of passing buses, which bob and lurch as they go up and over it, and it is unlikely that streetcars could adhere to rails laid over this crest, at least in its current condition (approximately 5 to 6 % slope to both sides of the crest, according to a hand-held inclinometer). However, the length of this ridge is brief, so it would seem to present an easy target for mechanical road scrapers. Moreover, as the bus drivers might attest, it probably ought to be shaved down anyway, in the interest of general vehicular safety; such an argument might help minimize any potential complaints about the associated costs of the grading work.

If it turns out that the streetcars are able to negotiate these potential encumbrances as they currently exist, or that the problems can be rectified, they should be able to continue on up Ag Hill without any other significant issues of implementation, and all the way south along Sanford Drive to its intersection with Carlton Street.[165] Because the recent closure and mall conversion of much of D.W. Brooks Drive has now made Sanford Drive the only continuous, uninterrupted thoroughfare through the middle of campus, employment of its length of pavement from Sanford Stadium and the Tate Student Center down to Carlton Street is an unalterable prerequisite of any attempt to link the North Campus and South Campus by streetcar, without venturing extensively

[165] Tate, 50.

onto the heavily traveled city streets along the perimeter of the main campus. However, once this four-point intersection with Carlton Street is reached, various opportunities, over and above strict adherence to the current route of the *North/South* bus route, present themselves as possible courses for a southward continuation of a potential streetcar line or circuit, as the case may be. One obvious and comparatively simple option would be to simply have the streetcars reverse course at this intersection and, either by way of the same tracks or a parallel set of rails, head back towards North Campus; this would perhaps be most suitably representative of a strict definition of the term, "streetcar line." The other options, described henceforth in sequential order, are perhaps more characteristic of the term, "streetcar circuit":

1.) *Sanford Dr. to Stegeman Coliseum* - Continue out Sanford Dr. all the way to Stegeman Coliseum. From here:

A.) Turn left (east) on Carlton St.

B.) Or continue on around the Coliseum on Smith St. (as southbound buses do)

2.) *From Smith St. (on S side of Stegeman Coliseum)*:

A.) Could continue to circle around the Coliseum and back to Carlton St.

B.) Could turn right onto E. Rutherford Street, headed towards Five Points.

- This would take the trolleys past Foley Field (the baseball stadium) and the Butts-Mehre Building (on NW corner of intersection with Pinecrest Dr.).
- After continuing past the baseball diamond and the Butts-Mehre Building, turning either way onto Pinecrest Dr. would present a climb too steep for a streetcar (approximately 7 to 9 % immediately west of the intersection). So, it would have to either go back from whence it came, or would have to continue outbound around the David Barrow Elementary School on E. Rutherford St., and turn to head back to the main part of campus on Lumpkin St.
- Behind and beside the Elementary School, E. Rutherford St. is narrow, but traffic flow is one-way, and intermingling trolleys headed down the right side of the street might actually help slow down cut-through traffic.
- The major downside of Rutherford St. is that it is narrow; plus, in the section behind Barrow Elementary, residents who park their cars on the east side of the street would not likely be enthusiastic about the potential of losing these parking spots. If this were simply a loop out to Lumpkin St. and back towards campus, using Rutherford St. would not be a problem, as the streetcar could follow along with one-way traffic, and the tracks would run down the right side of the road, as they would on the way back north on Lumpkin St., as well.

3.) *Traveling west on W. Rutherford St.* - If the University and City of Athens wanted to work together to link the campus streetcar transportation to Milledge Ave. without going through downtown, thus maintaining the campus-oriented mission.

- Continuing on across W. Rutherford St. up to Milledge Ave., and turning right to run north along Milledge Ave. to Broad St., or Prince Ave., and then back, might be an ideal solution.
- Traveling to Milledge Ave. via W. Rutherford Ave. would bypass the heavy traffic congestion that often besets the intersection of Lumpkin St. and Milledge Ave. at Five Points, particularly at rush hours. Furthermore, it would allow the streetcars to avoid a difficult, acute-angle corner.
- Speed bumps have recently been installed on W. Rutherford St. between Lumpkin St. and Milledge Ave., so the residents there are obviously already concerned about cut-through traffic on this street; hence, they might not complain about the introduction of streetcars, which could have a traffic-calming effect.

4.) *Traveling N on Lumpkin St. from E. Rutherford* - If the streetcar system is limited mostly to campus, their could be three different potential alternatives to allow the streetcars to turn right, and head back into the middle of campus.

A.) First opportunity would be at Smith St.

B.) Second opportunity would occur at Carlton St.

- This second alternative would carry the streetcars directly in front of the main entrance of the Georgia Center for Continuing Education, so that visitors could not overlook or ignore the service. This might help with the spread of streetcar publicity around the state, since the center hosts many seminars. These visitors would hopefully relate stories of their nice riding experience, the quaint look of the streetcars, etc.

C.) Third alternative would be to make the bend to the left at the intersection of Carlton St. and Lumpkin St., and continue downhill all the way to Cedar St.

- This option would provide access to the University dorms along this section of Lumpkin St., and to Oglethorpe House.
- It could conceivably allow use of the old, original streetcar shelter on the NE corner of Lumpkin St. and Cedar St.; yet, this shelter might actually be situated on the wrong (north) side of Cedar St., since the trolleys would most likely, but not definitively, travel down the right (south) side of Cedar St.

  This third alternative creates as many new questions as answers, such as:
  - How would the trolley transition from Cedar St. back onto Sanford Dr., particularly if Sanford Dr. were served by tracks in both directions? If it were, the cars from Cedar St. would have to use a crossing switch – and how would they turn across automobile traffic, flowing west on Cedar Street, at such a sharp intersection? The only other option would be for the cars to turn right onto Cedar St. from Sanford Dr., and head outbound on Cedar and Lumpkin streets, turning left – across traffic – onto Carlton St.

- Lastly, if the streetcars traveled part of the way down Lumpkin St., why not continue on down into the Tanyard Creek valley? (One could make the point that the slope doesn't get steep until a short distance south of the Cedar St. intersection, but trolleys once navigated the entire gradient).

5.) *East on Carlton Dr. from Stegeman Coliseum* – Keeping in mind that the trolleys could potentially follow Smith St. around the arena, and back to Carlton St.

A.) One option would be to continue all the way east along Carlton St. and through the intersection at East Campus Dr., followed by a left (north) turn onto the old Macon & Northern railroad tracks - if this streetcar system were somehow integrated into rail operations based on a concept for satellite parking south of the campus.

- This option would require the insertion of some fill soil at the intersection of Carlton St. and Brooks/Agriculture Dr., in order to lessen the degree of the slope on the west side of the intersection, and eradicate an abrupt dip near the bottom (the slope transitions from approximately 3 to 4 % at the intersection with Smith St., to approximately 7 to 8 % just west of the intersection with Brooks/ Agriculture Dr.). The alterations to the terrain on Carlton St. would then induce complementary changes to the grade on Brooks/Agriculture Dr., as it approaches the intersection with Carlton St.

B.) Could simply go east on Carlton St. only as far as the new, circular turnaround at the end of what used to be D.W. Brooks Dr. (now the mall); the streetcars could utilize this space on the north side of Carlton St. as a railhead, or reversing point; this space beside the intersection could even potentially house a roundabout or turntable, if such equipment was necessary.

- In this way, the trolleys could serve the College of Veterinary Science, the new Coverdell Biomedical Building, which is under construction, and buildings at the south end of the mall, before heading back west on Carlton St. towards Sanford Drive and North Campus.
- Notably, Carlton St. offers three-lanes through this area, with alternating turn-lanes; thus, it seems to have sufficient room for the streetcar tracks. But, if using this busy street were a sticking point, it might be possible to run tracks down the long parking lot that runs alongside the north side of Carlton Street.

6.) *From the end of D.W. Brooks Mall at Carlton St., turn right, and head south out Brooks-Agriculture Drive* – An appropriate option if the primary idea is to develop a streetcar line that runs along the entirety of the length of the campus, from North Campus to the end of South Campus, thereby following the *North/South* bus route.

- But, Agriculture Dr. is only two-lanes wide, so it would have to be determined that streetcars would not be too much of a traffic impediment, or decide whether this segment would be a part of a loop, in order to mitigate this traffic disruption.
- A second potential hurdle to consider is a fairly steep incline just past the left-hand kink (south of the Veterinary Medicine bldg.) where Brooks Dr. becomes Agriculture Dr. (approximately 4 to 5 % slope). Yet, it is little greater than that of Sanford Dr. climbing the hill south of Sanford stadium, and both of these gradients are less than what streetcars routinely achieved in Athens during the 1920s.

7.) *Continue south on Agriculture Dr. to Southview Dr.* - This would provide convenient service to residents of University Village, the University's Family & Graduate Housing, which occupies the NE and SE corners of the intersection of Agriculture Drive and Southview Dr. (as mentioned previously).

A.) Could turn left on Southview Dr.and proceed eastbound for one block to the intersection with East Campus Drive; go on through it, and turn left onto the former Macon & Northern railroad tracks, to continue northbound.

- This course would provide almost direct access to the University Health Center, and would come close to the Ramsey Athletic Center

B.) Could mimic exactly the existing path of the current *North/South* bus route, and follow a triangular circuit around the University Village, by way of East Campus Dr. back to Agriculture Dr.

- Does not initially seem worth the effort, expense, or slowing of headway to extend farther south on Agriculture Dr., all the way to its intersection with East Campus. But, it would create a simple loop to allow outbound streetcars to turn around and head back north on Agriculture Dr. Such a method of reversal would be particularly useful if it were determined that there was sufficient space and ridership to support the installation of two separate sets of tracks on Agriculture Dr., with one for either direction.

8.) *Use of the Macon & Northern / Central of Georgia Railroad tracks* – This adaptive reuse appears to be the only option for a return trip to North Campus, besides reversing course (which is, in itself, a valid and cost effective solution, with passing sidings, or dual lines):

- Because East Campus Dr. varies in elevation sharply, and throws in sharp horizontal bends or curves as well, it would be difficult or nearly impossible for streetcars to negotiate safely, thus eliminating the use of this street as an option.
- Employing these former railroad tracks for the return path for northbound streetcars could variously interfere with or complement any plans in the works to use these tracks as the route for new trams, which would take students to their cars at on the very southern edge of campus (out past the Athens loop.)

  - Whether the streetcars would interfere or complement would largely depend on how early the streetcar line was integrated into the planning for the park-and-ride concept, and, crucially, what motive power source was chosen for the trams.

  - If the trams were powered by diesel powered 'dummy' engines, or some other variant of power by combustion, then the two lines, and the two concepts, would be mostly incompatible. Conceivably, diesel-powered trams could pass over the same rails as long as they did not interfere with the overhead catenaries and trolley wires, but it would negate any advantages of commonality of components and parts, as well as benefits of economies of scale in purchasing equipment.

9.) *North end of streetcar project – Hooper Street or Baldwin Street?* – Which to use?
Two scenarios:

A.) First would involves streetcars coming off of the old Macon & Northern tracks or as the case might be, turning on to it

- Because Baldwin St. frequently carries heavy traffic volume, Hooper St. might be an all-around better choice, particularly for tying into the Macon & Northern RR, because it approaches the intersection at East Campus Dr. / Thomas St. at a level elevation, unlike the tricky intersection at Baldwin St., which would probably require some sort of expensive and unattractive bridge structure over Baldwin's plunging gradient.

B.) Second would involve the potential of making a north return loop, if Sanford Dr. is used as a central campus spine, with a reversible course arrangement. The loop could allow access to the buildings along Baldwin St. and Jackson St., and work as a sort of passing siding, to avoid tie-ups and traffic jams (allowing one northbound trolley to move north of Hooper St. on Sanford Dr., and then one on Hooper St. to turn left on Sanford Dr., and head south).

- Baldwin St., like Carlton St., is 3-lanes wide, with alternating turn lanes, but it also often carries very heavy traffic. Of course, installing streetcars might create traffic impediments, and anger people enough that they would begin to avoid it, thereby obscurely implementing traffic control.
- Only if the Macon & Northern RR were not used would it make sense to introduce the streetcars onto Baldwin St. But if the course were reversible (focusing on Sanford Dr.), then Baldwin St. might be a good symbolic bookend, to complement Carlton St. at the south end. But, once past the intersection of Baldwin St. and Jackson St., the elevation begins a steep downward slope (of approximately 6 to 8 %). The only way to avoid this topographical feature would be to turn the line through the level parking lot that is situated immediately east of the Psychology Building, and back south to Hooper St. This course would thus simply appear as a short, southward extension of Jackson St., but application of this proposed layout would probably be dependent on trolleys running along the right (south) side of Baldwin St.

Summation and Evaluations of the Potential Routes through Campus

When conceptualizing the most reasonable and effective route for a potential streetcar line that focuses on the use of Sanford Drive as a primary corridor, it is, first and foremost, necessary to keep in mind the concept for the purchase of the former Macon & Northern Railroad right-of-way, which is currently owned by Norfolk Southern. As described previously, this concept would employ these railroad tracks to transport, by way of trams, commuter students

or visitors to campus, from park-and-ride lots in the south of the University's lands. Even if its head start in planning and existing rail infrastructure allowed a tram-based, park-and-ride shuttle service to commence operations before any streetcar service could be initiated, a streetcar line along some surface streets of campus could still well complement the already existing rail-based system, if the two were harmoniously integrated. In fact, widespread use and acceptance of the shuttle trams could help pave the way for the development of the streetcar line, since they would have already introduced students and local citizens alike to the viability of rail-based transit.

Of course, such a proposed tram service might never ultimately develop past the conceptual stage, particularly if local and University officials could not persuade the State of Georgia to provide funding to purchase the old Macon & Northern line from Norfolk Southern, or if negotiations broke down over price or some other disagreement. This would not prevent a go-ahead for the streetcar system, as Sanford Drive and the other streets through campus are already publicly owned. Yet, a lack of success in purchasing the existing railroad right-of-way along East Campus Drive would mean that any streetcar circuit would have to eliminate the possibility of utilizing these railroad tracks for the eastern side of the circuit, either as the outbound or return segment of the loop. Since the topography and volume of automobile traffic on East Campus Drive is undesirable for a streetcar route, the only other available corridor through the heart of campus would be that segment of the former D.W. Brooks Drive that was recently reinvented as the D.W. Brooks Mall. There is certainly no prohibition on streetcar lines running through grassed parkland; indeed, there are many precedents, including not only New Orleans' famous Uptown / Carrollton line through the grassed 'neutral zone' of St. Charles Avenue, but also, closer to Athens, the no longer extant streetcar line which once ran alongside Ponce de Leon Avenue in Atlanta, through a grassed right-of-way within the Olmsted firm's

Druid Hills Park. Regardless of the fact that a streetcar line might constitute a philosophically appropriate addition to a pedestrian oriented mall, the D.W. Brooks Mall does not, however, provide enough geographical separation from Sanford Drive for both to be simultaneously viable corridors. Moreover, after Brooks Drive ends at its intersection with Cedar Street, the streetcars would have to turn west onto Cedar Street itself, to be immediately confronted with a steep, difficult gradient that is east of the intersection with Sanford Drive (approximately 7 to 8 %).

So, all things considered, if the Macon & Northern rail-bed were not available, any installed streetcar running along a north-south alignment within the campus itself would have to retrace its route, or, in other words, travel the same layout in both directions. If free from outside influences, a system can be easily devised to primarily traverse a single set of rails, with periodically-spaced passing sidings to allow two streetcars approaching from opposite directions to pass each other. However, besides those stretches of Carlton Street and Baldwin Street that contribute to a potential layout predicated on adoption and adaptation of the existing *North / South bus route*, almost all of the other street segments offer only two travel lanes, with one flowing in either direction. At the very least, a third, central lane is usually required for streetcars to run in both directions across the same set of tracks; otherwise, if the line were placed down one side of the street, the trolleys would be forced to travel into oncoming vehicular traffic at least half the time over the course of their round-trip run.

Consequently, it would seem that the recommended option for rail placement, within the preceding context, would involve the installation of two separate sets of tracks along the length of both Sanford Drive and D.W. Brooks/Agriculture Drive, if, in fact, the latter was included in the overall circuit. These two primary corridors would be connected by another tandem set of tracks along Carlton Street and perhaps Smith Street, as described previously. At the northern

and southern ends, they could be augmented by various arrangements, utilizing some combination of the earlier delineated return loops. The north loop would be comprised of Baldwin and Hooper streets, with a link through the Psychology Building's parking lot, while the south loop would venture around the three-sides of the south block of University Village. Each set of rails throughout this circuit would be laid within the asphalt-paved lanes that accommodate the desired direction of travel; hence, the individual streetcars would just be added into the mix of everyday vehicular traffic. As do the buses that already follow the same travel pattern along the same route, the trolleys would simply come to a halt in their respective travel lanes when they reached a designated stopping point. This operating procedure would also provide the same beneficial side effect of discouraging automobile traffic, by slowing or periodically stopping it; but, it would do so in a much cleaner manner than do diesel buses, which emit their greatest volume of particulate pollution from exhaust when their engines are under load, pulling away from a stop.

The proposal to install two separate sets of tracks down the primary north-south corridors would need to be reevaluated if Norfolk Southern ultimately agreed to sell to the state their existing rail right-of-way along East Campus Drive, since it would allow another route option, one that would enable a much more comprehensive loop circuit. But the availability of this railroad bed would create as many new questions as answers, and provide multiple ways to envision the use of rail-based transit on the University campus.

If the railroad line were purchased, but the park-and-ride concept, for whatever reason, never reached fruition, a proposed streetcar could still use the existing tracks as a means to circulate the campus. Unlike the aforementioned D.W. Brooks Mall, the former Macon & Northern rail bed is far enough east of Sanford Drive to provide thorough coverage to different

parts of the campus, with little or no redundancy of service. Certainly, an academic building such as Conner Hall is nearly equidistant from both the rail line on the east and Sanford Drive on the west, and could be targeted as an example of service overlap. But, the Sanford Drive line would also provide easy access to those University buildings to the west of Sanford Drive, along Lumpkin Street, while the line running along the railroad tracks would offer ready access to the Georgia Museum of Art, the Performing Arts Complex, the Ramsey Athletic Center and other such facilities on the far eastern side of campus. Whereas a walk from Tucker Hall, at the corner of East Campus Drive and East Green Street, over to Oglethorpe House, on the west side of Lumpkin Street, might be daunting to many, such a walk would be lessened considerably by taking a streetcar down Sanford Drive to its intersection with Cedar Street.

The Macon & Northern railroad bed has historically offered a single set of tracks, and its availability to streetcar use would, in its existing state, allow the relatively easy creation of a one-way belt loop. Under this scenario, the streetcars could run either clockwise or counterclockwise, and could so proceed outbound along the railroad tracks, to eventually return inbound by way of Sanford Drive, or vice versa. In order to provide power to electric-powered streetcars, only catenary poles would have to be added to the existing track infrasture, to hold the overhead wires. This layout would also minimize the requirement for the installation of rails down Sanford Drive, since the streetcars would only travel in one direction. No return rails or passing sidings would be required, thereby cutting the total amount of rail installments into existing street surfaces by half, in general terms, with a corresponding diminution of construction costs.

Yet, though it would seem to be the most inexpensive available option, this program would create some side effects that could ultimately outweigh its presumed cost advantages. The

foremost downside would be that such a wide-ranging, one directional loop would make the streetcar system much less convenient for many riders. For example, a student might desire to travel from the Tate Student Center to the Snelling Dining Hall, on the south corner of the intersection of West Green Street with Sanford Drive; such a trip does not constitute an unreasonable walk, but it presents a distance that might convince the student to take advantage of a streetcar ride, if one were readily available. However, if the available streetcar service only happened to be circulating in a clockwise direction that particular day, the student would probably decide to make the southward trip on foot, rather than traveling farther north on the streetcar, and then riding all the way over to the Macon & Northern rail line to make the outbound trip, which would finally require an inbound ride back to Snelling Hall. As is self-evident, shortening the headway, or time between arrival of cars, would present no advantage towards changing the student's decision to walk, because no matter how promptly a streetcar could arrive, riding it would take the passenger on an out-of-way journey, and would increase the ultimate travel time. In order to make such a one-way loop at all feasible, the course would, at the very least, have to be shortened, by omitting any service on D.W. Brooks/Agriculture Drive, and instead traveling directly between the railroad tracks and Sanford Drive, by way of Carlton Street.

These limitations would vanish if the current single track facility on the Macon & Northern railbed were upgraded and expanded to offer two separate, side-by-side tracks throughout the length of the University campus. Such an upgrade would be designed to allow the proposed trams to pass each other uninterruptedly, thereby increasing the convenience and appeal of the park-and-ride service, as well as allowing the trams to ferry students and other visitors back and forth, throughout the day, between buildings along the east side of campus. If

the streetcar line were integrated into the overall concept of the University's proposed tram system, the additional set of tracks could also allow the streetcars to travel in both directions, in between the runs of individual trams. In conjunction with the installation of two sets of rails within the Sanford Drive and D.W. Brooks/Agriculture Drive corridors, this could make a belt loop layout much more effective, as streetcars could concurrently circle the campus in both directions.

Under this most extensive scenario - of a full belt circuit utilizing two complete sets of tracks, in tandem - the streetcar tracks of the Sanford Drive-based line would tie into the former freight railroad tracks twice, at both the north and south ends of the University's main campus. As mentioned in the prior outline, Hooper Street would provide the ideal venue for this merging of the two lines at the north end of campus, since its grade is level at its perpendicular intersection with Thomas Street. Consequently, if the purpose-built streetcar rails were tied into the existing Macon & Northern line, Baldwin Street would probably best be omitted from the layout, in order to bypass its aforementioned, topographically unfavorable intersection with Thomas Street. Instead, two separate sets of rails would, with the assistance of a necessary traffic signal, cross Thomas Street and run into the existing parking lot on its east side. Then, from their heretofore straight alignment along the full length of Hooper Street, these tracks would begin curves of the appropriate radii to link them to the historic freight railroad tracks.

If full service were able to be offered in both directions along two separate sets of tracks, there would no longer be an overarching need to restrain the length of the circuit, as would be necessary with a unidirectional belt loop. Free of the concerns about a one-way loop's lack of ultimate convenience to riders, it would once again be plausible for the streetcar route to turn south from Carlton Street onto D.W. Brooks/Agriculture Drive, instead of continuing on Carlton

all the way to the Macon & Northern line. The primary issue to resolve would then shift to the comparative triviality about how far to extend out Agriculture Drive. If the rails continued all the way out Agriculture Drive to its intersection with East Campus Drive, they would avoid entering the heavier traffic that is often present on Southview Drive / College Station Road. Furthermore, due to the Macon & Northern railroad bed's placement immediately adjoining East Campus Drive, and the fact that rail-based vehicles cannot make ninety degree turns, the arc of those rails converging with or diverting from the Macon & Northern's tracks would either have to intrude upon the lanes of East Campus Drive, or cross diagonally through the outside lanes of College Station Road, in order to provide sufficient room to lay out a negotiable curve. As this four-way intersection is already complicated, due to the presence of turn lanes in all directions, and multiple existing directional signals, a continuation along Agriculture Drive to its end would seem to be more conducive to a safe and smooth integration of the two separate rail lines.

On the other hand, such a course would create a more acute angle for the streetcars to traverse, since Agriculture Drive essentially veers away from East Campus Drive, rather than intersecting it at a right angle. Secondly, the streetcars' turns across the full, four-lane width of East Campus Drive at this point could only occur with the assistance of newly installed traffic signals, to halt any oncoming automobiles. Despite these potential difficulties of use of this intersection, neither would pose a hindrance that could not be resolved. For example, if the turn from the Macon & Northern railroad onto Agriculture Drive was ultimately found to be too sharp, the streetcar tracks might be extended across East Campus Drive along the same, southerly axis as that of Agriculture Drive. Instead of making a tight turn, they could thereby merge with the Macon & Northern tracks at a point south of the intersection, in the manner akin to that of a siding or spur line which forks away from a mainline. A streetcar heading south on

Agriculture Drive would thus continue a short distance past the wye-shaped merge of the two rail lines, and then reverse course onto the eastern set of the Macon & Northern tracks. Doing so would entail crossing the western, southbound set of Macon & Northern tracks first, but any connections of two different lines, in a loop involving two fully duplicated, paired sets of tracks, will require crossovers. This design reality would apply to the connections of the surface street and Macon & Northern lines at both the north and south ends, regardless of which specific locations for the junctions are selected. The primary limitation associated with this option would, instead, be the requirement for operator controls at both ends of all the streetcars, as the motorman would here have to transfer his command from one end of the car to the other in order to remain in the 'driver's seat,' so to speak. Acquiring cars with dual controls would probably be wise irrespective of the initial demonstrable need, as they would enable greater ultimate flexibility of routes and service. Yet, the motorman's change of station would unavoidably result in a cost of some time, with an accompanying slowing of headway schedules.

As an alternative, the streetcar line could also be integrated into the overall concept without actually traveling the tracks of the Macon & Northern line themselves. Under this scenario, passengers could simply transfer from the tram to the streetcar, or vice versa, at their closest points of contact, the northernmost and southernmost ends of the Sanford Drive streetcar line. This option would avoid all the hassles with track crossovers, and the track signaling and switching systems that would be crucial to managing their safe operations.

Notably, it would also avoid the need for "temporal separation," which is an allowable method of getting around the Federal Railroad Administration's (FRA) requirements that commuter trains that operate over freight lines meet certain crash safety standards, if freight

trains still utilize the very same tracks.[166] In essence, the cars of the commuter trains would have to be large and heavy enough to hold their own if they were involved in a crash with a freight train, and Light Rail Transit (LRT) trains cannot typically pass the FRA's crash standards. Since one supposed rationale for the State of Georgia buying the former Macon & Northern Railroad line from Norfolk Southern would be to reopen and maintain rail-based freight service between Athens and Madison, Georgia, for the purpose of economic development, it is likely that the park-and-ride trams would have to share the use of the tracks with short-line freight railroad operators who would lease trackage rights from the state. With this being the arrangement, the park-and-ride trams could either be built large and strong enough to pass the FRA's standards, or the University could sign an agreement with the freight operator stipulating that freight trains can only travel over the involved section of track during certain hours. According to most operating arrangements already in practice, such as those enacted by the Maryland Transit Administration in Baltimore, the Utah Transit Authority in Salt Lake City, and the New Jersey Transit Corporation's River Line, the freight trains are typically restricted to the nighttime hours, when passenger service is not in operation, and there is thus no chance of collisions between the disparately sized vehicles.[167]

If for any reason the potential freight railroad operators were not amenable to restricting their usage of the Macon & Northern line during normal business hours, the trams could still probably be designed in a way to meet the FRA standards. Since this rail bed was designed for heavy freight trains, the passenger trams would only have to traverse a level or nearly level

[166] American Public Transit Association, *This Week in Passenger Transport,* "San Diego Trolley Receives FRA Approval for Modification to Freight / LRT Temporal Separation Plan"; available from http://www.apta.com/passenger_transport/thisweek/041108_3.cfm; Internet; accessed 5 March 2005.

[167] American Public Transit Association, *This Week in Passenger Transport,* "San Diego Trolley Receives FRA Approval for Modification to Freight / LRT Temporal Separation Plan"; available from http://www.apta.com/passenger_transport/thisweek/041108_3.cfm; Internet; accessed 5 March 2005.

gradient, and so could be made large and heavy enough to achieve the necessary crashworthiness. On the other hand, because streetcars that run within the rights-of-way of city streets have to negotiate sharp turns and markedly steeper slopes, they have to remain comparatively light and nimble, and could, by no means, be designed in a way to pass the FRA's test.

Reserving the railroad tracks for the park-and-ride trams would also allow them to be operated by diesel-electric motor units, if it were deemed to be too expensive to install overhead wires all the way down to the park-and-ride lots on the University's lands near the South Loop and even farther south, near Whitehall. Like their freight locomotive brethren, diesel-electric powered transit trains employ onboard diesel-fueled engines to power electric traction motors.[168] Although not necessarily common, they are an accepted option, particularly for systems that cover longer than usual distances, such as interurban lines, or those connecting downtowns with suburban centers. Unfortunately, their diesel engines still produce exhaust particulates. But, if the trains operate within a separate right-of-way, as the University's would, these fossil fuel-burning power plants don't negate the rail-based transit benefits of allowing many commuters to leave their cars at home or in park-and-ride lots, thereby reducing traffic congestion and the pointless, unproductive air pollution generated by cars, trucks, and buses idling fruitlessly in traffic jams.

If the two lines were kept physically separate, and the streetcars were limited to plying the surface streets of campus, the two systems could still quite clearly support and complement each other, as long as the streetcar route was consciously planned to either directly adjoin, or at least come to a point of close proximity, at its north and south ends. Such route development

[168] *The New New Electric Railway Journal*, "Heritage Trolleys in Memphis and Galveston"; available from http://www.trolleycar.org; Internet; accessed 26 August 2004.

would be necessary to facilitate the easy transfer of passengers from one line to the other. At the north end, a loop from Baldwin Street through the parking lot east of the Psychology Building, and back onto Hooper Street, would, as mentioned earlier, be the only possible means to devise a circular course of suitable gradients. Nevertheless, a trolley stop in this co-opted parking lot would only reside approximately half a block away from the Macon & Northern railroad right-of-way. The previously described extension of the streetcar line down the full length of Agriculture Drive, to its intersection with East Campus Drive, would also be an ideal opportunity for riders to move between the park-and-ride trams and the Sanford Drive streetcar. The streetcars could stop at the end of Agriculture Drive, and commuters from the trams could cross East Campus Drive on foot to board them. Or, the streetcars could continue south on rail extensions across East Campus Drive, in order to pull up alongside the park-and-ride trams; the open area immediately southwest of the intramural fields of the Recreational Sports Complex should permit ample space to do so. The manifestations of healthy, athletic lifestyles that are displayed daily on the adjacent fields would provide a fitting counterpart to the boarding point for an electric streetcar system, which similarly encourages the development and sustenance of a regimen of physical exercise, by enabling increased pedestrian activity.

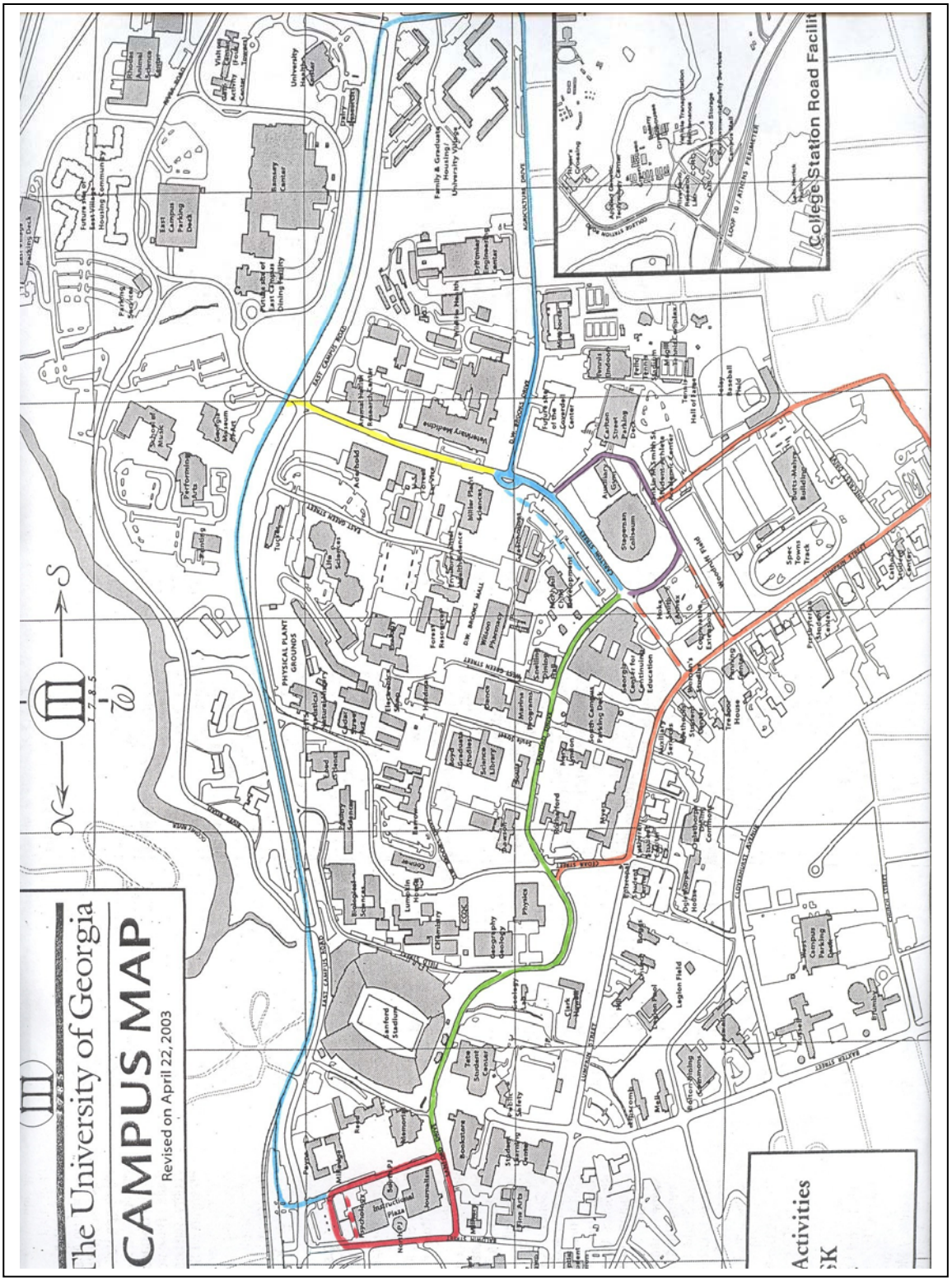

Figure 3.1: *The University of Georgia Campus Map (Revised April 22, 2003)*
Integrated and stand-alone segments of various rail transit route alternatives throughout campus
Courtesy of University of Georgia Department of Student Activities

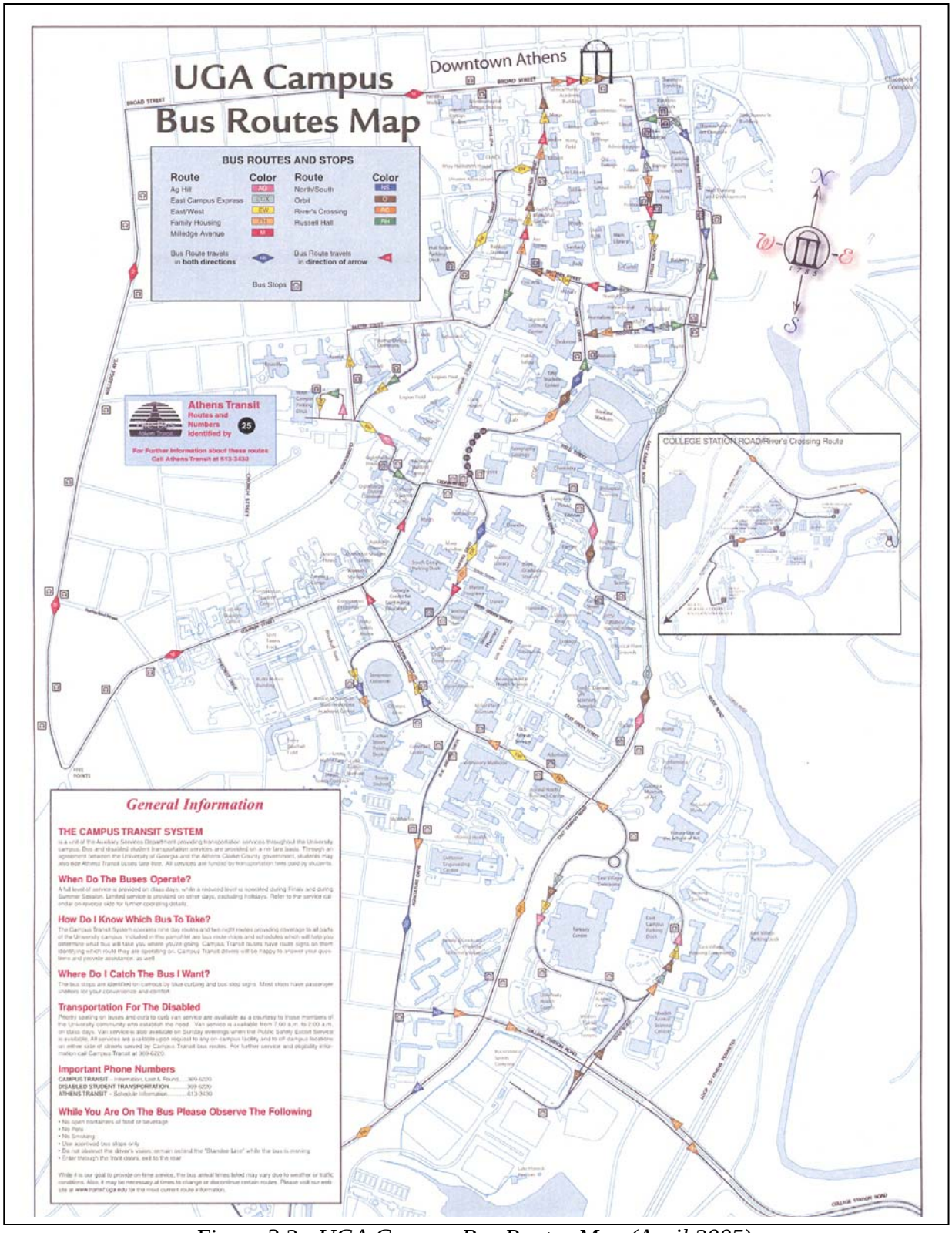

Figure 3.2: *UGA Campus Bus Routes Map (April 2005)*
Showing circuit of North/South (NS) Bus Route, in relation to other system routes
Courtesy of University of Georgia Campus Transit System

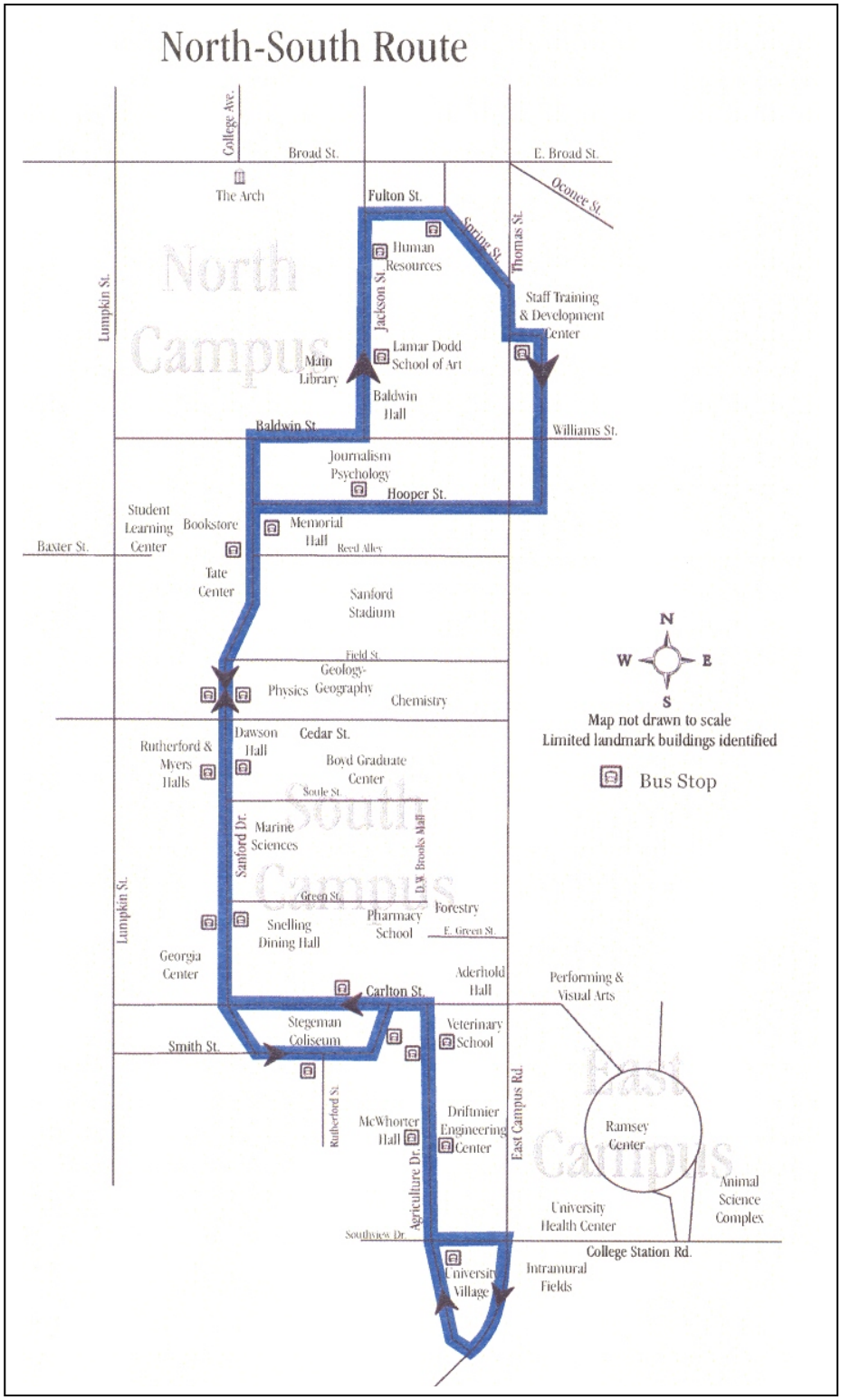

Figure 3.3: *North-South Route and Timetable (April 2005)*
Illustration of the North/South (NS) Bus Route, isolated from the system's other circuits
Courtesy of University of Georgia Campus Transit System

CHAPTER 4:

SOME HYPOTHETICAL BENEFITS OF IMPLEMENTATION OF ONE OF THE PROPOSED CAMPUS ROUTES

As heretofore described, one envisioned strategy would split the University's rail-based shuttle service into two parallel tentacles, thereby providing a two-pronged attack on the campus commuter conundrum: the right-fork, with its railroad-based trams, would serve buildings along the east side of campus, while the street-based trolleys of the left-fork would serve destinations along its west side. With the northern and southern points for transfer between the two systems, students and other riders could shift back and forth, dependent on which sides of the North and South campuses they needed to reach.

An important example of the potential effectiveness of this bifurcated service layout might conceivably be witnessed on football game days. For example, the University could offer game-day parking, to alumni and other off-campus fans, in the park-and-ride lots south of campus. Offering these spaces for free, or at a price significantly reduced from those on the main campus, might be effective in encouraging stadium-goers to park in these new areas, particularly if public restrooms, gazebos, picnic tables, and other special amenities were added at these park-and-ride sites. On the other hand, the University and its athletic association could simply force the issue by banning parking in some of the presently used surface lots on campus. Regardless of whether either of these methods is employed, the need for game-day parking off campus is only going to become more prevalent as the years go by, and the University continues to erect buildings on the formerly open sites, so they are no longer available for tailgating.

As kickoff neared, the fans tailgating in the park-and-ride lots could board the waiting trams to ride the Macon & Northern railroad tracks north towards the main campus. Those with seats that are readily accessible from the stadium entrances on the east side could continue on these trams all the way to the stop nearest Sanford Stadium. Conversely, those fans whose seats are most easily reached via the stadium's west gates could disembark from the trams at Agriculture Drive, and then climb aboard the waiting streetcars for the ride down Ag Hill and over the Gillis Bridge.

There is already successful precedent for this course of action, as similar game-day transit operations are currently practiced in Salt Lake City, Utah. This mode of moving fans to and from sporting events was made possible by a 2001 extension of the Utah Transit Authority's (UTA) well-received, two-year old TRAX LRT (Transit Express - Light Rail Transit).[169] The LRT trains of the new, 2.3 mile branch link downtown Salt Lake City with the University of Utah; the line's final stop is beside Rice Eccles Stadium, where the school's well-respected football team, the Utes, play their games. This enables fans to ride the original, 15-mile long line into downtown from the southern suburb of Sandy, Utah, and then east to the stadium. It also allows them rapid, convenient access to downtown restaurants and shops both before and after the game, which may add to the sense of occasion for the fans, and certainly contributes to the financial health of the city's businesses, as well as its tax coffers. Obviously, the spur to the University also helps minimize the traffic congestion and parking lot overcrowding that is traditionally associated with large sporting events around the country.

The city and the state's transit authority recognize the advantages of TRAX's service for all parties potentially involved with football related festivities, and takes pains to make sure the

[169] Light Rail Now!, *Light Rail Progress – November 2002*, "Salt Lake City: Light Rail's a Hit"; available from http://www.lightrailnow.org/features/fslc001.htm; Internet; accessed 5 March 2005.

system is optimized to cater to the fans, as is indicated by the proactive procedures described in UTA's press release before last fall's season:

> UTA has modified its operations to accommodate large crowds expected for the University of Utah's first football game of the season. Expanded service will include increased frequency and longer trains. To assist with peak demand, UTA reminds passengers to plan ahead and leave early for the game.
>
> Service to the game will be as follows:
>
> Additional cars will be added to regularly scheduled trains from the Delta Center to the Stadium station.
>
> Starting at 3:45 p.m., trains from the Library station to the Stadium station will run every eight minutes. The public is encouraged to park at the downtown Salt Lake City Library and use the Library TRAX station.
>
> Following the game:
>
> Trains will operate as frequently as possible until everyone leaving the stadium is accommodated.
>
> Two southbound Sandy express trains will depart the Stadium station for the Courthouse Station and will not stop along 400 South. Express trains will be clearly marked with a red sign saying, "Express to Sandy, first stop Courthouse.[170]

Since Athens is a much smaller city than Salt Lake City, the many fans from around the state who once attended the University of Georgia often make leisurely weekends of their trips to home games. These out-of-town fans are perhaps less concerned with the outright rapidity of their ingress into and egress from Sanford Stadium than might be many of the University of Utah's fans, who simply commute from the nearby suburbs. But, if current enrollment trends continue, resulting in an ever-greater percentage of the University of Georgia's students originating from and returning to the greater Atlanta metropolitan area, this mindset is likely to change.[171] Indeed, the prevailing perception has already begun to change, as there are now many Atlanta domiciled alumni and fans who conceive of their attendance at a Bulldogs' football game

[170] Utah Transit Authority, "Press Release – UTA Expands TRAX Service for U of U Football Opener"; available from http://www.rideuta.com; Internet; accessed 1 September 2004.

[171] "Bulldog Barbie," *Creative Loafing*, 9 February 2005, p. 32.

as only a short day-trip. In truth, there long have been, but the practical realization of their concept has recently been facilitated by the construction of Georgia Highway 316, which provides the means for a direct, high-speed commute from Atlanta to Athens. The ever-growing body of alumni from Atlanta and its suburbs is only likely to increase this trend, particularly as metropolitan development creeps closer and closer to Athens itself.

Bearing these development trends in mind, a two-pronged, rail-based shuttle service from Sanford Stadium and the heart of campus out to park-and-ride lots could be an ideal means to expedite ingress and egress to games, for the increasing number of Georgia fans who want to come to Athens on the morning of the game, but then leave town, to head for home, as soon as possible after the game is over.

Yet, as is evidenced by their very passion for tailgating, speed and efficiency of service is certainly not the only thing with which football fans are concerned. Rather than simply opting to watch games on television in the comfort of their own homes, they make the expensive and time-consumptive effort to attend the games in person, in order to partake of the atmosphere that only a first-person stadium experience can offer. The rail-based shuttles could benefit this less tangible realm, as well. Although the effect might not be as readily calculated, the streetcars and trams could add to the day's excitement and sense of occasion, which are desirable traits for events leading up to football games. Riding the streetcar to the football game could make a memorable impression on visitors and longtime fans alike, by adding a unique bit of character to the experience of attending a game at the University of Georgia; the ride would be especially exciting for children. The trams and trolleys could also bring favorable attention from the national sports media, who are always looking to broadcast interesting visual elements, or 'local color,' from the stadium's locale during their television broadcasts. Hence, well-known staples

of the annual broadcasts of New Orleans' Sugar Bowl are the ubiquitous shots of the St. Charles Avenue streetcars, which are, along with scenes of Bourbon Street, frequently flashed across the screen as the show's producers cut away from and return to the game from commercial breaks. Likewise, a football preview show such as ESPN's *Gameday* would probably love to use the passing streetcars as a moving backdrop, or set piece; the motorman could even ring the gong for the cameras as the trolley rolls past.

In conjunction with officials of the University Campus Transit System, the University and its athletic association could get even more creative in exploiting the festive and memorable qualities of a streetcar system. For instance, they could appoint 'Guest Conductors,' who, with a little training, or perhaps accompaniment by watching Transit System chaperones, could be given opportunities to drive the trolleys on game-day runs to the stadium. These special conductors could be chosen from applicants such as season ticket holders, or the distinction could be reserved for more generous donors. Along these same lines, the Georgia football players and/or the cheerleaders could even use the streetcars to make their already grand approach to Sanford Stadium even grander. Since their dressing rooms in the Butts-Mehre Building are less than half-a-block from Smith Street, they could climb aboard the waiting trolleys across from Stegeman Coliseum, and ride them down Ag Hill, to dismount and walk into the stadium. A special, open-sided car or two could be built – called the "Fightin' Machines" (for the lyrics of one of the University's unofficial fight songs: "What's that coming down the tracks? It's a fightin' machine, it's red and black!") - with speakers on the roofs to play the Georgia fight song; traditional running boards could also be attached along the sides for some players to stand on, and interact with fans on the route to the playing field, via high-fives or low-fives, according to each player's preference. All things considered, if the players can ride a

cramped, nondescript charter bus to and from the stadium, as they do currently, they certainly shouldn't mind riding an open-sided streetcar. The 'electric' atmosphere that could result from the teams' pre-game ride on the electric streetcars just might spark and energize the interest and support of fans across the country, as well as across the 'Bulldog Nation.'

Of course, playing up these intangible aspects of the campus streetcar system would be made all the more effective by the bestowal of a catchy name that would attract attention and stick in people's minds, whether they are those of television viewers, or of the students, alumni, football fans, or campus visitors who would comprise the system's ridership. Its function is much more limited, since it only transports cheerleaders around the football field, but Georgia Tech has its instantly recognizable "Ramblin' Wreck," as well as the less famous nickname for its transit buses, which are referred to as the "Stingers." The University of Georgia could extend its sworn rivalry with Georgia Tech to the field of campus transportation monikers, trumping the Institute with, perhaps, one of the following distinctive appellations:

CLASSIC CITY STREETCAR

"THE TROLLEY"

UGA-TRAX

UGATRAIN

ACC-TRAC or ACC-TRAX

UGA-CHUGGA

RED & BLACK TRACKS

BETWEEN THE RAILS

THE WHITE STRIPE LINE

DAWG-GONE TROLLEY or DOGGONE STREETCAR: As in, "Well, I better go catch that 'DOGGONE STREETCAR,' or I'll be late for class."

Whichever one of this quality collection is ultimately selected, the individual cars of the service should be named in honor of the six bulldogs who have served as UGA I-VI, with photographs of their mugs on the front and sides.

Even if some of the above suggestions are made (slightly!) in jest, they are, in any case, hopefully illustrative of some of the side benefits that a rail-based transit system on campus could actualize if some creative thinking were applied, and concepts put into practice to expand the idea of ridership as an experience, thereby pushing the service of the trams and streetcars past the point of being thought of merely as another means of public transportation.

CHAPTER 5:

CONCLUSION

The specific concept previously described obviously represents only one of the potential routes for streetcar reintroduction that might be practicable in Athens, either on campus or otherwise. As heretofore contended, it simply seems that the University of Georgia campus might prove to be an ideal laboratory for the initial demonstration, within the context of today's transportation options, of the utility and feasibility of a streetcar service in Athens. The proposed route could take streetcar reintroduction out of the realm of the conceptual and make it a tangible example, while, at the same time, perhaps shielding it from some of the predictable controversy that goes along with almost any major infrastructural project (and often rightfully so). Such controversy and intense public scrutiny would almost certainly accompany reintroduction of a system relying primarily on the use of off-campus city streets that are actively utilized by the greater motoring public of the Athens area. Therefore, first implementing the second coming of streetcars in Athens on the more-restricted, less heavily-traveled streets of the campus would do so in the environment that is perhaps most conducive for initial success. Thus, besides serving its stand-alone purpose of facilitating clean, safe transit between the North and South Campuses, the campus route would constitute the city's streetcar test area.

Besides those discussed herein, there are numerous other possible routes that have yet to be explored, and many other factors and variables that require investigation. These subjects, including such aspects as costs and financing, would provide ample opportunities for further study, and hopefully might even form the bases for future theses.

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