



PARKING MATTERS

Technical Report 7.1 MODEL REPORT AND PARKING SCENARIOS

Prepared for the
Chatham County-Savannah Metropolitan Planning Commission
and the
City of Savannah Department of Mobility and Parking Services

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Technical Report 7.1

Model Report and Parking Scenarios

This report is a companion document to Technical Report 4.1, Parking Demand Estimates from Current and Future Land Use. It provides additional detail and assumptions on the shared parking calculations presented in that report. It also identifies strategic approaches to parking management related to likely concentrations of new development in and around the Parking Matters study area.

The additional information is based on three primary sets of assumptions in Report 4.1: typical parking ratios relative to current City of Savannah requirements, the balance of actual parking use and modeled demand, and potential locations of new development and expected parking demand.

PARKING RATIOS AND CURRENT ZONING

The tables on the following pages, also presented in Technical Report 4.1, illustrate how Savannah's current zoning and proposed zoning under the draft NEWZO compare to industry practices. With many land uses, especially key uses in the Parking Matters study area such as retail, multi-family residential and office, Savannah's current **and** proposed requirements are above the observed rates in the research of the Institute for Transportation Engineers (ITE). For this reason, the study team developed its estimates of parking demand using lower ratios and looking to standards and requirements from comparable urban environments with similar mixes of land use.

CURRENT ZONING: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	CURRENT Minimum Requirements	ITE Peak Parking Demand Rates	Current Zoning compared to ITE
Single-Family Residential (detached and semi-detached)	2 spaces per unit	1.83 spaces per unit	Above
Multifamily - Studio	1.25 spaces per unit	1.23 spaces per unit	Above
Multifamily - One Bedroom	1.5 spaces per unit	1.23 spaces per unit	Above
Multifamily - Two Bedroom	1.75 spaces per unit	1.62 spaces per unit	Above
Multifamily - Three or More Bedrooms	2 spaces per unit	1.62 spaces per unit	Above
Hotel/Motel	1 space per room	0.89 per room for typical hotels; 1.2 space per room at hotel with accessory uses	Above and below depending on type, though generally consistent
Hospital	1 space per 2 beds plus 1 space per doctor and 1 space per 3 non-doctor employees	4.49 spaces per bed, plus .81 per employee	Below
Elementary/High School	1 space per 2 employees plus adequate parking for students	.17 spaces per student at elementary; .09 spaces per student at middle; .23 spaces per student at high school	Different ways of measuring, though assumed based on class sizes that Savannah is generally below

Single-family served by drive-ways not generally required to provide off-street spaces

Smaller multi-family units, especially for student housing, may require even less

Seasonal occupancy rates may affect actual demand levels throughout the year

CURRENT ZONING: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	CURRENT Minimum Requirements	ITE Peak Parking Demand Rates	Current Zoning compared to ITE	
Church	1 space per 8 seats in sanctuary	8.37 per 1,000 SF	Depending on seating, assumed to be below	Although zoning requirements below industry levels, many Parking Matters study area churches provide no off-street parking
Libraries, Art Galleries and Museums	1 space for each 400 square feet of public floor area	2.61 per 1,000 SF	Below	Based on different locations of this use relative to Historic District, actual demand may also vary
Banks/Financial Office	1 space per 175 SF plus 4 spaces per drive-in window	4 spaces per 1,000 SF	Above	In much of central business core, these appear to function much like general office
General Office	1 space per 200 SF	2.84 spaces per 1,000 SF	Above	Opportunity for reduction, especially in Historic District and central business core
Food Retail	1 space per 200 SF	5.5 per 1,000 SF for convenience retail; 9.98 per 1,000 SF for supermarkets	Below	Food retail in Parking Matters area appears to be highly specialized, with only one conventional super-market
Personal service retail (barbershops, laundry/dry cleaning, beauty shops, etc.)	1 space per 200 SF	2.2 per 1,000 SF	Above	
General merchandise and clothing retail	1 space per 250 SF	1.13 per 1,000 SF	Above	These uses in the Parking Matters study area are focused on Broughton Street
Fast-Food Restaurant	1 space per 200 SF plus 1 space per 4 seats	.52 spaces per seat	Generally assumed to be below, depending on size and configuration	

CURRENT ZONING: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	CURRENT Minimum Requirements	ITE Peak Parking Demand Rates	Current Zoning compared to ITE
Sit-Down Restaurant	1 space per 4 seats for patron use	.49 spaces per seat	Below

Many restaurant uses rely on street and public (garage) parking

NEWZO Proposed Parking Requirements

NEWZO has proposed different requirements for certain uses, although many are fundamentally the same as in current zoning. These are compared to ITE standards as shown in the table below and on the following page.

As mentioned previously, the Parking Matters study's observations of lower actual levels of use than what the study area's current land uses suggest led the study team to take aggressive assumptions in reducing parking ratios. Many of these remain lower than what has been proposed in NEWZO, suggesting that the Historic District and greater downtown covered in the Parking Matters study area may need a more nuanced set of requirements.

PROPOSED NEWZO: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	NEWZO Minimum Requirements	ITE Peak Parking Demand Rates	NEWZO compared to ITE
Single-Family Residential (detached and semi-detached)	2 spaces per unit	1.83 spaces per unit	Above
Multifamily - Studio	1.25 spaces per unit	1.23 spaces per unit	Above
Multifamily - One Bedroom	1.5 spaces per unit	1.23 spaces per unit	Above
Multifamily - Two Bedroom	1.75 spaces per unit	1.62 spaces per unit	Above
Multifamily - Three or More Bedrooms	2 spaces per unit	1.62 spaces per unit	Above

No changes in NEWZO from any existing requirements

PROPOSED NEWZO: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	NEWZO Minimum Requirements	ITE Peak Parking Demand Rates	NEWZO compared to ITE
Hotel/Motel	1 space per room	0.89 per room for typical hotels; 1.2 space per room at hotel with accessory uses	Above and below depending on type, though generally consistent
Hospital	1 space per 2 beds plus 1 space per employee	4.49 spaces per bed, plus .81 per employee	Minimum increased from current zoning, though still below ITE
Elementary/High School	1 space per classroom plus 1 space per 300 SF of office	.17 spaces per student at elementary; .09 spaces per student at middle; .23 spaces per student at high school	Different ways of measuring, though assumed based on class sizes that Savannah is generally below
Church	1 space per 5 seats in sanctuary	8.37 per 1,000 SF	Minimum increased from current zoning, though still below ITE
Libraries, Art Galleries and Museums	1 space for each 400 square feet of public floor area	2.61 per 1,000 SF	Below
Banks/Financial Office	1 space per 200 SF	4 spaces per 1,000 SF	Decreased from current zoning, though still above ITE

No changes in NEWZO from any existing requirements, though many hotels do not provide their own parking to meet this requirement and rely on public supply

Use not present in study area and unlikely to affect overall demand profile

Many Parking Matters study area churches still reliant on street parking

Noted previously - functions more like general office in Parking Matters study area

PROPOSED NEWZO: PARKING REQUIREMENTS FOR SELECTED USES COMPARED TO NATIONAL INDUSTRY RESEARCH OBSERVATIONS

Land Use Type	NEWZO Minimum Requirements	ITE Peak Parking Demand Rates	NEWZO compared to ITE
General Office	1 space per 300 SF	2.84 spaces per 1,000 SF	Decreased from current zoning and now below ITE (was above ITE under current zoning)
Food Retail	1 space per 250 SF	5.5 per 1,000 SF for convenience retail; 9.98 per 1,000 SF for supermarkets	Below
Personal service retail (barbershops, laundry/dry cleaning, beauty shops, etc.)	1 space per 200 SF	2.2 per 1,000 SF	Above
General merchandise and clothing retail	1 space per 250 SF; 1 space per 225 SF for clothing/apparel retail	1.13 per 1,000 SF	Above
Fast-Food Restaurant	1 space per 100 SF	.52 spaces per seat	Generally assumed to be below, depending on size and configuration
Sit-Down Restaurant	1 space per 100 SF	.49 spaces per seat	Below, though likely reflects an increase from current zoning

Most Historic District retail on Broughton Street or in ground-floor spaces, with little off-street space provided

Many Parking Matters study area restaurants still reliant on street/public parking

As suggested in Technical Report 4.1, many parking requirements in zoning differ from the national research on demand, and the nature of many trips in the Parking Matters study area—especially among visitors in the Historic District core—suggests that these ratios may even be lower. These factors are understood to reduce overall parking demand, allowing the study team to calibrate its modeling of shared parking demand in a way that reflected real-world conditions—and estimated a lower level of parking demand than what current and proposed zoning would require.

ANALYSIS METHODOLOGY

The analysis in Technical Report 4.1 (and defined in further detail in that report) relied on property use and tax roll data from the Chatham County Board of Assessors to determine a primary use and amount of building space for each of the study area's parcels.

The study team applied these land use program amounts to two separate calculation methodologies. The first of these, based on traditional zoning requirements, calculated demand for all individual uses in each district per estimated peak levels of activity and demand; this assumed that parking is not shared between uses and is provided for each individual use as needed. The second methodology, based on the Urban Land Institute's Shared Parking research and analysis but modified based on observations of actual parking demand based on local characteristics, calculates both for overall parking when sharing of spaces occurs, recognizing that different peak periods for individual land uses occur at different times of the day and allow a common supply of spaces to be shared over an entire area.

DEFINITION OF SUBAREAS

The Parking Matters study area is extensive and the plausibility of sharing parking over such a large district is limited by distances between uses. For analysis purposes, the Parking Matters study team divided this overall area into five subareas. These were defined primarily from an understanding of issues

and challenges drawn from public and stakeholder comments, though the team also sought to define areas based on general land use mix and where complementary uses were most likely to generate particular patterns of travel behavior and parking. These are defined in the following sections and illustrated on the map on the following page.

These are similar to the Character Areas discussed in Technical Report 11.1, and indeed were one of the different perspectives considered in defining those areas. The Historic District's two primary components were retained, as was the events district and large portions of the Victorian District (referenced here as the Southeast and Southwest Districts). In Technical Report 11.1, the Thomas Square and Mid-City Districts of this report are combined into a single area focused on the study area's southern Bull Street corridor.

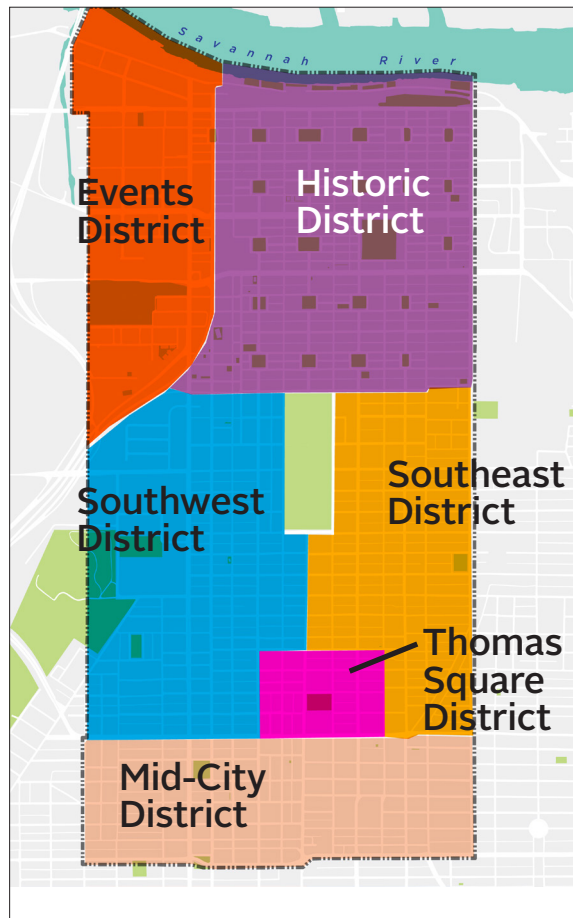
Historic District

This area includes Savannah's core office and retail district but also entertainment-focused areas such as City Market and River Street. It includes all of the Historic District's Oglethorpe Plan squares and extends as far south as Gaston Street (the northern edge of Forsyth Park).

Technical Report 4.1 further subdivided the Historic District into two components, one featuring the residential areas generally in the district's southern and eastern portions, and the commercial and business core of the city comprising the Historic District's remainder.

Events District

Located primarily to the west of Martin Luther King, Jr. Boulevard, this area includes the Coastal Georgia Center and several hotels. It also includes a small district along the Savannah River along Indian Street where potential new development has been discussed.



Southeast District

This is the area south of Gaston Street and east of Bull Street. Although it is primarily residential in nature, it does also include retail and office uses.

Southwest District

This is the area south of Gaston Street and west of Bull Street. It is a primarily residential district, though contains a larger concentration of retail uses than any of the other districts except the Historic District and small but significant amounts of office and restaurant uses.

Thomas Square District

This includes Thomas Square in the south of the study area as well as the neighborhood immediately around it. This area has changed considerably in

recent years with SCAD's acquisition and opening of Arnold Hall as an academic facility. While it already included a small commercial district adjacent to the square, the expansion of SCAD use into the district is expected to add more demand for non-residential uses and increased parking activity.

Mid-City District

This area constitutes an extension of the original Parking Matters study area south from 37th Street to Victory Drive, with generally the same eastern and western boundaries. Although primarily made up of single-family residential streets, this area contains a small-scale commercial district along Bull Street with many emerging uses related to arts and cultural activities.

ASSUMED PARKING RATIOS IN THE HISTORIC DISTRICT

As discussed previously, the Historic District area includes most of Savannah's designated National Historic Landmark District (bounded by Martin Luther King, Jr. Boulevard, East Broad Street, the Savannah River and Gwinnett Street). Within this area is the primary business district of the city, with over 2 million square feet of office space and nearly 1 million square feet of retail space. This is also a major location for SCAD facilities, with many of the administrative buildings for the college located here.

Technical Report 4.1 discusses, the study team's assumption of lower ratios than conventional ITE requirements or current zoning definitions, based on reduced parking allowances in mixed use districts in comparable downtown districts in other U.S. cities. This is driven by a general assumption that a higher degree of walking trips within the area meets overall travel demand than in more single-use-oriented districts, a concept referred to in transportation planning and engineering as internal capture. This

assumption in turn is supported by feedback from visitors and residents, who express a strong desire to be able to walk short distances to reach destinations.

Diagrams on the following page illustrate the potential of these different uses to share parking spaces

and lower the overall amount of parking needed in the Historic District, with a difference of over 4,000 spaces between estimated demand based on traditional zoning and expected demand.

HISTORIC DISTRICT: PRIMARY LAND USES AND ASSUMED ACTIVITY

Land Use Type	Intensity	Assumed Parking Ratio	Reduction from Current Zoning/ NEWZO	Reasons for Difference in Assumption
Single-Family Residential	695 units	not used in model estimates (self-parked)	2 spaces per unit	Heavy reliance on on-street parking
Condo	964 units	1 space per unit	0.25 - 1 space per unit, depending on bedrooms	High degree of second home and vacation use
Other Multi-Family	1,653 units	1 space per unit	0.25 - 1 space per unit, depending on bedrooms	Student population, low-car household areas
Retail	922,895 SF	2.5 spaces per 1,000 SF	1.5 - 2 spaces per 1,000 SF	High degree of retail in historic district and served by walking trips
Office	2,176,105 SF	2.75 spaces per 1,000 SF	0.25 spaces per 1,000 SF	Comparable downtown district requirements
Hotel	2,460 rooms	0.67 spaces per room	0.33 spaces per room	High degree of visitor occupancy
Restaurant	472,643 SF	2.5 spaces per 1,000 SF	7.5 spaces per 1,000 SF	High degree of uses in historic district and served by walking trips
SCAD student population*	3,000 students	0.5 spaces per student	Not specified as a use	Reduced auto access among certain cohorts of student body
Museum/Gallery	115,000 SF	1 space per 1,000 SF	1.5 spaces per 1,000 SF	High degree of uses in historic district and served by walking trips
Church	60,000 SF	3.8 spaces per 1,000 SF	Assumed 10-15 spaces per 1,000 SF	Established street parking permissions that extend supply

OVERALL SUPPLY AND DEMAND BALANCE

As shown in the table below, in each of the districts there is unused parking, determined as the difference between actual parking supply and observed parking use. Bold text is used to indicate districts

where a level of parking, whether estimated from ITE-based individual uses or from a shared parking model, was expected to exceed the actual supply in the district. In no case did the study observe this occurring. In most districts, the observed use is also lower than both the use-specific parking demand estimate (or the sum of ITE-based parking demand

COMPARISON OF USE-SPECIFIC, MODELED SHARED DEMAND AND OBSERVED DEMAND

District	Use-Specific Demand Based on Assumed Ratios	Actual Supply in District (number of spaces)	Modeled Shared Demand	Observed Use of Parking Supply at Peak (Actual number of parked vehicles)
Historic District	15,847 spaces (126 percent of supply)	12,630 spaces	11,711 spaces (93 percent of supply)	6,922 spaces (55 percent of supply)
Historic District: Business Area	11,071 spaces (143 percent of supply)	7,735 spaces	8,733 spaces (113 percent of supply)	5,379 spaces (70 percent of supply)
Historic District: Residential Area	4,208 spaces (86 percent of supply)	4,895 spaces	2,540 spaces (52 percent of supply)	2,541 spaces (52 percent of supply)
Events District	4,422 spaces (99 percent of supply)	4,487 spaces	3,344 spaces (75 percent of supply)	2,611 spaces (58 percent of supply)
Southeast District	3,588 spaces (89 percent of supply)	4,051 spaces	2,243 spaces (55 percent of supply)	1,696 spaces (42 percent of supply)
Southwest District	4,026 spaces (69 percent of supply)	5,807 spaces	2,688 spaces (46 percent of supply)	3,680 spaces (63 percent of supply)
Thomas Square District	1,569 spaces (181 percent of supply)	869 spaces	1,212 spaces (140 percent of supply)	533 spaces (60 percent of supply)
Mid-City District	1,493 spaces (34 percent of supply)	4,379 spaces	1,128 spaces (26 percent of supply)	1,213 spaces (28 percent of supply)

for individual uses) and the modeled shared parking demand, suggesting that even lower rates than those required in current zoning in some locations, such as the Historic District, might still reflect higher rates than actual demand. The table notes where either combined single-use demand estimates or modeled shared parking demand were expected to be higher than current supply. This points to the importance of ongoing parking management and demand reduction strategies for these areas to ensure that in locations where a single use is concentrated and the natural sharing potential of complementary operating hours is lesser, there are not also concentrated shortages of available parking.

It is important to note that in each of these districts, actual utilization patterns illustrate areas of high parking demand, sometimes for extended periods of the day. Further recommendations for parking regulation should take into account the levels of utilization of nearby parking, allowing sharing and remote (off-site) parking to meet demand, but in a way that does not impact critical parking supply for other neighborhood residents and businesses.

Overall parking supply also includes both public and private parking, and both on-street and off-street. It is important to keep in mind that not all of these spaces are available to all users, and there is likely to be inefficiency in some locations based on access permissions for different users. The Parking Matters study included the collection and documentation of detailed data in geospatial formats, which allow a more detailed look at individual projects, development sites or geographic focus areas on an ongoing basis as needed.

CONCLUSIONS

As shown in this report and Technical Report 4.1, actual observed parking levels in each of these subareas is less than the modeled demand, which already assumed aggressive reductions in the amount of parking that would be required based on the starting point of Savannah's zoning requirements. This suggests that while there are spot locations throughout the study area experiencing high levels of parking use and a perception of inadequate supply, there is generally ample parking for the Parking Matters study area's current needs. Technical Report 4.1, which discusses the addition of new development then under review with the City of Savannah and MPC, also concludes that current parking availability is sufficient to meet the demands of new development not already proposing to add its own on-site parking.