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Title

Jefferson, Railroad Towns, and the Singular Plan of Aiken [Research and Debate]

Permalink

<https://escholarship.org/uc/item/00r959tc>

Journal

Places, 20(3)

ISSN

0731-0455

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Publication Date

2008-12-15

Peer reviewed

Jefferson, Railroad Towns, and the Singular Plan of Aiken

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The town of Aiken, South Carolina, has charmed residents and visitors for more than a century. One reason is its singular plan: a regular rectangular grid of broad boulevards running in both directions, creating a park-like environment throughout—even in the center of intersections.¹ This special, adaptable feature of Aiken has served it well since the town was founded, in 1834. Remarkably, it is also the result of Aiken's having been an early “railroad town”—a term that has come to imply the simplest of plans, undifferentiated grids set down with little more purpose than the crudest forms of land speculation.²

How did Aiken come into being? Even the present city government can offer no adequate explanation for its distinctive qualities. And the current

Aiken Web site wonders only about its broad streets, venturing that they may have been born of concern with sanitation, or for convenience in turning horse-drawn vehicles.³

The story is far richer and more satisfying than that. But to understand it requires returning to the founding of the South Carolina Canal and Railroad Company, and even to the town-planning thought of Thomas Jefferson.

The South Carolina Railroad and the Founding of Summerville

In December 1827 a group of Charleston citizens organized and chartered the South Carolina Canal and Rail Road Company. The second railroad to be built in the United States, and the first one with a long line, it was to extend 136 miles, from

Charleston to Hamburg, South Carolina, on the left bank of the Savannah River, opposite Augusta, Georgia.⁴ The motivation of the railroad's trustees was to capture the trade of the Carolina hinterland for their city. Produce from this region had been moved more easily until then along the Savannah River, to the competing city of Savannah, Georgia.

Plans for the railroad progressed in the months that followed. And in September 1829 Horatio Allen arrived in Charleston to be its chief engineer. Earlier that year he had supervised the development of a

Above: Recent map of Aiken showing its grid of historic boulevards. MIT Urban Morphology Group, 1980.



short-line railroad for the Delaware and Hudson Canal Company, overseen the assembly of locomotives he had procured in England, and even become the first person in the western hemisphere to drive a locomotive.⁵ Next, in March 1830, E. L. Miller, a merchant and SCC&RRC trustee, signed a contract for the company's first locomotive. And in October of that year the "Best Friend" arrived from the West Point Foundry in New York, the first locomotive built in America.

As plans for the railroad moved

Middle: Route of the South Carolina Railroad from Charleston to Hamburg (on the Savannah River, opposite Augusta, Georgia). Ink on linen, ca. 1835. Southern Railway archive.



ahead, so did plans for real estate speculation. Some Charleston citizens of means had already chosen a site in the piney woods 28 miles to the west for a summer retreat, a place to escape the heat and "miasma" of the city. The railroad trustees recognized the nascent

community of Summerville as a place to develop a sizable tract of their own: an agreeable town called New Summerville, with a rail station at its center.

In 1831, New Summerville was established, set out as shown in the C. E. Detmold plan of March 1832 (but better revealed in the Mellard plan of 1850).⁶ This version of Summerville was planned as a checkerboard, a square grid with broad streets, one hundred feet wide. Every other square of land was designated as parkland—so that only 33 percent of the land would be available for development. Each of the "black squares" for development was in turn divided in four lots of one acre each (210 feet square).

This was railroad land speculation, indeed—but with extraordinary qualities and extremely low density.



Jefferson and the Checkerboard Plan

In 1805, concerned about yellow fever in Washington and other American cities, Thomas Jefferson had written:

Such a constitution of atmosphere being requisite to originate this disease as is generated only in low, close, and ill-cleansed parts of a town, I have supposed it practicable to prevent its generation by building our cities on a more open plan. Take, for instance, the chequer board for a plan. Let the black squares only be building squares, and the white ones be left open, in turf and trees. Every square of houses will be surrounded by four open squares, and every house will front an open square. The atmosphere of such a town would be like of the country, insusceptible of

*the miasmata which produce yellow fever. I have accordingly proposed that the enlargements of the city of New Orleans, which must immediately take place, shall be on this plan. But it is only in case of enlargements to be made, or of cities to be built, that this means of prevention can be employed.*⁷

Similar thoughts are recorded in Charleston during this period. In his history of South Carolina, of 1809, David Ramsay yearned that the original settlers of Charleston had planned differently:

It would then have been nearly as easy to have made the streets 100 feet wide as any inferior number. In that case they would have admitted three rows of trees, one at each side, and one in

*the middle of every street. It would have been easy to have made no lots of less size than half an acre, and by law to have prevented their subdivision.*⁸

Praising the later foundation of Columbia, South Carolina, Ramsay noted that there were no lots of less than half an acre, that the two main crossing streets were 150 feet wide, and no streets were less than 60 feet wide. Nevertheless, “it is to be regretted that the lots were not by the original terms of sale made indivisible, and their owners restrained from building more than one dwelling house on each.”⁹

Above and opposite: Street intersection views in Aiken. A “square” is created at each intersection as part of its boulevard plan. Photos by author.

Summerville

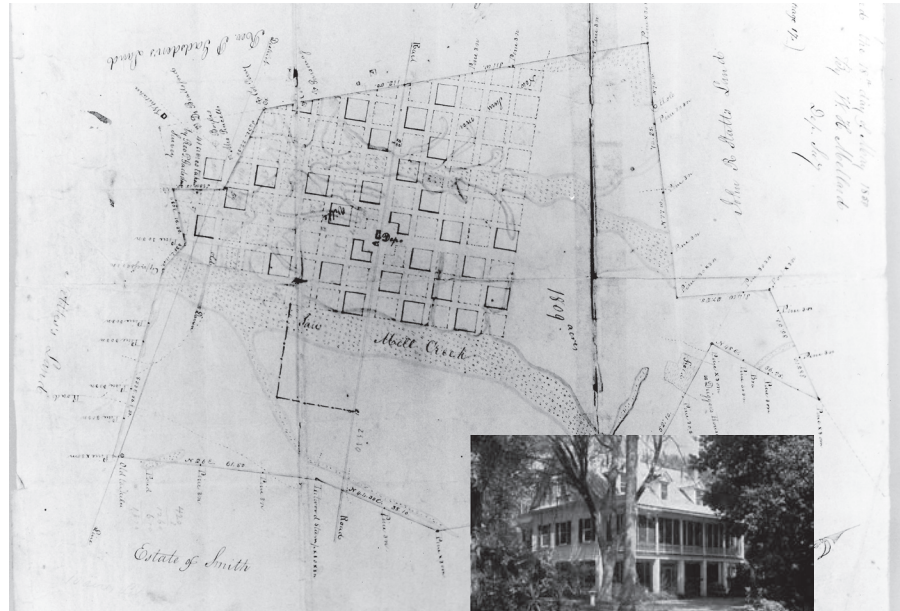
The railroad trustees sought to make such thought operative in their plans for a low-density village in the forest. These are revealed in the plot plan of Summerville, and, more explicitly, in the indenture, with a remarkable set of rules, that would need to be signed by each person purchasing a lot there.

*State of South-Carolina
District of Charleston*

This indenture, made the [seven-teenth] day of [August] in the year of our Lord one thousand eight hundred and [thirty one] between the South-Carolina Canal and Rail Road Company, of the one part: and [R. J. Mosser] of the other part.

Whereas the South-Carolina Canal and Rail Road Company have agreed to lay out a tract or parcel of land, of which they are seized in St. George's Parish, in village lots; and to encourage the building of a village near Summerville in the said Parish: and for the promotion of the common good, have laid down and determined on certain rules or regulations, and the said [R. J. Mosser] has agreed to purchase the Lot hereinafter mentioned, and to hold the same on the condition of observing and abiding by the said rules: which said rules are as follows:

Every Lot shall consist of one acre, and on every Lot shall be preserved



not less that [fifteen] pine trees, measuring not less than [ten] inches at the height of [three feet] above the natural surface of the ground. And if any lot owner shall suffer the trees on his lot to be cut or destroyed, so that there should not be found as many as [fifteen] pine trees of the dimensions aforesaid in his Lot, his title to said Lot shall be forfeited, and the fee-simple and inheritance of the said Lot shall vest in the said South-Carolina Canal and Rail Road Company. One dwelling house and all sorts of out-houses in the owners discretion may be built on one Lot; but no tenant or owner shall erect more than one dwelling house on one Lot; nor shall any Lot be subdivided for the purpose of building more dwelling houses than one on an acre.¹⁰

The house of later date, known as “White Gables” (said to have been owned by a president of the SCC&RR Co), gives an impression of what the trustees sought.

However, only three days after the

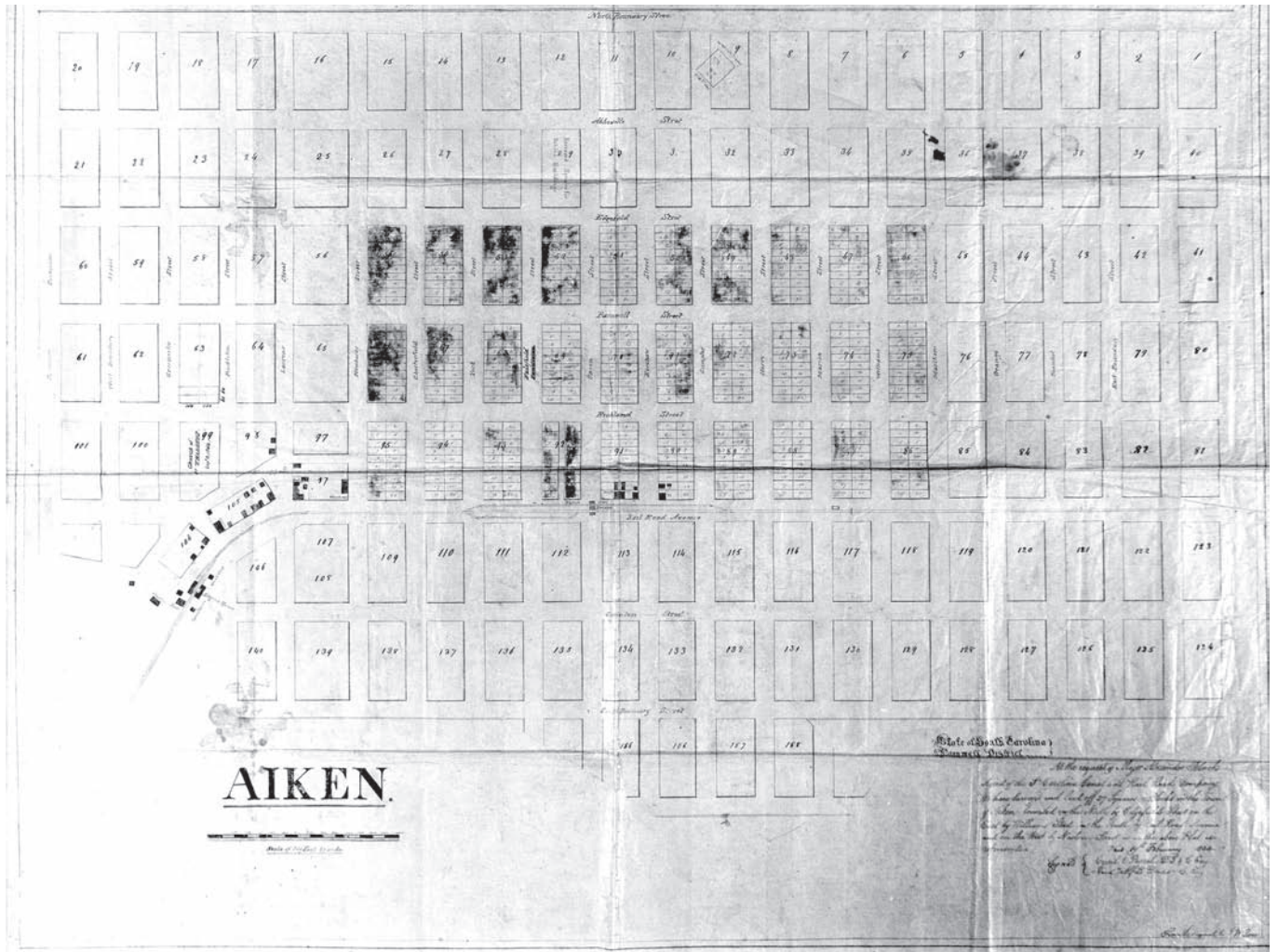
indenture quoted here was signed, the *Charleston Courier* of August 20, 1831, predicted that the open squares of Summerville would not survive. Their logic seems to have been that a village of such low density, where parklands were wholly undifferentiated from development blocks, could not survive real estate speculation.

Apparently, that process of speculation began early. A map of about 1860 in the Southern Railway archive recording ownership of Summerville lots shows many of the “open” squares occupied, and one of those with the notation of a sale date in 1851. A published plan of 1896 further records an offering of all remaining land in the town by the South Carolina Railroad.

Perhaps the earlier advocacy of David Ramsay, who also wrote of the desirability of canals, had become common in South Carolina of the 1830s. In any case, the South Carolina Canal and Railroad Company had set out to make a town of wide streets, large parcels, one dwelling per parcel, with a prohibition on subdivision—all

Above: Mellard plan of 1850 of New Summerville, based on the March 1832 plan of C. E. Detmold. Southern Railway archive; house known as White Gables (inset).

Opposite: Dexter and Pascalis plan for Aiken in 1834. Southern Railway archive.



with particular attention to the protection of the forest environment. Yet the plan was vulnerable, and its goals were compromised.

The Founding of Aiken

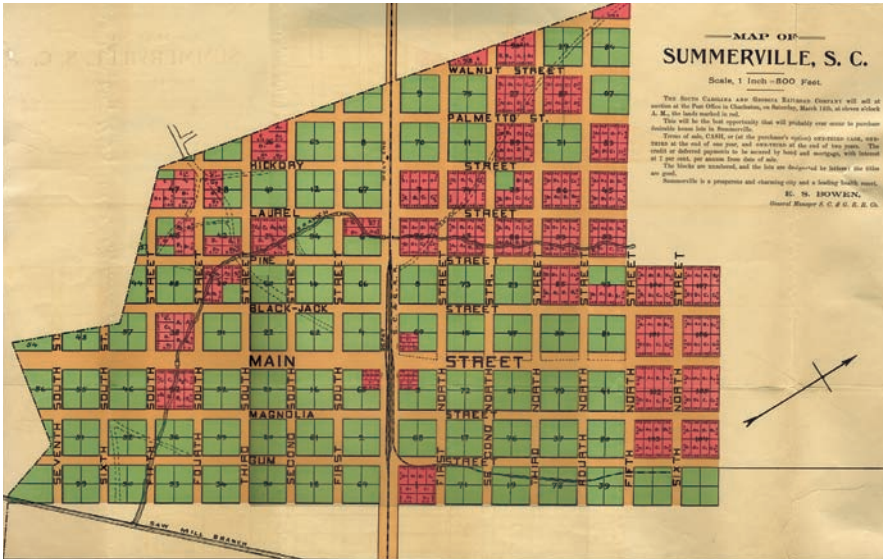
From Charleston, after passing through Summerville, the railroad continued to climb the Carolina piedmont until it passed through another piney, purportedly healthy, location. There, the railroad made plans for another new town, Aiken, named after its president. Thanks entirely to the railroad, Aiken would also be

reasonably accessible from Charleston as a summer retreat, just as the site of Summerville had originally been chosen because it was accessible by horse-drawn vehicle.

For Aiken, the earliest map is from 1834, a survey plan by Pascalis and Dexter showing a grid of broad streets and rectangular blocks, with lots facing to east or west. A small array of seemingly ad hoc streets and blocks at the southwest corner of this plan were the result of technical circumstances involved with the operation of the railroad. While it climbed gently from

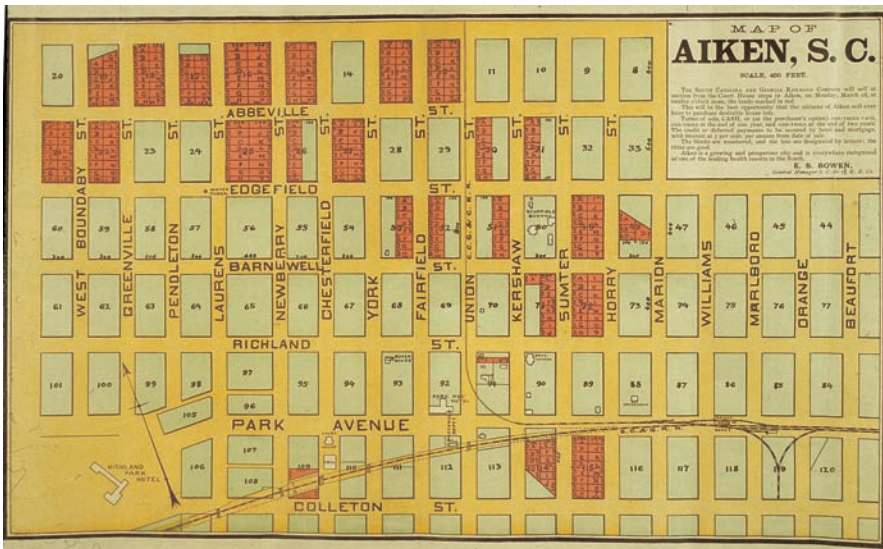
Charleston to Aiken, the descent from Aiken into the valley of the Savannah River was steep precisely at this point. Because the railroad locomotives could not make this ascent, a stationary engine had been installed there to pull the trains up to Aiken.¹¹ The railroad located the stationary engine and associated tracks as best fit the terrain, and some early development had already clustered around this operation.

To this point, the re-creation of this story has been based on historical documents. But we have no documents to explain the reasoning



sive—in this case universal—distribution of those streets. Streets in both directions in the new town of Aiken would be 150 feet wide, with one 200 feet wide. This street space would incorporate the existing pine trees—as in Summerville—just as they stood. Indeed, the early streets of Aiken were sandy lanes through the broad right-of-way, dodging trees. This effect can still be seen today.

Later in the century, in 1896, at the same time that the South Carolina Railroad sold off its remaining land in Summerville, and thus sealed the fate of its ambitions there, the railroad also sold off its inventory of lots in Aiken. The words are important here: note “remaining land” in Summerville, “remaining lots” in Aiken. The airy, wooded quality of the town of Aiken survived, thanks to an urban morphology that resisted privatization of the intended open space.



Boulevards of Aiken

Tracing the thought of David Ramsay, there was clearly an anticipation among the movers in this society that the character of the desired broad streets would eventually be formalized. A formal treatment of space within Aiken’s streets may well have been imagined by its founders. But we have no evidence to that effect; indeed, there is no indication of an intention to create formal boulevards in Aiken. Instead, for its first fifty years, these spaces must have looked much like the view in figure 9. Nonetheless, I argue that the ambitions set out for Summerville, revised and improved at Aiken, provided the resource of a green public space. This resource provided for the “invention” of a grid of boulevards, occasionally with ordered series of trees, but its spaces were often realized more simply as streets through the forest.

behind the layout of a differentiated grid of broad streets in the Pascalis and Dexter plan. It is my hypothesis, however, that the original ambitions for Summerville also applied to Aik-

en—i.e., the ideal of a community in a healthy environment where extensive open space and tree cover would be preserved. It was now implicitly recognized, however, that such a scheme could only be assured if the intended open space were protected from private development.

The solution was to enlarge, still further, what had already been an ideal: wide streets, and the exten-

Above: Published plans for sale of lots in Summerville and Aiken, 1896. Southern Railway archive.

Opposite: Contemporary view of sandy lane in Aiken. Photo by author.



There seems not to be definitive information on the development of Aiken's boulevards. I have found nothing beyond what the Aiken Web site offers: "An article written around 1887 reported that 'Park Avenue [the 200-foot-wide original railroad alignment (east-west in the center of the plan)] and some others are now being graded and laid out artistically with a view to having in the centers a series

of gardens containing rare shrubs and flowers.' This was probably the beginning of Aiken's parkways."¹²

The urban morphology of Aiken, now a network of boulevards, allowed the creation of congenial residential streets serving different economic levels as well as commerce. Pascalis and Dexter made no indication of land use. Not surprisingly, however, the commercial activity of the town expanded

along Laurens Street, a street within the grid that extended in a north-south direction out of the area of ad hoc activity near the stationary engine. This street provided the long block fronts needed for commercial use. The blocks east of Laurens Street are also of unusual depth, perhaps indicating a decision by the engineers to support the development of commerce here.

The adaptability of Aiken's generalized grid is further demonstrated in Laurens Street's present character. While the main streets of so many small towns languish—or, at best, survive through the devastation of their surroundings for parking lots—the breadth of Laurens Street allows four rows of diagonal parking and, still, islands of planting that restate the boulevard typology. Laurens Street remains a thriving and ingratiating main street.

The First Railroad Town

The early railroads of Britain, and indeed, the Baltimore and Ohio Railroad in America, connected existing towns and cities. Therefore, I believe it is correct to say that the towns of the South Carolina Railroad were the first "railroad towns." Of these, New Summerville fell short of its ideals; but at least in concept it was the first railroad suburb—only too comprehensively planned. There would be many later railroad suburbs in America and elsewhere, though often these would be facilitated by, rather than being the projects of, the railroad builders.¹³

As railroads rapidly spread across the vast American continent, railroad companies took the opportunity to exploit the undeveloped lands through which they passed by hastily platting and selling land in new towns.¹⁴

The South Carolina Railroad, itself, did not give careful attention to the settlement of the areas surround-

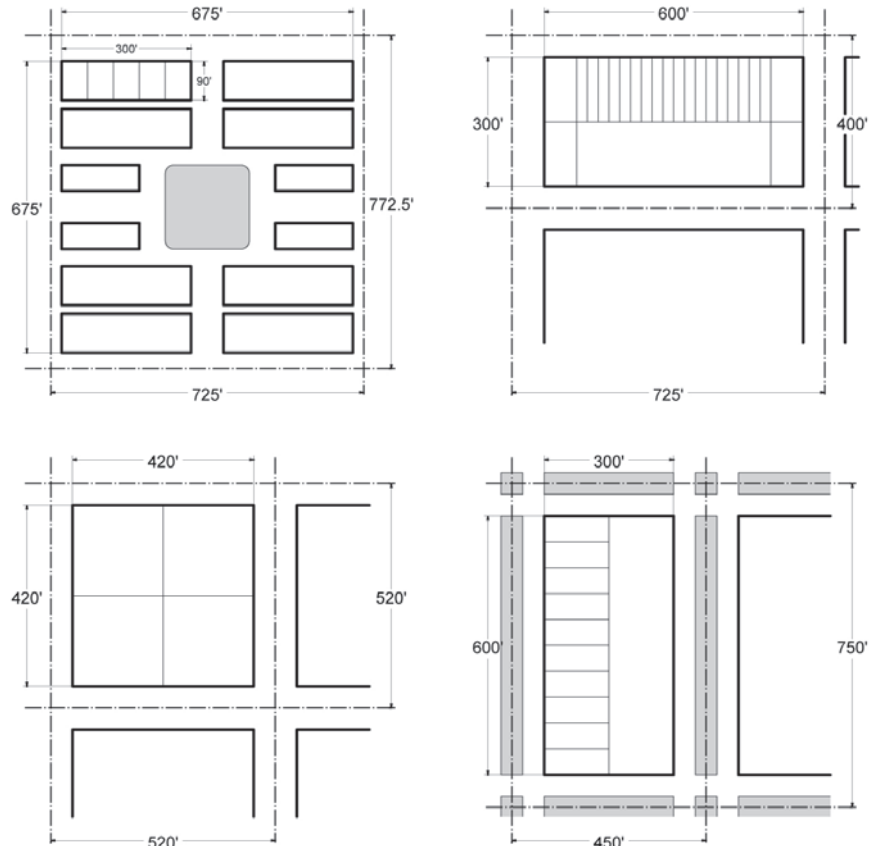
ing its stations between Summerville and Aiken. But the railroad's concerted attention to Aiken, an entirely new settlement on undeveloped land, gives it a claim to being the first railroad town. Within that category, however, Aiken proved exceptional, thanks to the ambitions and planning that were integral to its founding.

As in later railroad towns, Summerville and Aiken served the real estate speculation made possible by, and for the benefit of, the founding railroad company. However, the South Carolina Railroad attempted to build communities of high environmental quality. Summerville and Aiken were intended as places of quality—destinations and communities, not just opportunities for economic gain. Aiken succeeded.¹⁵

Morphological Lessons

In earlier publications, I have attempted to make the case for the urban plan as a resource, relying especially on the plan of Savannah as an example. Savannah requires an extended analysis that is not possible here. Consider simply that Savannah's intricate "ward" system of blocks and streets (generating further distinctive conditions through the repetition of wards) leads, both by positive resource and by constraint, to contributive, mutually reinforcing location decisions.¹⁶

Summerville played out the case of the undifferentiated square grid, made more special in its conceptualization as a checkerboard. Yet,



Above: Comparison of the "ward" system of Savannah, Georgia, 1732 (top left), with the block systems of Manhattan, 1811 (top right), New Summerville, 1832 (bottom left), and Aiken, 1834 (bottom right). Shaded areas represent actual public green areas. MIT, Urban Morphology Group.

resources can be strong or weak, and as I have argued here, Summerville revealed the weakness of the undifferentiated square grid. The same may be said, I would argue, for Columbia, South Carolina (despite the hopes of Mr. Ramsay).

On the other hand, seemingly simple plans, such as that of Manhattan, reveal, upon examination, distinctive conditions: the difference of street widths in the two dominant directions; further differences of street width at intervals throughout the grid; differences of block size and of lot size and orientation. Such variations provide important resources for decisions about movement systems and land use during the development of a city.

Despite their radically different sizes, Aiken shares with Manhattan the advantages of rectangular blocks and of establishing differentiation in location and mobility that assist in making wise decisions regarding the use of urban space. Can it be an accident that their block sizes are identical (though their orientation and parceling vary)?

The ubiquity of exceptionally broad streets in Aiken is a special case that one would not expect to be generalized. However, those broad, treed streets do also point to an issue of general significance. There are private and public interests and private and public rights; the development of Aiken versus that of Summerville demonstrates that intelligent

consideration of goals and means is essential if the desired relation of public and private interests is to be achieved and sustained.

Notes

1. Photographs of Aiken are ca. 1980, except that of Laurens Street, which is 2004.
2. John Reps, *The Making of Urban America: A History of City Planning in the United States* (Princeton, NJ: Princeton University Press, 1965).
3. City of Aiken Web site: <http://www.aiken.net/index.php?page=visitors>; accessed, with variations, in 2004 and 2008.
4. Leaving aside some short railroads using draught animals, the first U.S. railroad was the Baltimore and Ohio. Chartered in 1827, its first division opened in 1830, running fourteen miles, from Baltimore to Ellicotts Mills (now Ellicott City), Maryland. James D. Dilts, *The Great Road: The Building of the Baltimore and Ohio, the Nation's First Railroad, 1828-1853* (Stanford, CA: Stanford University Press, 1993).
The South Carolina Canal and Rail Road Company had clear strategies to build a long-line railroad in short order. It set a course on a relatively straight line, from Summerville to Aiken, through rather undeveloped country, without serving existing settlements. The route was largely through pine forest. Trees cut to clear the way provided timber for trestles, ties, and even the rails, when supplemented with a steel strap on top. Ultimately, the effort failed, and Hamburg became a ghost town; the site is now part of North Augusta, South Carolina.
5. Horatio Allen was schooled in engineering at Columbia College (now University), in New York City, graduating in 1823. While in England and Europe for the Delaware and Hudson, he pursued railway engineering research assiduously, but also personal interests in cultural matters. After building the SCC&RR line, he continued in a distinguished engineering career. Horatio Allen, *The Railroad Era: First Five Years of Its Development* (New York: 1884); Samuel Melancthon Derrick, *Centennial History of South Carolina Railroad* (Columbia, SC: State Company, 1930); Anon., "Man on an Iron Road: The Story of Horatio Allen and the South Carolina Canal and Rail Road Company," *Ties* [Southern Railway System Magazine] (1958), reprint (Washington, D.C.: Southern Railway, 1970).

- The SCC&RR Co. went through a series of mergers. I examined its archives in 1982 in Washington, D.C., when the corporate parent was the Southern Railway; today the corporation is Norfolk Southern.
6. Plans of Summerville and Aiken in this article, along with others, were found in the Southern Railway Archives. Others exist in city offices in South Carolina.
 7. Quoted and discussed in John Reps, "Thomas Jefferson's Checkerboard Towns," *Journal of the Society of Architectural Historians*, Vol.20, No. 3 (Oct. 1961), pp. 108-14.
 8. David Ramsay, *The History of South Carolina from Its First Settlement in 1670* (2 vols., Charleston: David Longworth, for the author, 1809), pp. II: 101-2.
 9. *Ibid.*, p. 103.
 10. Southern Railway Archive, indenture of R. J. Mosser (sp?), August 17, 1831.
 11. The problem was solved only by a later, significant railroad cut through the town (recognizable in the modern plan, fig. 1) that has had remarkably little effect on the experience of the town.
 12. See note 1.
 13. Robert Fishman, in his *Bourgeois Utopia* (New York: Basic Books, 1985), pp. 126 ff, describes Frederick Law Olmsted's 1868 plan for Riverside, west of Chicago, with its curving, tree-lined streets and parks, as best expressing "the idea of the bourgeois utopia." Riverside was on the Burlington line, but not a development of the railroad. In his chapter "The Classic Suburb: The Railroad Suburbs of Philadelphia," Fishman's main example is Chestnut Hill of the late 1870s, a development instigated by a railroad executive, but not a railroad project. A remarkable example is Bedford Park, begun in 1875 west of London, which is often termed the first garden suburb. Relying on a recently built railroad line, the developer employed a casual, quite compact plan that gained much of its renown from the quality of its architecture, primarily under the design guidance of Richard Norman Shaw. See Margaret Jones Bolsterli, *The Early Community at Bedford Park: "Corporate Happiness" in the First Garden Suburb* (London: Routledge & Kegan Paul, 1977).
 14. For example, John Reps presents the bereft "Standard Town Plat" of the Illinois Central Associates from the early 1850s. See his *The Making of Urban America*, chap. 14, "Towns by the Tracks."
 15. With the realization of north-south rail service, the real efflorescence of Aiken came as a result of

- wintering, wealthy, horsey northerners. They built their estates and polo grounds in the late nineteenth and early twentieth centuries largely to the south and east of the town grid. It is nonetheless plausible that the attractive historic town seeded this development.
16. Stanford Anderson, "Savannah and the Issue of Precedent: City Plan as Resource," in Ralph Bennett, ed., *Settlements in the Americas: Cross-Cultural Perspectives* (Newark, DL: University of Delaware Press, 1993), pp. 110-44.