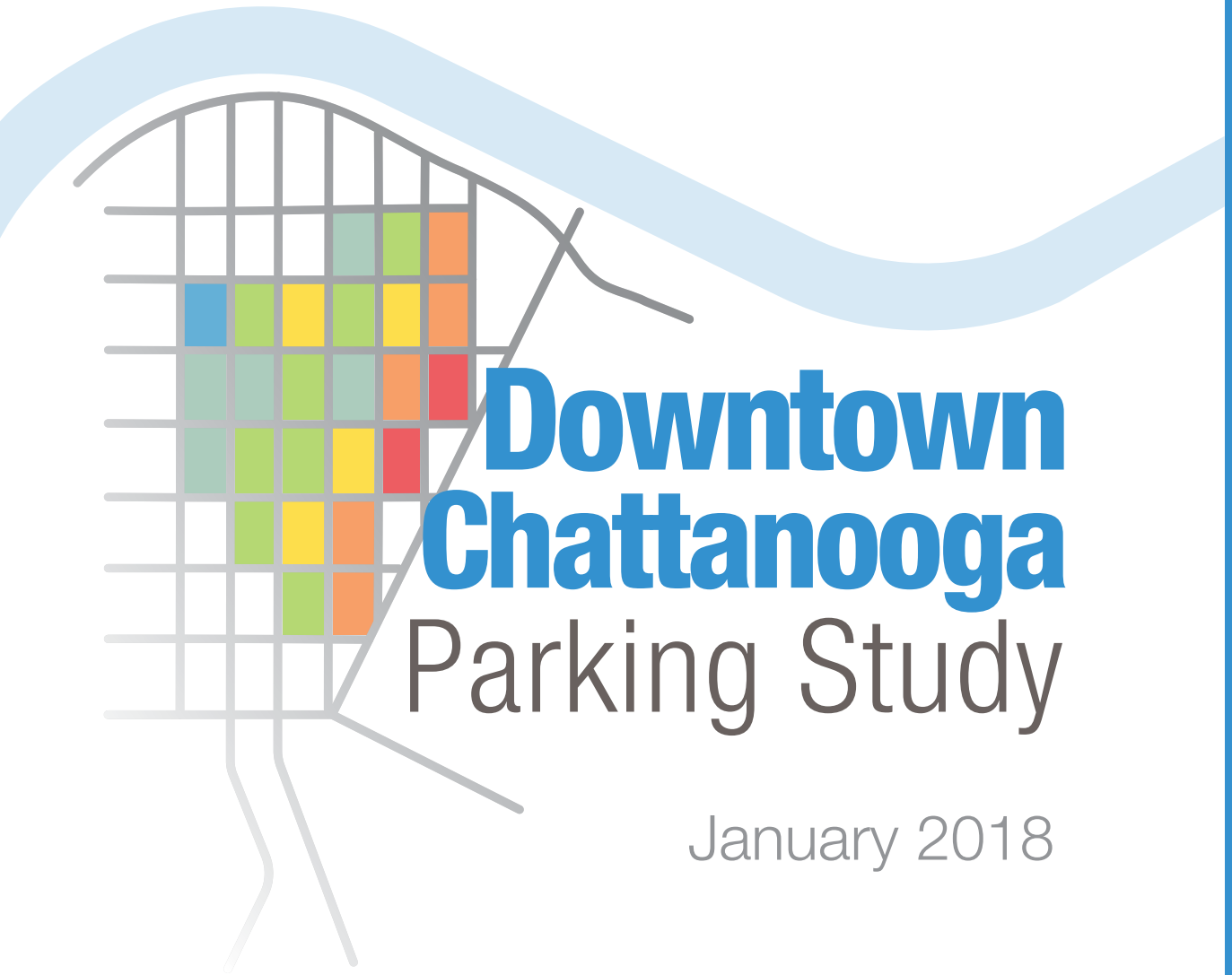

Downtown Chattanooga Parking Study

January 2018

Prepared for

River City Company

Chattanooga Area Regional Transit Authority/ Chattanooga Parking Authority

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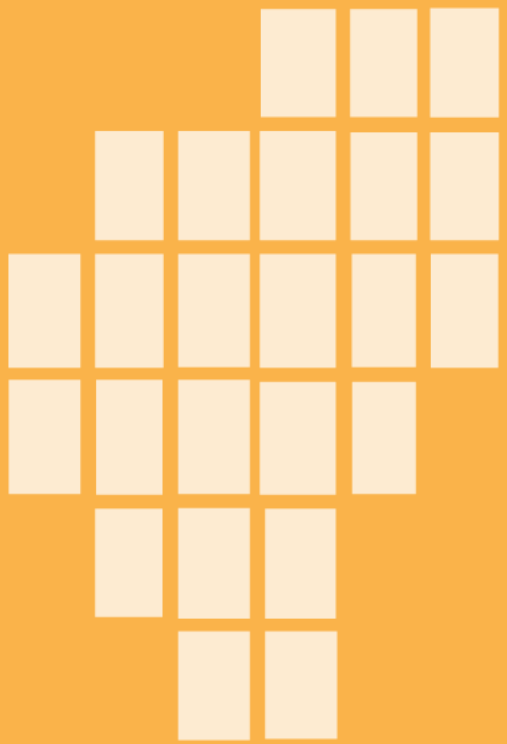
CONTENTS



1 EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

WHY THIS STUDY?

The Chattanooga Area Regional Transportation Authority/ Chattanooga Parking Authority (CARTA/CPA) and River City Company (River City), in partnership with the Lyndhurst and Benwood Foundations the University of Tennessee at Chattanooga (UTC), Siskin Hospital, Erlanger Health System, and the City of Chattanooga (CDOT), commissioned this comprehensive study of parking in central Chattanooga to understand challenges and opportunities related to parking as the city's urban core continues to grow and develop. It is intended to capture the current state of parking at a time of ongoing change in downtown and to provide strategic recommendations for addressing and balancing the current parking needs of downtown's diverse set of organizations, businesses, and residents. The study is the first downtown-wide look at parking in over a decade, during which time major changes to downtown such as the relocation of Blue Cross Blue Shield and the addition of new hotels, businesses and residents have changed downtown's parking profile.

OVERVIEW OF THE STUDY'S STEPS

The study gathered information on the supply and use of greater downtown Chattanooga's approximately 43,000 parking spaces, which included both on-street and off-street spaces of both public and private access. In addition to counting and classifying spaces by their access and regulation, the study also measured how much these spaces were used on a typical weekday and Saturday to understand normal patterns of parking activity.

This is the most comprehensive such inventory of parking that has been developed for greater downtown Chattanooga and served as the basis for recommendations and decision-making throughout the study. It also allows Chattanooga's various civic organizations and public agencies to continue to update this information in a consistent framework, thus allowing the findings and recommendations of this study to be assessed as downtown grows.

The study's primary analysis compared information on **supply** (the parking inventory), **levels of use** (parking utilization), and **expected demand** (a summary of current land uses and activities in the study area, considering both a present-day snapshot and future growth based on known development potential). This allowed the study team to understand true gaps in parking potential, looking beyond an individual parking facility but considering the needs of the entire district.

The study team augmented this information with local knowledge and insight gained from stakeholder discussions.

FINDINGS: PARKING NEEDS AND OPPORTUNITIES

Findings of this analysis guided the study's recommendations, which are based on the principle that Chattanooga has numerous opportunities to better define and execute management strategies, even though adding to parking inventory is a worthwhile strategic investment in key areas.

In general, the study observed that current **parking use tends to be less than what would be expected given the type and amount of land uses in the whole of greater downtown Chattanooga**, but as much as would be expected, if not slightly more, in select areas such as the Health & Ed district and UTC campus area. In addition, even when supply is constrained on weekdays, it is much less heavily used on

SUMMARY OF KEY FINDINGS

Less than one third of greater downtown's parking spaces are publicly available.

Certain parts of the study area, especially UTC and Erlanger and Siskin hospitals, expect to grow to levels that **will exhaust current parking supply** if they current parking usage increases at the same rate.

This potential shortage on the east of the study area is mirrored by **general availability in City Center and Riverfront.**

In the MLK district, a lack of publicly available parking is already leading to **parking shortage.** On the Southside, **residential streets face spillover demand** from a growing commercial district.

While the study suggests that downtown Chattanooga does not currently face a critical, district-wide shortage of parking overall, supply and demand dynamics are uneven, and some specific areas currently face parking challenges and feature parking facilities that are fully used at peak times.

There is room for efficiency through different pricing and management techniques, especially adjusting on-street pricing and the times of day that regulations are in effect.

weekends, further suggesting that major additions to parking supply might have limited utility.

However, even in areas with constrained supply today, the cost of new parking construction and uncertainty about its long-term use have led major users of parking to explore other arrangements than building new supply. The study recommends strategies to capture these kinds of opportunities. While some major parking facilities have availability throughout the day, it is important to note that not all are readily shared due to previous arrangements and commitments on parking spaces. These have limited them from their full potential in helping to address parking needs today.

The study was charged with engaging strategies to better manage current supply to optimize its use and to engage downtown's existing and emerging mobility options with parking as part of an integrated system. Any additions to parking supply that the study explored were considered with this larger strategic management- and multimodal approach in mind: specifically how any new parking would serve a broad area as efficiently as possible, how management of price and access could help parking users to make rational choices to consider other options, and how new parking could be poised to serve future development as well as existing development.

RECOMMENDATIONS: MANAGE FIRST, THEN BUILD WITH STRATEGY

As a result of this, the study's recommendations have emphasized management-based opportunities that could increase the overall efficiency and lifespan of current parking. These include a comprehensive look at pricing and regulation adjustments, with some on-street parking spaces recommended for increased pricing, some for decreased pricing, and many for changes to the span of regulations when meters and time limits are in effect. This recognizes that the most valuable parking spaces in downtown—those spaces on street and in surface lots convenient to businesses and downtown attractions—should be priced accordingly in order to provide availability for customers who want to access them.

Set price to create availability. In general, the study has recommended that price is the most effective determinant of a user's willingness to stay in a location. This has led to several recommendations for price adjustments, including extending the hours that parking pricing is in effect. This also includes moving away from time limits on parking and allowing price to be the sole determinant, where it is in effect of how long customers wish to stay in a space. When the pricing of the most desirable spaces—street spaces and surface lots near major destinations—is set appropriately, customers planning longer stays in a parking space may choose less expensive parking if it is available.

Share to take advantage of proximity. Aside from price, the study has found that available parking is almost always nearby, at any given time or location in the study area. This points to further management opportunities to promote both sharing of parking facilities, but also internal efforts, especially among major organizations, to understand true parking demand and how this might be affected through incentives and policies. To this end, the study also recommends strategic use of transportation demand management (TDM) options to help reduce an organization's need for parking spaces.

When demand increases and a need is clearly demonstrated for additional parking, having taken these management steps first will provide a well understood and accepted framework for how to manage new parking assets in the same way, helping to ensure that they are efficiently used and represent a sound investment that provides community benefit.

Treat parking as part of urban mobility. Sharing arrangements may extend beyond a comfortable walking reach for many customers, and for exceptional sharing opportunities there is a need to explore strengthened mobility connections such as transit, bicycling, and improvements to walking. The last of these points is commonly a factor in parking customers' preference for immediate, front-door parking locations, and continued investment in signage, wayfinding and streetscape enhancements can help to unlock the potential of parking facilities that may be close to a location in need of parking but one not yet utilized.

CARTA has long been invested in connecting parking to downtown destinations through its Electric Shuttle, and the parking study identified both broad interest and specific opportunities for other transit connections—whether the Shuttle or another type of vehicle—to play an expanded role in addressing parking needs. However, CARTA does not currently have sufficient resources to provide significantly more service or even to pilot or test the kinds of connections that the study has identified as possibilities. These parking connections represent a pivotal opportunity for CARTA to evolve into a more holistic mobility service provider, and achieving this will need the support of its institutional partners to ensure CARTA's long-term funding and organizational capacity.

Partner to use and add supply efficiently. Strategies for new parking include partnerships to construct facilities that not only serve multiple users but that can also serve future development. One example that the study has explored is a shared parking garage in the Health & Education district that would serve both Erlanger and Siskin Hospitals, but also potentially UTC and the Hamilton County Health Department. Other users might also be able to benefit from such a facility if it is built with additional space or sees the demands of its core users change over time, thus creating availability for new users.

SUMMARY OF KEY RECOMMENDATIONS

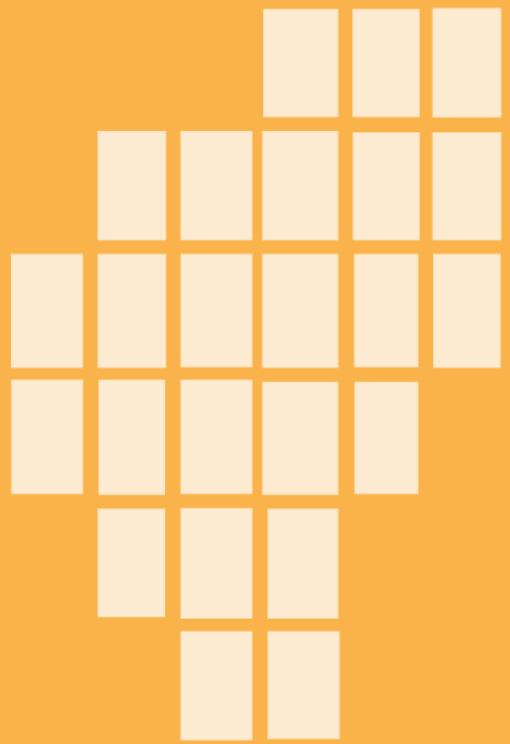
Balance parking pricing to meet demonstrated demand. This means exploring higher on-street parking rates in Riverfront and City Center North, introducing paid on-street parking in Southside, and lower rates in City Center South and the Martin Luther King corridor.

Continue to support sharing agreements to address current demand needs.

Monitor and adjust pricing and regulations based on how demand changes.

Increase and optimize mobility options, especially transit services, between high-need and available-supply areas to allow remote parking to be more feasible. **CARTA in particular should be positioned to offer more innovative mobility services** than its resources currently allow.

It is still important to take opportunities to add parking supply in strategic places. Partner with key development projects to **build additional parking supply beyond what those projects need,** making strategic additions to supply in areas where redevelopment on existing parking lots will continue to reduce today's supply.



2 OVERVIEW

The Downtown Chattanooga Parking Study purpose, process, timeline, and organization.

OVERVIEW

STUDY PURPOSE

The Downtown Chattanooga Parking Study is the first comprehensive analysis of parking in greater downtown since 2004. Since that time, major changes in downtown have greatly changed its overall parking profile: Blue Cross Blue Shield's relocation to its Cameron Hill campus and construction of its own garages reduced the demand on central business district parking; the addition of new hotels has increased the number of visitors to downtown, many of whom drive to Chattanooga; UTC has continued to evolve into a more residential campus; and the rise of neighborhood commercial districts such as the Martin Luther King Boulevard and East Main Street corridors have brought new visitors and customers to areas outside the Riverfront and City Center. Looking to the future, the ongoing expansion of UTC and Erlanger and Siskin Hospitals along with continued interest in residential development downtown point to a continued increase in travel and parking demand.

This study was commissioned to assess the impact of these changes and to provide a comprehensive inventory of downtown's parking supply and use. It considered these relative to expected levels of parking demand based on current and future development, and it offers strategic recommendations for management and adding to parking supply. The study is not narrowly focused on providing additional parking, but views parking as a resource to manage and leverage with the larger downtown transportation system.

STUDY AREA

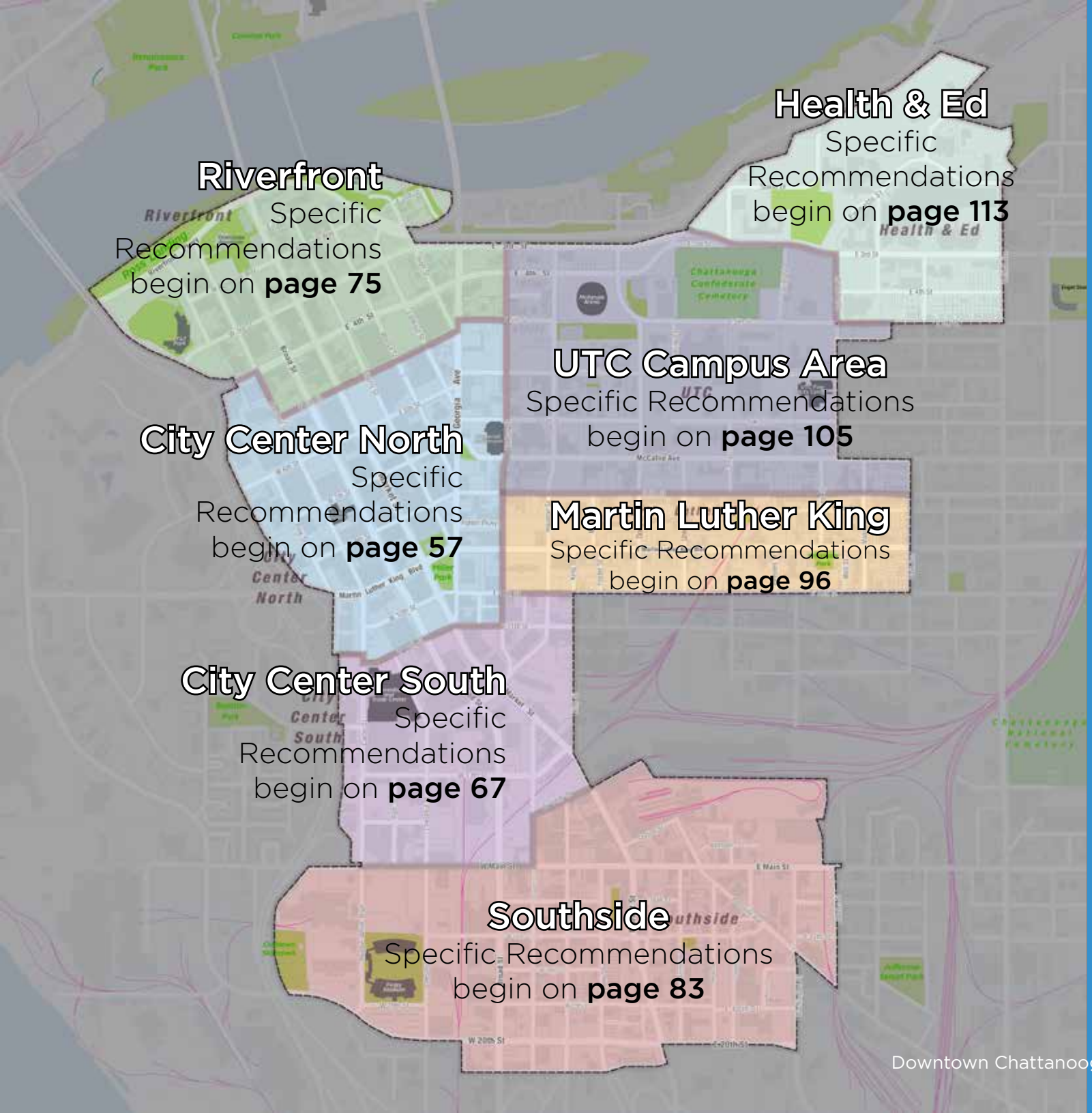
The study covered an area from the Tennessee River south to 20th Street and from US 27 generally east to Central Avenue. This extensive area includes the financial and business center of the city, the Riverfront area, UTC's campus, Erlanger and Siskin Hospitals, the Martin Luther King Boulevard corridor, and the Southside neighborhood and commercial districts. This area represents nearly 43,000 jobs, 5,500 residents, and the city's largest concentration of hotel rooms, event space, hospital beds, and cultural facilities.[1]

SUBAREAS

For purposes of more detailed reporting and analysis, the study area is divided into seven subarea districts, each of which has a particular economic and cultural focus and conforms generally to accepted district definitions within greater downtown. The map to the right illustrates these subareas, which form the basis for recommendations presented in Chapter 4 of this report.

It is important to note that although data and trends have been reported at the subarea level, data was collected at the level of individual parking facilities and curbsides, block by block, within the larger study area boundary. This allows the study's partner agencies to report on any other small areas or combinations of facilities that are desired.

1 Noell Consulting Group, 2015.



STUDY SUBAREAS

The parking study is divided into subareas for analysis and reporting purposes. These areas generally align with downtown Chattanooga's accepted district definitions, but they are also each generally walkable areas where parking in one location of the subarea could conceivably serve another location.

The study team determined the subarea boundaries but has collected data in a way that allows future analysis efforts to consider any portion (or even single facility) in the larger study area.

PROJECT APPROACH

APPROACH OVERVIEW

The study followed a comprehensive, data-driven approach based on an exhaustive inventory of parking spaces within the study area, field surveys of how this parking was utilized on a typical weekday and Saturday, and a comparison of this observed utilization to the estimated parking demand based on current and forthcoming development in downtown.

STAKEHOLDER INTERVIEWS

The study team engaged in a series of stakeholder and focus group discussions in early 2017, introducing the study's purpose and helping to facilitate conversation on opportunities and challenges for addressing downtown parking. In addition to a public meeting in August 2017, the engagement with stakeholders served as the primary input-gathering means of discussion throughout the study and allowed a broad set of public agency and private organization representatives to hear and vet study findings and ideas. The interviews in particular helped to illuminate many of the recurring themes of the study, especially that public perception of downtown parking tends to focus on insufficient supply.

INVENTORY AND UTILIZATION

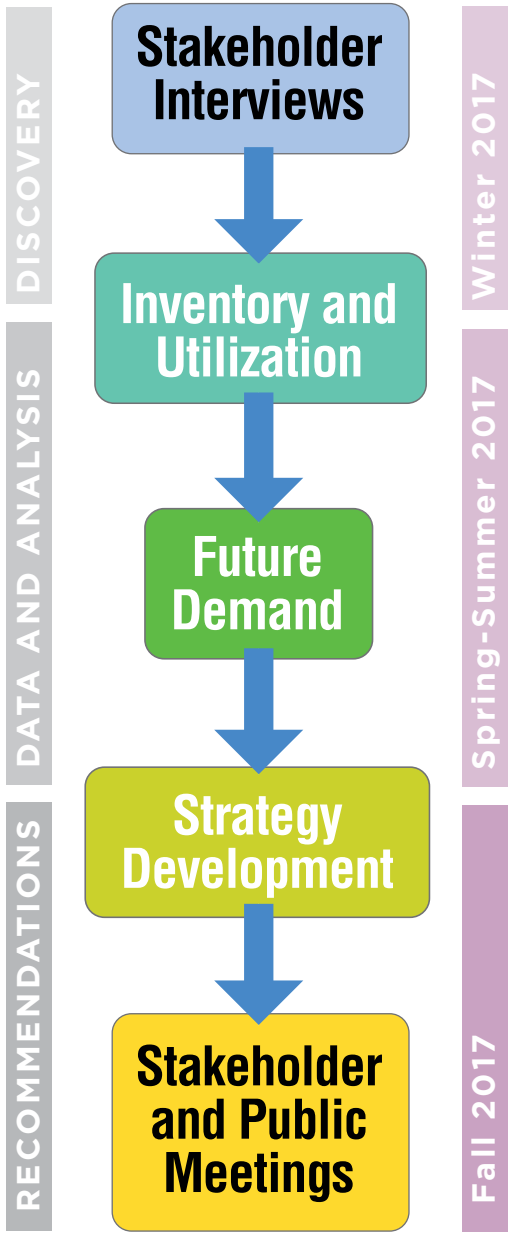
After the stakeholder interviews, the study gathered information on the supply and use of greater downtown Chattanooga's approximately 43,000 parking spaces, which included both on-street and off-street spaces of both public and private access. CARTA/CPA staff performed this inventory, based on existing facility data and additional verifications from field counts.

In addition to the inventory, CARTA/CPA staff also performed a utilization survey, or counted the number of vehicles parked in these parking spaces, on a typical Thursday and a Saturday. This involved counting all parking spaces in the district for their use in regular (two-hour or four-hour) intervals in order to understand how parking activity varies throughout the day.

The study team captured both this inventory and utilization information into a common database and geographic information systems (GIS) dataset, which allowed them to subdivide collected information into the study's subareas but also to observe trends and patterns by particular facility types, ownership, or user access.

ESTIMATING CURRENT AND FUTURE DEMAND

The inventory and utilization surveys provide a full understanding of downtown Chattanooga's parking supply and how much it is used, but it is important to understand these in the context of what levels of parking activity could be expected from downtown's current activity and uses. The study team collected information on current land uses from the Hamilton County Assessor's office, representing taxable properties and land uses, and supplemented this with non-taxable use information collected by River City Company and the 2012 UTC Master Plan. This information allowed the study team to estimate parking demand based on industry knowledge on parking activity, specifically the typical rates of parking generation documented in the Institute for Transportation Engineers' *Parking Generation* manual and Urban Land Institute's *Shared Parking* manual.



PARKING STUDY PROCESS

The study team interviewed over 15 focus-group gatherings of stakeholders representing different organizations throughout the seven study subareas, and continued to engage with many of these partners throughout the process.

CARTA/CPA staff led inventory and utilization counts of all of the 43,000 parking spaces in the study area.

Working with River City staff, the study team developed a comprehensive picture of current and expected land uses in the larger study area, using these as a benchmark for expected demand and comparing them to actual observed parking utilization.

The mismatches between expected demand and actual use drive the study's strategic approaches, tailored to the specific needs and opportunities explored during earlier stakeholder engagement.

In addition to estimating current demand, the study team also added information on forthcoming, expected and potential development, based on guidance from River City Company, to estimate future parking demand from new development. In cases where known or expected, this estimate also added new parking to the overall inventory for that district, although in some districts no additional parking was assumed.

This step of the analysis is critical to understand not only the gap between supply and use—itself a complex relationship, with high levels of parking activity tending to be concentrated in select facilities and not appearing globally throughout the study area—but also how much parking would typically be desired or needed to serve an area. The dynamics and differences between these three sources of information form the basis of how the study would later make recommendations.

STRATEGY DEVELOPMENT

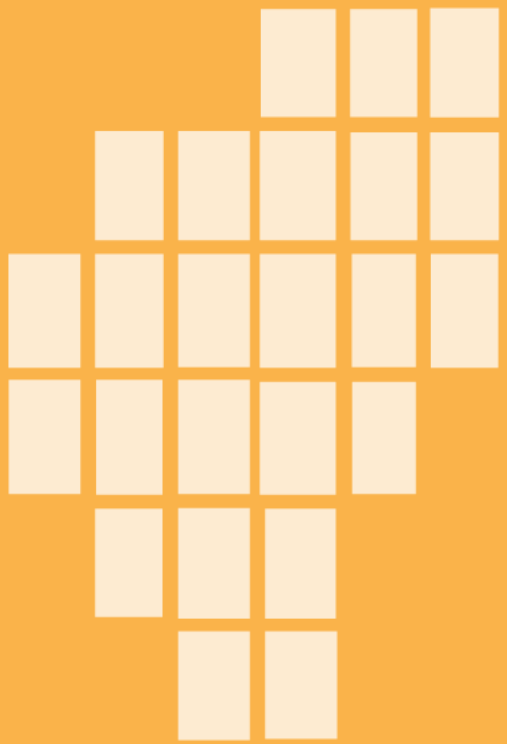
Combining the inventory, utilization, and demand estimates with the ongoing insight from the study's stakeholder engagement efforts, the study team developed a series of strategic recommendations to address parking needs and challenges in central Chattanooga. Many of these recommendations were tailored to specific needs of the seven subareas, although the study also includes general recommendations that should be applied to the entirety of downtown—and even parts of Chattanooga not explored in this study but that may face similar challenges (such as the North Shore).

As stated previously, the study emphasized a management-first approach to find ways to bridge the gaps between high levels of parking need in certain locations with a generally ample availability of parking spaces in other locations.

PUBLIC MEETING

The study team led a public open house meeting at the Bessie Smith Cultural Center in August 2017 that provided a snapshot of the study's progress, sharing the findings of study analysis with potential ideas for strategic approaches to address needs and challenges in each of the study subareas. This allowed open house participants from the community to engage directly with members of the study team and staff from the City of Chattanooga and Chattanooga-Hamilton County Regional Planning Agency. Residents, business owners and students in attendance shared feedback on study findings, discussed these results with the study team, and even shared ideas and thoughts for potential parking solutions.

The Parking Study team hosted an open house in August 2017 to allow members of the community to learn about the study's findings and status.



3 KEY FINDINGS

This section presents an overview of the study's findings and the larger trends that shaped recommendations explored in later sections.

KEY FINDINGS

PARKING IN CHATTANOOGA

Chattanooga's greater downtown area features just over 43,000 parking spaces divided between on-street curbside spaces, off-street lots and off-street garages, and including both public and private parking facilities.

Parking is far from uniform in who may access it and how it is regulated. In simple terms, one of every ten spaces are located on street; two out of every five are accessible to the public, and one out of every four either has a time limit, a price that is not associated with a regular permit, or both. However, when looking at the overall study area, parking is never more than 60 percent utilized on a typical weekday and never more than 40 percent utilized on a Saturday. Although greater downtown faces parking needs in key locations, parking facilities representing approximately one third of all of downtown's spaces are never more than 50 percent full on typical days.

The following sections discuss specific characteristics of greater downtown Chattanooga's parking and transportation system. Although the parking study has made recommendations tailored to more specific districts of its overall study area, it is important to understand the findings of the study at a broad level in order to understand why these recommendations are offered. In particular, the study has only identified limited locations where additional parking is needed in the short term, and the study's philosophy of exploring management opportunities before moving to costly construction of new parking is based in part on the multiple opportunities for making more efficient use of downtown's existing parking.

MANAGEMENT

Downtown Chattanooga is unique with regard to parking inventory ownership and management: while public agencies such as CARTA/CPA and the City of Chattanooga own and administer on-street parking and a select set of off-street facilities, as is common in American cities, nearly all privately-owned off-street facilities are managed by Republic Parking, a nationwide parking management services company based in Chattanooga. This hometown company status has allowed Republic to build extensive knowledge of the parking system and relationships in the urban core, and Republic manages the vast majority of downtown's available parking in addition to providing contracted management services for some public facilities.

Nonetheless, many of downtown's parking facilities are privately owned, with Republic and other downtown managers providing services for their owners and not setting common rates or regulations. Republic's broad understanding of downtown's parking dynamics allows its management staff to guide clients to set parking prices, permissions and use arrangements in a way that works well within downtown, but by virtue of being a company providing services, they are not able to influence this beyond their customer's desires.

The relationship of public and private spaces and management roles has generally preserved a market cost for downtown parking, but has meant that any one single actor cannot easily affect other parking dynamics, such as areas of downtown with consistent but higher prices than others based on demand.

PARKING INVENTORY

The first major task of the study's data collection effort was taking a comprehensive inventory of all parking spaces in the greater downtown study area. This included both public and private spaces, on-street and off-street. CARTA/CPA staff led this data collection in partnership with the study's consultant team.

The level of detail in the inventory allowed the study team to analyze this data very closely, distinguishing by different types of regulation, between lots and garages, between on-street and off-street spaces, and

PUBLICLY-OWNED PARKING

Downtown features 1,143 parking spaces in publicly-owned off-street garages, all of which are publicly accessible. There are 4,633 total curbside spaces (measured by typical space length), of which 3,529 are available to the public for general vehicle parking either with or without a meter payment. The remainder of the on-street spaces represent more specialized uses of curbside, including loading, bus stops, government vehicle and electric vehicle parking, and outright restrictions on parking (referred to in this study's tables and maps as 'No Parking,' meaning no vehicle stopping is allowed on that length of curbside). Although no-parking curbside areas are not marked for spaces, downtown's curbside length where parking is not allowed would fit approximately 600 spaces.

PRIVATELY-OWNED PARKING

The remaining approximately 37,000 of downtown's parking spaces are privately owned and managed, and although many

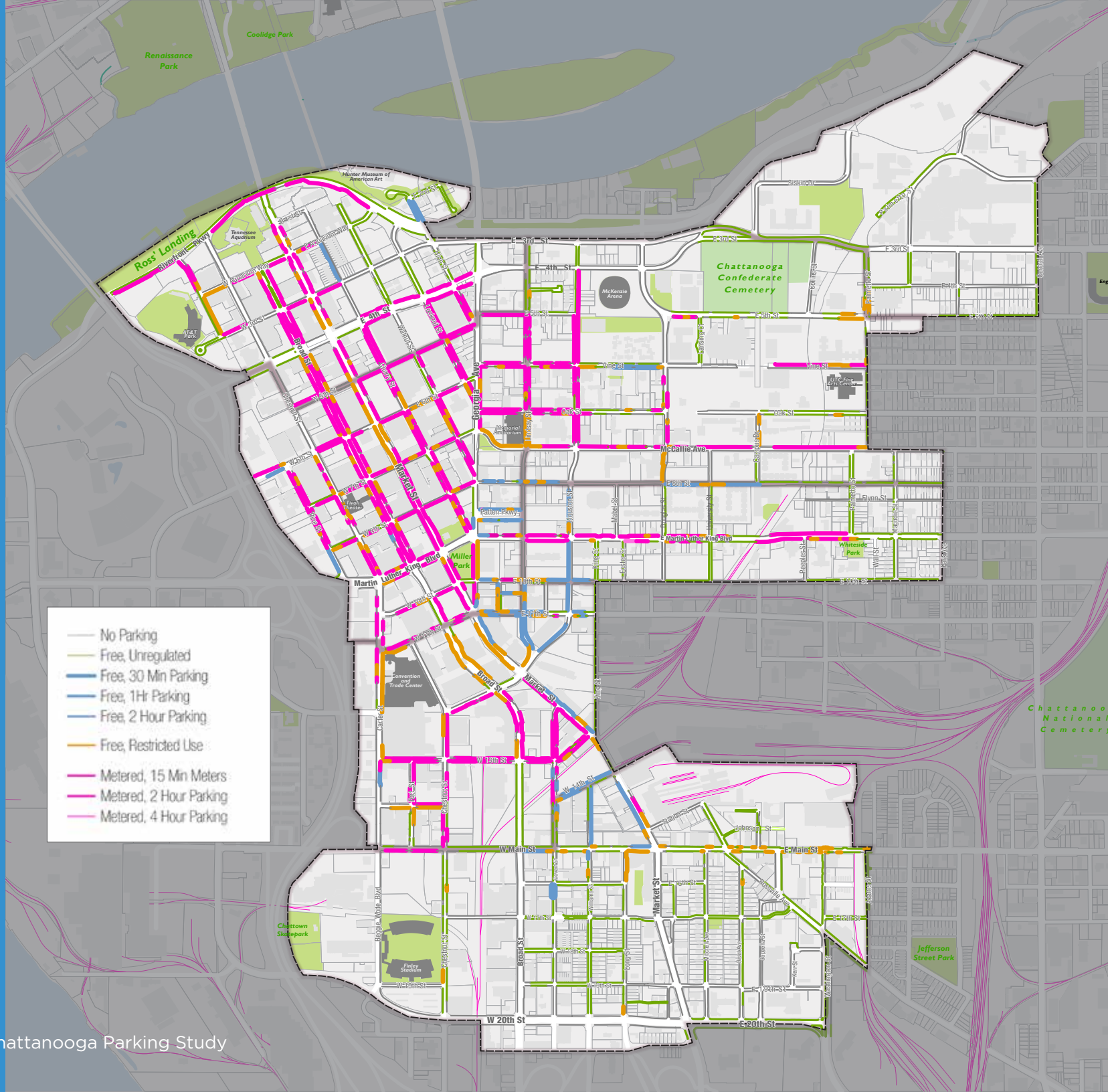
Text continues on page 20

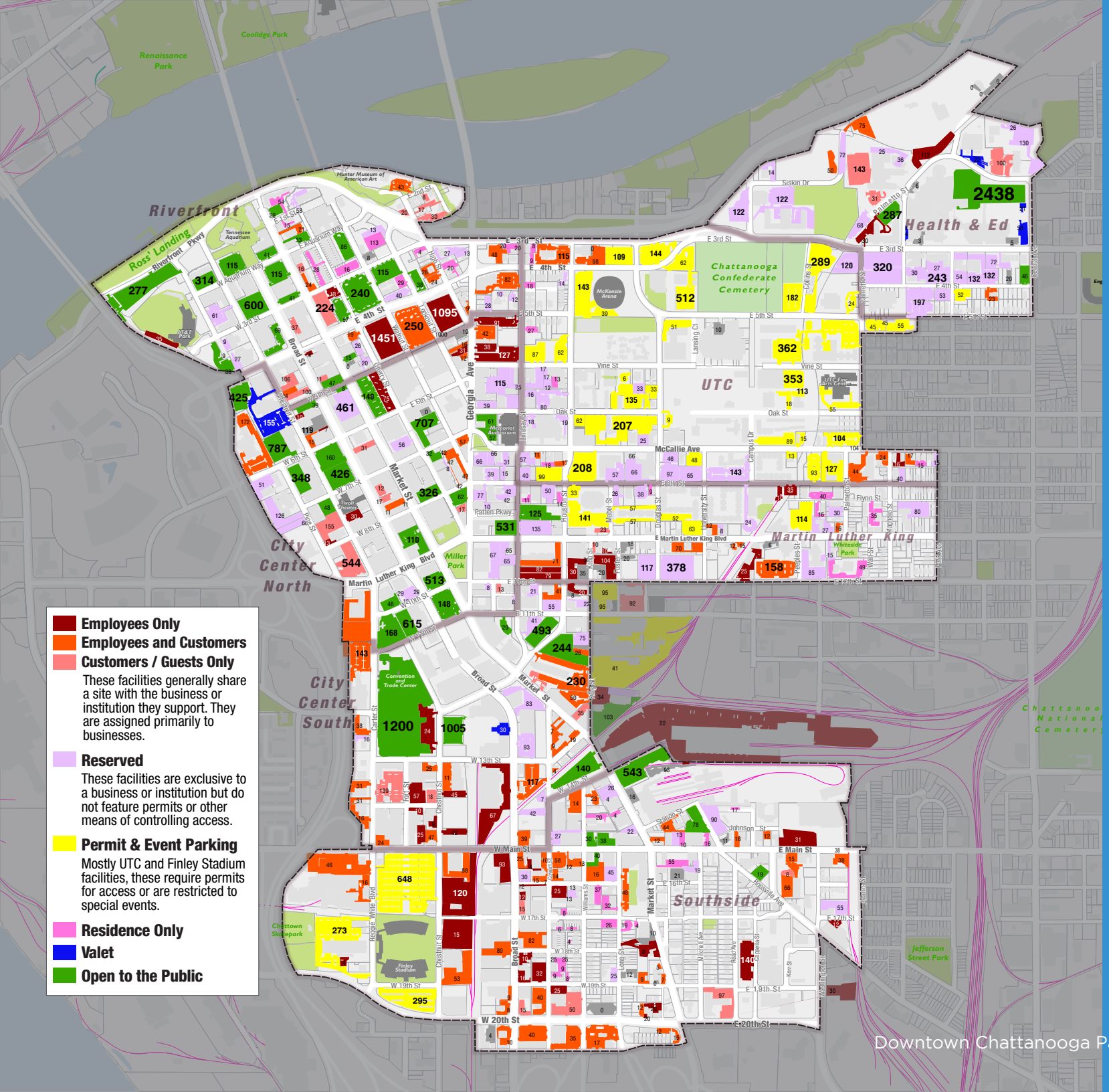
Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	43,100	100%
ON-STREET	**4,633**	**11% of total**
Metered	1,587	34.3%
Free, Time-Limited	475	10.3%
No Parking (no curbside stopping of any type)	602	13.0%
Truck Loading	156	3.4%
Bus Stops	137	3.0%
Unregulated (no price, no time limit)	1,467	31.7%
Other (see descriptions on page	209	4.5%
OFF-STREET	**38,467**	**89% of total**
Open to Public	14,834	38.6%
Employees Only	4,479	11.6%
Employees and Customers (generally reserved for a business or institution)	11,338	29.5%
Residential	1,276	3.3%
Permits	5,681	14.8%
Other Types (e.g. valet)	859	2.2%

ON-STREET SPACES

Downtown features on-street parking through practically the entire parking study area, although the ways this is enforced and managed vary. Most metered spaces are north of Main Street, with the Southside district featuring very few metered spaces overall.

On-street parking in neighborhoods tends to be free of charge and unregulated for time limits.





OFF-STREET SPACES

The much greater number of off-street spaces includes spaces both available to the public and reserved for particular users.

Although the largest parking facilities are located in the City Center North and City Center South districts, each of the seven subareas except the Martin Luther King corridor features a facility of at least 500 spaces.

Refer to the detailed explanations on the following page for additional information on the types of on-street spaces.

of these are open to the public, large numbers are reserved for a particular use, dedicated to employees and customers, or accessed by permit only. Over 13,000 privately-owned spaces are fully publicly accessible, most of these in park-for-hire lots and garages, but almost 16,000 spaces are dedicated to businesses or other organizations, whether for employees only or a combination of employees and customers. These include spaces are reserved for residents or visitors to institutions such as churches, hospitals, and schools.

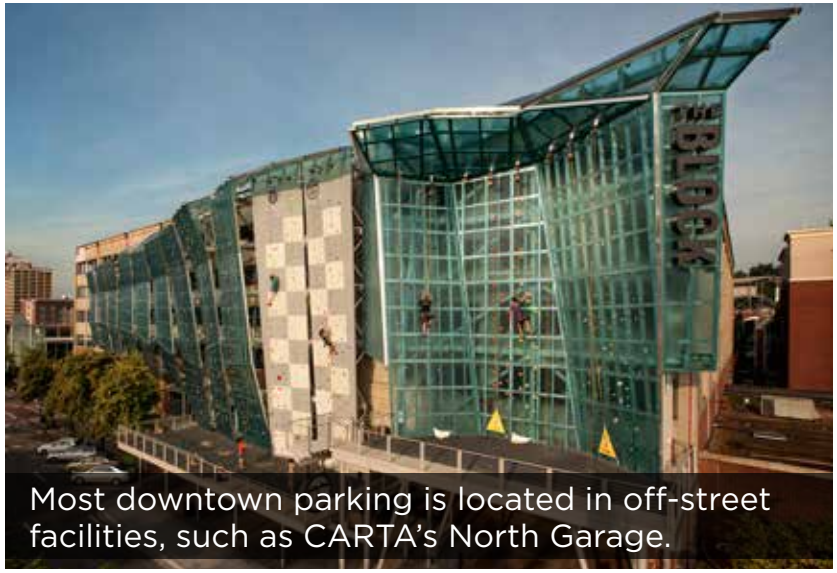
The maps on the preceding pages provide additional detail on these spaces throughout the larger study area.

ON-STREET SPACES

4,633 spaces, or 11 percent of the total number of spaces in the study area, are located on-street. Of these, 1,587 of these are metered and subject to time limits, and another 475 spaces are subject to time limits only. 1,467 on-street spaces are unregulated, meaning there is no restriction on length of stay or price to park, and in many locations there is not pavement marking or other indication of the proper placement of parked vehicles in a space. CARTA/CPA does not enforce these spaces, although the Chattanooga Police Department may enforce them for public safety violations (such as blocked driveways or fire hydrants).

OFF-STREET SPACES

The study area also includes 38,467 off-street spaces, with around 22,400 of these in structured garages and the remainder in surface lots. As discussed previously, around 15,000 of these spaces (approximately 40 percent of the off-street total) are publicly accessible, with the remainder featuring privatized or limited access. Downtown's large institutions and employers control large shares of this off-street parking: UTC alone owns lots and garages with



Most downtown parking is located in off-street facilities, such as CARTA's North Garage.


On-street parking is a key component of the parking system for ground-floor businesses.

over 4,500 spaces; Unum has over 3,000, and Erlanger approximately 3,000.

PARKING ACCESSIBILITY

For the person parking a car, convenience and availability are generally the most important factos . It is important for the general public not traveling to a reserved parking space to understand where they can park, regardless of ownership. In Chattanooga, more than two-thirds of the overall parking supply is restricted in some way.

The remainder of downtown's parking is restricted to certain users and is not readily available to support new development- or visitor-related parking demand. As the kinds of uses attracting non-daily commuters, such as restaurants and hotels, have been increasing in downtown, there is increasing pressure to find parking in scarce locations. Not only has this led to broad perceptions of insufficient parking supply, but it has also created challenges for new development and businesses wishing to open. The available nearby parking is, by and large, not readily available to support these establishments.

SPECIAL CURBSIDE USES

As noted previously, downtown features multiple curbside lengths where parking is either disallowed or restricted to particular uses, including truck loading, bus stops, government vehicle spaces, electric vehicle parking for Chattanooga's Green Commuter vehicles, or simply no parking at all. These special uses represent the equivalent of 1,100 parking spaces, over two percent of the parking in the study area (around 600 of these 1,100 are no-parking spaces, as noted on page 17). This is generally similar to parking patterns in other mid-sized city downtowns.

Meters control approximately 40 percent of downtown's on-street spaces.

Curbside space equal to around 1,100 parking spaces is for special uses like bus stops and loading areas.

PARKING BY SUBAREA

Each of the seven subareas is large enough to offer at least 3,000 parking spaces, with City Center North featuring over 12,000. This is the most dense part of Chattanooga and certainly its greatest concentration of jobs; as such it features the largest inventory of parking garages.

However, all of the subareas have factors in common— on-street parking generally represents around a tenth of the total parking supply, pointing to long-standing patterns of off-street parking construction to support private development. This is remarkably consistent in all the subareas, as even the densest parts of downtown have a higher supply of parking to support private development. Such reliance on parking to provide access to development is common in American cities, and the balance of street parking to off-street parking is not unusual.

However, the balance of street parking in lots or garages differs notably from one subarea to the next, with the subareas less focused on employment featuring much more surface lot parking than the employment-heavy districts, which have a higher portion of their parking in garages.

Central subareas with high concentrations of employment feature more parking garages to provide parking supply.

Parking lots are more prevalent in outlying subareas, such as Southside (pictured here)

PARKING UTILIZATION SUMMARY

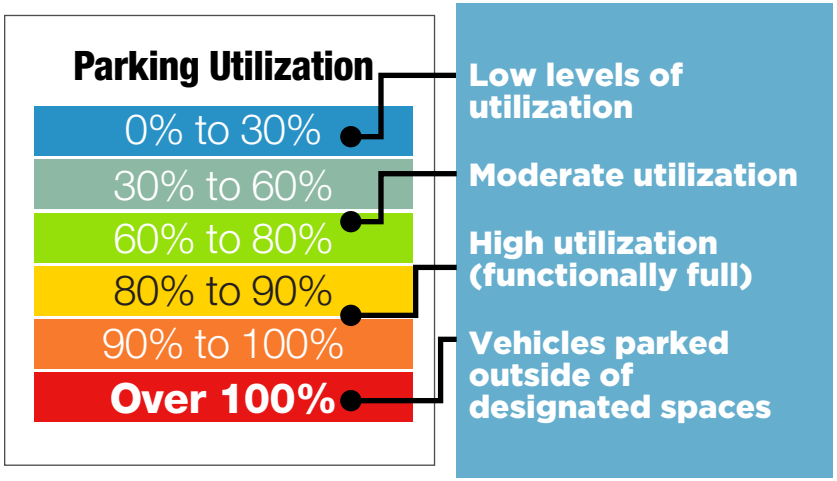
The study also counted the numbers of parking spaces occupied in each of these facilities to establish a comprehensive understanding of parking utilization. CARTA/CPA staff also collected this data, counting parked vehicles on a Thursday and a Saturday. This effort was undertaken throughout March and April 2017, timing the counts of visitor-oriented areas like the Riverfront to avoid spring break weeks for regional public schools and counting the UTC and Martin Luther King areas outside of the University's spring break.

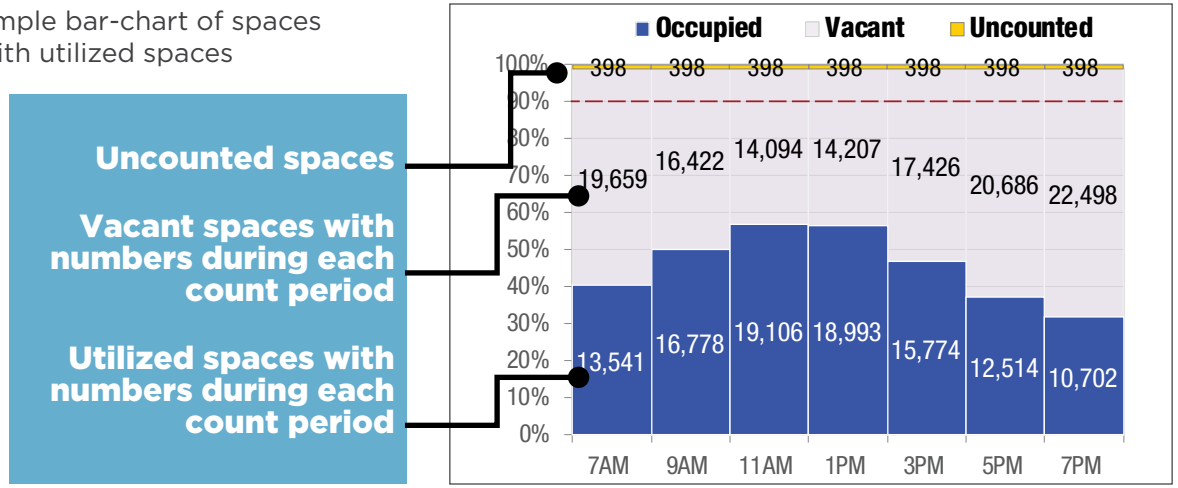
The study presents information on utilization by each of its subareas with an overall summary on the following pages. Each of the utilization maps throughout this report uses a color-coding system for parking facilities indicating their level of use during the peak time observed for that overall district.

In the parking industry, 85 to 90 percent rates of utilization are considered to be functionally full, and any facilities noted at over 100 percent featured parking in non-designated spots.

Each summary area also presents a simple bar-chart of spaces in the district as shown to the right, with utilized spaces shown in the blue bars (with a count of spaces in each time interval) and vacant spaces shown in the gray space above them. The overall study area and some subareas had a number of spaces that were not counted due to inability of surveying staff to access the garage on the counting day.

READING THE STUDY'S UTILIZATION DIAGRAMS





PARKING UTILIZATION: WEEKDAYS

Throughout the larger study area, the highest levels of parking use correspond with the business day, a typical condition for an employment-based district. However, use patterns are unevenly concentrated, and most districts still feature considerable amounts of unused space even during the day. At almost any location and any time of the day, highly-used parking is never far from underutilized parking.

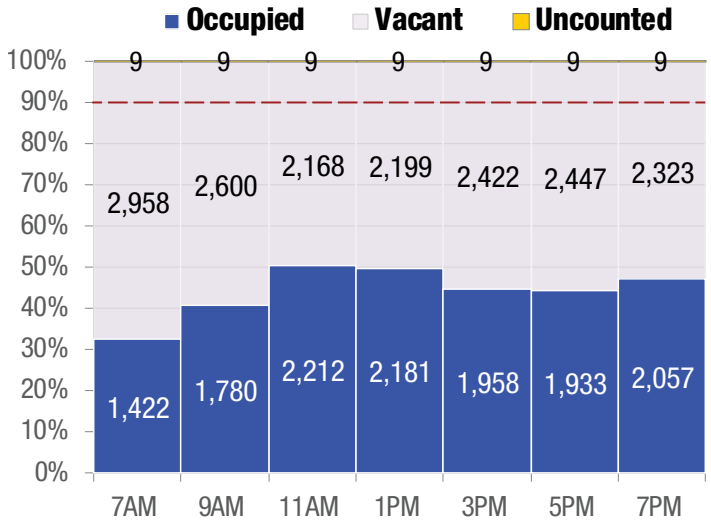
The most consistent patterns of heavy parking use are in select facilities in City Center North, UTC, and Health & Ed.

The latter two districts generally see the highest levels of use and feature the greatest amount of parking at full utilization.

The map on the following page illustrates the busiest time of day for the overall district, the period from 11 AM to 1 PM. The bar graphs below provide a breakdown over the typical weekday's two-hour intervals.

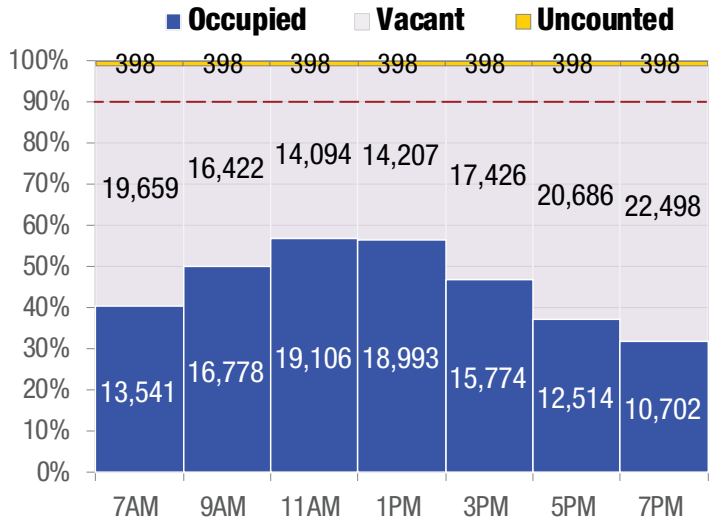
ON-STREET PARKING Peak Periods: 11AM - 3PM

Currently, usage remains close to peak levels well into the evening, due partly to the ending of enforcement at 6PM.



OFF-STREET PARKING Peak Periods: 11AM - 3PM

Use decreases significantly after 5PM, but even begins to decline after 3PM due to the large number of spaces at Erlanger Hospital.



WEEKDAY PEAK UTILIZATION:

11 AM - 1 PM

In the mid-day during the business week, the overall study area is at its highest levels of use, with select facilities in the City Center North district, the UTC campus area and the Health & Ed district especially highly utilized.

Select facilities in the City Center South and Southside districts are also highly utilized, but these are in fact smaller numbers of spaces and do not have the same impact that larger facilities in the main employment districts do.

PARKING UTILIZATION: WEEKENDS

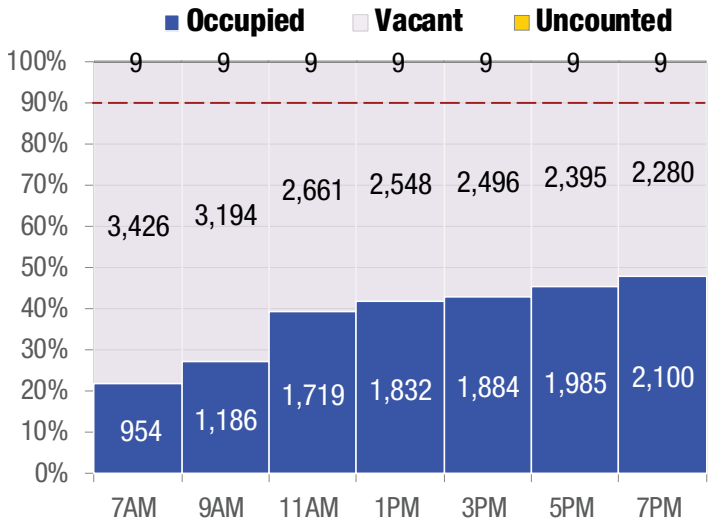
As is common in employment-heavy downtown districts, overall parking use is significantly lower on weekends than on weekdays. The notable exception to this pattern is in the Riverfront district, where relatively large facilities have high levels of use on Saturdays, extending through much of the day. The Southside's business district along the East Main Street corridor is also notably busy during this time, even though large nearby facilities such as the CARTA South Shuttle Garage have availability.

The major generators of parking demand during the week, such as UTC and the Health & Education district hospitals, are not active during this time, which greatly affects overall utilization.

The diagram on the following page illustrates the busiest time of Saturday utilization, the period from 1 PM to 3 PM. The bar graphs below provide a breakdown over the typical Saturday's two-hour intervals.

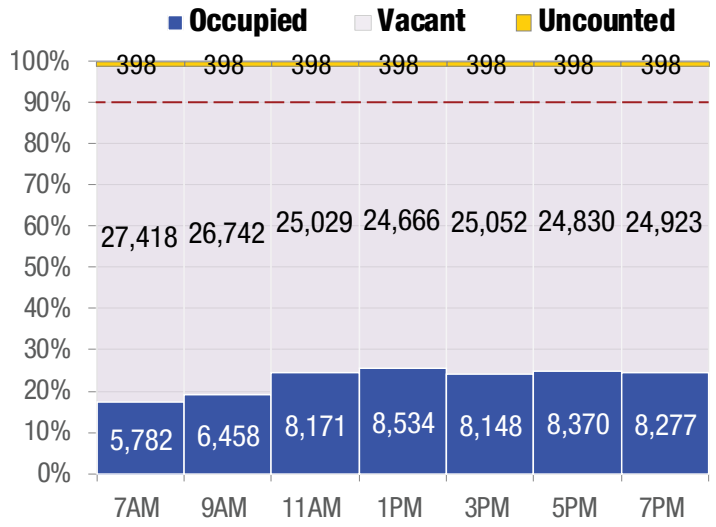
ON-STREET PARKING Peak Periods: 7PM - 9PM

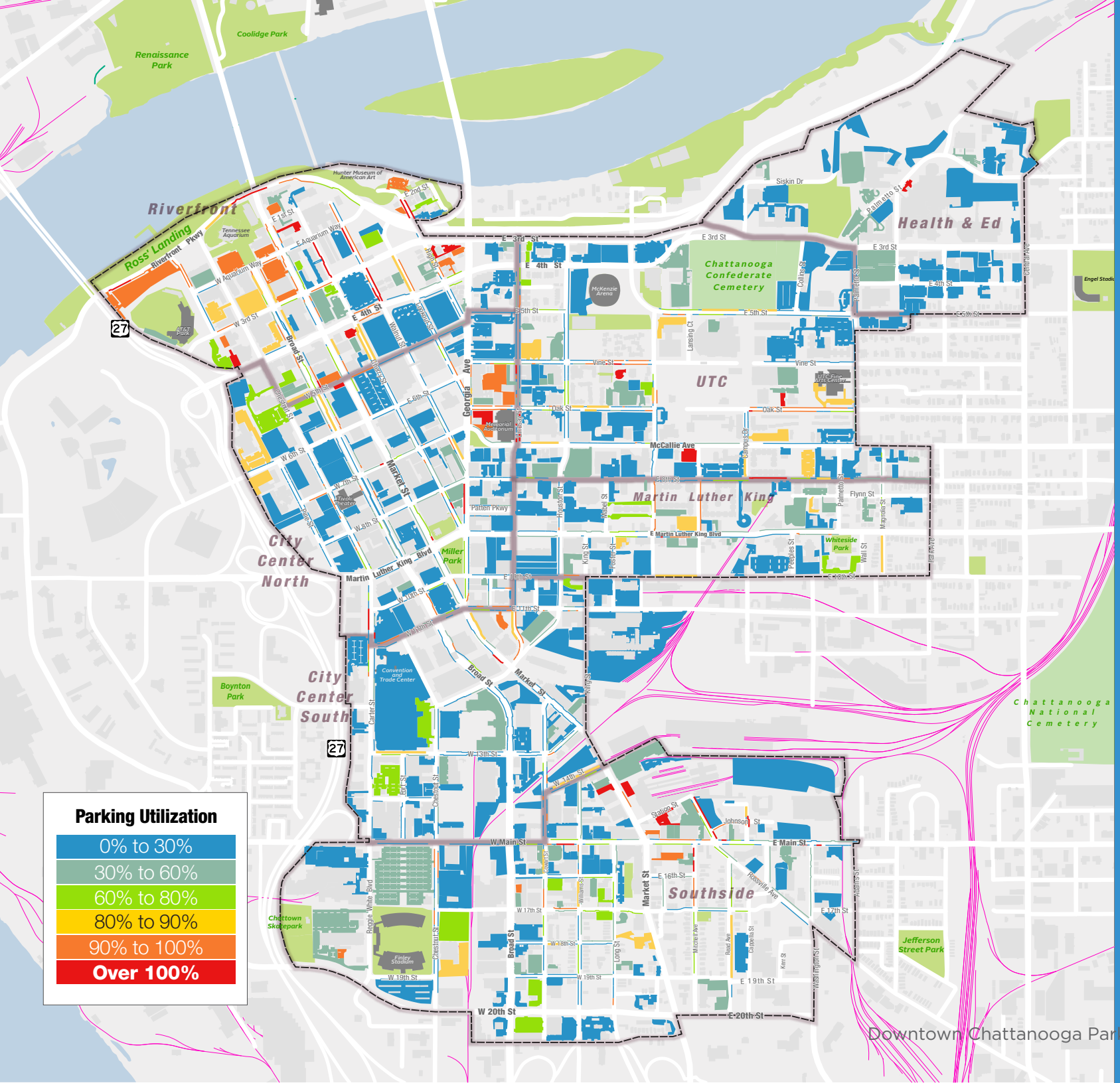
Usage patterns increase throughout the day, concentrated largely in dining, entertainment, and tourist attraction areas.



OFF-STREET PARKING Peak Periods: 11AM - 3PM

Off-street parking use is much lower on Saturdays due to a large number of employers not being active. Use is more concentrated in the Riverfront area than other days of the week.





WEEKEND PEAK UTILIZATION:

1PM - 3PM

In general, parking throughout the study area is much less heavily used on weekends, although specific facilities remain heavily used. This reflects the large employment focus of downtown's parking.

LAND USE ANALYSIS

Chattanooga continues to be a growing at an exciting pace. Comparing today's land use patterns with observed parking demand provides insight into how to prepare for future development. This section gives a brief overview of the study approach to modeling the future..

OVERVIEW

Overall, this analysis found that the parking demand from land uses in downtown Chattanooga (such as office, retail, restaurant, residential, and institutional buildings or campuses) fluctuates significantly by time of day. This means that each use does not need its own dedicated supply of parking. Instead, many of today's parking spaces likely serve multiple uses throughout the day. Others could, except that regulations prohibit this efficiency. Other key findings are detailed in sections on each district and include:

- Current and future parking demand will not exceed supply in City Center North and South
- In Southside, future parking demand will not exceed supply. However, supply is spread out and the bulk of it is available at the stadium and away from the center of activity.
- Similarly, the Martin Luther King district is experiencing a parking crunch which will worsen in the future without additional public supply. However, there may be opportunities in existing supply to support future uses.
- In the Health & Ed District, demand will quickly out pace supply if current trends in employment and hospital facility growth remain consistent.
- As UTC grows, it will also need to reconsider its parking management. Current practices and trends will lead to a parking crunch and mobility issues at the university.

SHARED PARKING IN DOWNTOWNS

A typical parking analysis calculates parking demand by land use, then sums the required parking to estimate an overall need. This process uses parking demand ratios, which estimate the number of parked cars per unit of land use, such as restaurant seats, square footage, or housing units. The nationally recognized source for this is the Institute of Transportation Engineers (ITE) *Parking Generation* manual. Overall, this methodology assumes that each use within an area, including walkable downtowns, needs its own dedicated supply of parking, because those spaces will be full all day every day.

This methodology, however, does not accurately represent mixed-use, downtown areas like the Chattanooga study area. Much of the data in the ITE manual comes from developments in suburban or rural stand-alone settings where people choose to make driving trips to each destination. Moreover, it does not reflect that parking demand fluctuates throughout the day. For example, in Chattanooga, a space on-street or in a parking facility that supports an office use during the day may empty out at night and provide formal or informal restaurant parking.

Chattanooga's multimodal context also encourages people to make trips using modes other than the personal car. For example, the office employee downtown who walks to go to lunch or the student who bikes to campus are trips that do not require a parking space. CARTA transit service helps mitigate

and reduce parking demand, in turn reducing the need for every land use to have its own supply.

The diagrams below illustrate the difference between calculating parking demand based on individual land uses (that provide their own parking exclusive of other uses) and estimating a real demand based on different land uses' parking activity throughout the day. For example, residential uses tend to see their highest parking demand in the evenings and overnight, where office parking demand is highest during the business hours of weekdays. Sharing the same parking spaces between these two leads to an overall lower of spaces required, even if the levels of demand of the individual land uses remain the same.

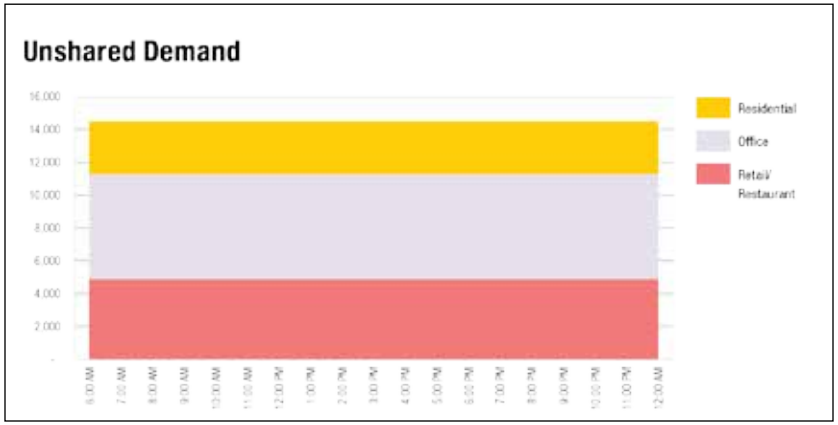
METHODOLOGY

Using methodology developed by the Urban Land Institute (ULI) as guidance, the team built and calibrated a parking demand model for districts throughout the Chattanooga study area. ULI, a nationally known coalition of real estate and land use professionals, publishes the *Shared Parking Manual*, which defines methods of quantifying and modeling parking demand across uses. The methodology uses a combination of ULI and ITE data together with locally ground-truthed observations to estimate parking demand by use.

The first step in developing this methodology was selecting districts for analysis. While drawing lines on a map is inherently complicated and inevitably assigns some land uses into districts with which they are not fully associated, the

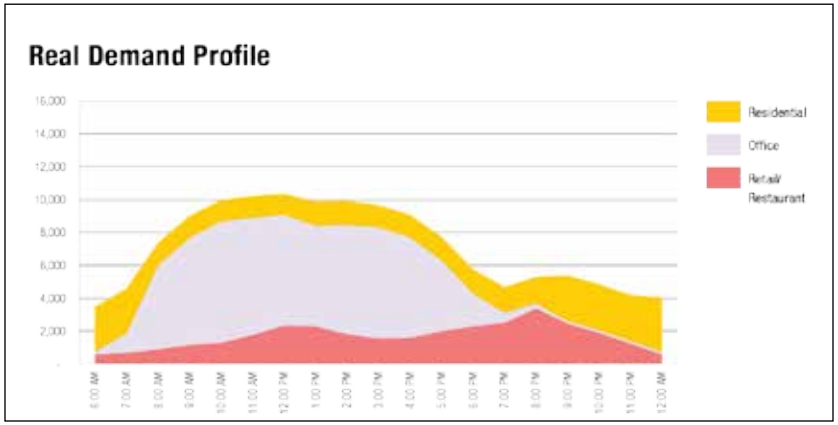
Unshared Demand: Conventional Approach

Zoning typically requires each land use to build its own parking to peak-level use, and assumes that parking will not be shared among uses. This approach leads to a large number of parking spaces because no sharing between land uses is considered to occur throughout the day.



Real Demand: Shared Parking Approach

When accounting for the time-of-day parking patterns of different land uses, the real demand for all parking within a multi-use district looks much different. The peak level of demand is still when the most parking is needed, but it accounts for use-specific levels of demand reaching their peaks at different times of the day.



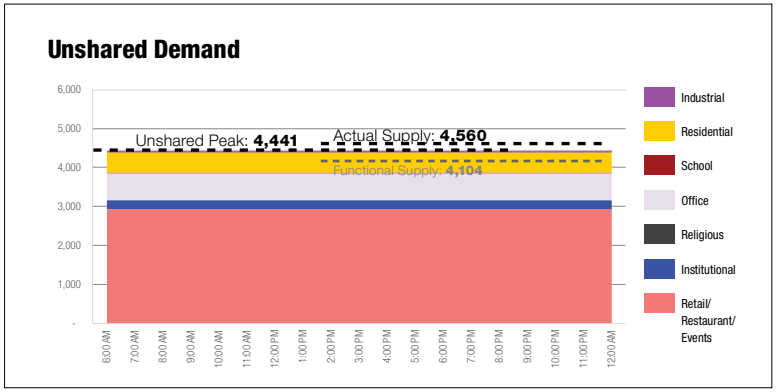
team worked closely with River City to create analysis districts that matched general neighborhoods or activity centers in greater downtown Chattanooga—this step of the analysis was the origin of the seven study subareas described previously in this report. The map on the following page shows these districts and describes the general land use-related parking concerns for each, also detailed in the district-specific profiles beginning on page 49.

To estimate land use, the team then compiled tax roll data from the Hamilton County Property Assessor database and reviewed it with River City staff. This provided an index of land use by square foot in each district. This data provides a baseline for modeling parking demand and understanding the intensity of and balance between uses in a given area.

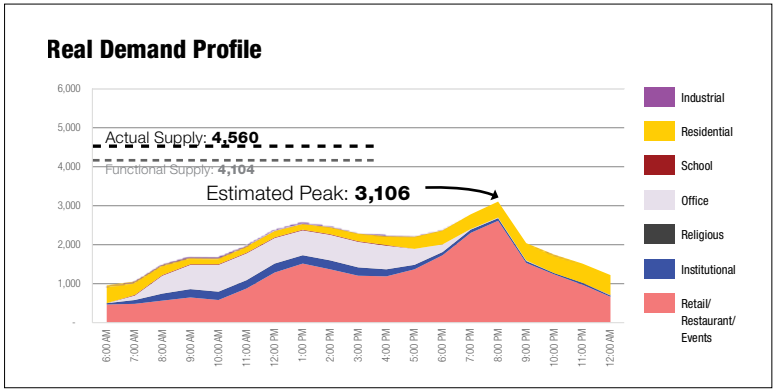
Using this database, national parking demand standards, and observed parking occupancy, the team then calibrated a model of parking demand in Chattanooga, applying it to each of the study subareas. Comparing this land use database to known parking demand ratios and fluctuations by time of day creates a "parking demand curve" for a typical day, as illustrated on the previous page's explanation of real (shared) parking demand. The last step of this analysis compared this estimated parking demand curve to actual observed parking utilization throughout the day, as illustrated in the diagram to the lower right. Comparing estimated demand with actual observation yields a district-specific parking demand ratio for each district, but also provides an immediately useful assessment of how current parking performance measures with what level of parking activity would be expected.

Modeling Example: Riverfront

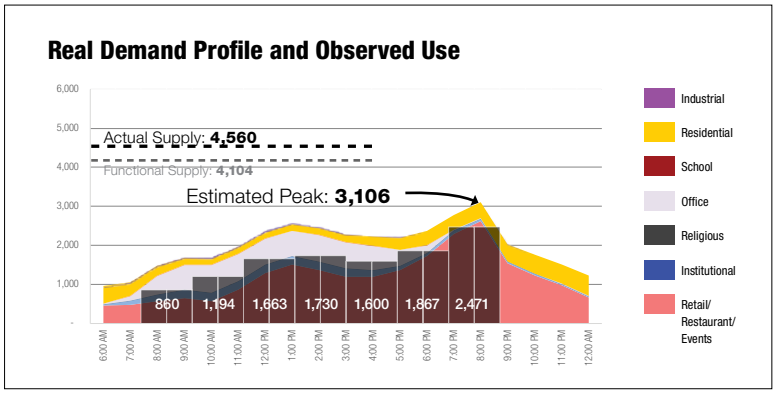
Traditional Analysis

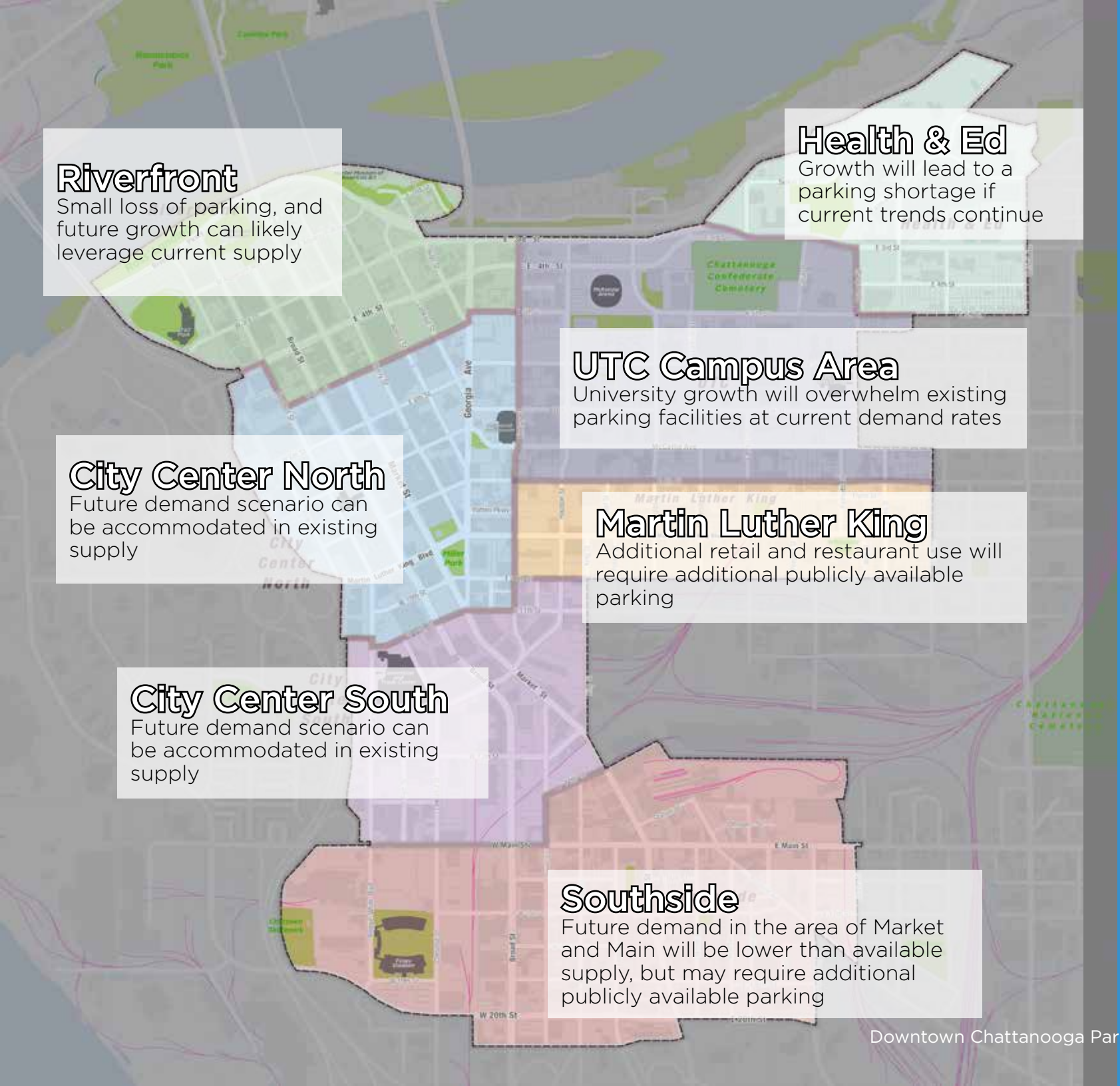


Shared Parking Model



Calibrated Results



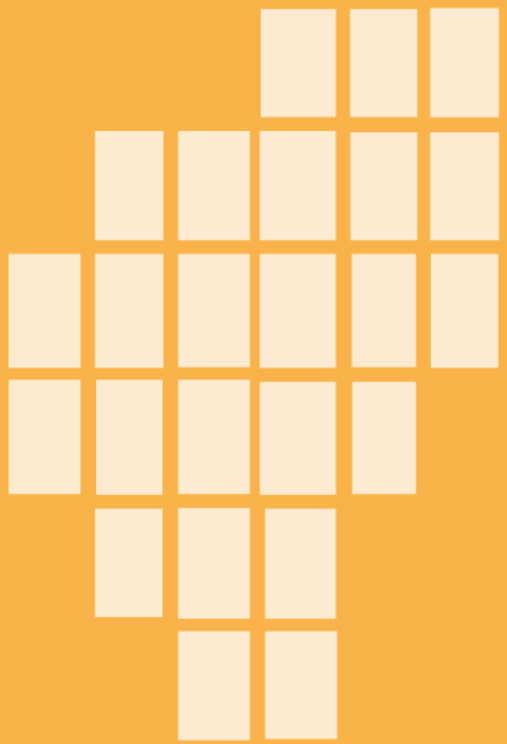


LAND USE BY SUBAREA

The study compiled information on existing land use in each of the seven identified subareas.

Comparing this land use to expected demand based on national standards provides a guideline for expected parking generation rates in these areas.

A comparison between expected and observed parking generation rates creates an understanding of how to plan for real demand, both now and into the future.



4 GENERAL RECOMMENDATIONS

The main recommendations of the study are organized by and tailored to the seven subareas, although the study also makes broader recommendations for the larger downtown area as a whole. These serve as good management practice for future parking regardless of its location.

Recommendations are coded by general applicability to the study (GEN) or by specific subarea to which they apply, as detailed in Section 5.

GENERAL RECOMMENDATIONS

GEN1: SHARED PARKING

A key finding of the study is that reserved and exclusive parking accounts for a majority of all parking downtown. Many of the facilities with high levels of reservation—especially facilities that are entirely reserved—feature relatively low levels of utilization during parts of the weekday and almost all of Saturday.

Overall, the study's recommendation is that downtown has too much of this individual reservation to allow its existing parking to be used efficiently. While recognizing that much of this parking is under private management and not subject to regulation or influence, CARTA/CPA, the City, and their public and private stakeholder partners should set broad policies and take specific action to encourage and facilitate more sharing of parking than occurs today.

This approach reduces the need for additional parking; facilitates dense, walkable areas; reduces extra traffic and congestion from users circling for parking; and often creates additional revenue streams for the parties sharing their facilities.

As a first step, CARTA/CPA or River City should lead the development of shared parking agreements, which could take a wide variety of formats, including:

» Leasing privately held parking directly and opening it to the public for transient parking use.

» Opening all or a portion of a facility to public use throughout the day or at certain days/times. For example, church parking can support other uses on most days except Sunday, and many UTC-owned spaces can support nearby evening uses outside of the working day.

» The City or CARTA/CPA providing services "in kind" (i.e. enforcement, maintenance, signage) in exchange for opening parking to the public.

» City or CARTA/CPA brokering deals between private entities to share their parking, i.e. a bank and restaurant employees. Limiting the pool of potential parkers can sometimes be more attractive to those who have excess parking, although this does require a level of additional enforcement.

There are several locations that would benefit from this approach, where underutilized and restricted parking has availability throughout the day. Specifically, these may include locations like:

» Currently restricted permit parking in Center City South garages (refer to recommendation CCS3 on page 68)

» UTC and other restricted facilities in the MLK area (MLK4, page 98)

» Unum facilities that could support evening and weekend demand (CCN3, page 58)

» The Sportsbarn garage in the Riverfront district (RIV3, page 76)

GEN2: PERFORMANCE-BASED PARKING SYSTEM

Performance-based parking uses price to match demand and achieve consistent availability in parking facilities. Adjusting rates distributes demand so that spaces that are less optimal are cheaper, while those that are right in the heart of activity are more expensive.

To be clear, **this is not a general recommendation that CARTA/CPA raise parking prices.** Key elements of a performance-based approach include the following actions:

- Focus on branding and messaging, and emphasize that the price will drop in many locations.
- Arrange meetings with stakeholders, including parking operators, merchants, and business owners in key locations.
- Set an availability target for both on- and off-street parking. For example, parking industry standards say that parking is "efficient" when on-street spaces are 85% full, and off-street are 90% full.
- Establish rate increment changes, for example $0.25. This would mean that the price could only increase by that amount each time there was an adjustment.
- Create zones for price changes.
- Encourage private facilities to participate in the system.
- Invest in quality signage and wayfinding that helps people find parking that meets their needs.

Specific areas that may benefit from this approach include:

- Martin Luther King Corridor (refer to recommendation MLK1 on page 96)
- Center City North (CCN1, page 57)
- Center City South (CCS2, page 68)
- Riverfront (RIV1, page 75)
- Southside (SOU2, page 84)

This recommendation is closely related to GEN3 on the following page, which defines detailed criteria for taking action on parking regulations to ensure availability and efficiency. Overall, the study recommends that CARTA/CPA use a performance-based system to evaluate parking utilization and demand and establish thresholds for adjusting price or other forms of regulation (such as time limits) accordingly.

GEN3: MONITOR, REPORT, ADJUST

With any adjustment to parking regulations it is important to collect data to understand their impact, and can be even more important to report that back to the public. This could be as simple as taking a peak parking count before and after implementing changes. A simple one-page flier or web announcement can report how parking patterns have changed in response to regulatory changes, and what next steps might be.

Based on the results of data collection, the study recommends that CARTA/CPA adjust prices on its on-street spaces to match demand. As the program rolls out, these adjustments should not be too frequent to avoid confusion: six months or a year are suitable initial increments between price changes. The table below outlines suggested thresholds and procedures for CARTA/CPA to use in adjusting pricing and regulations.

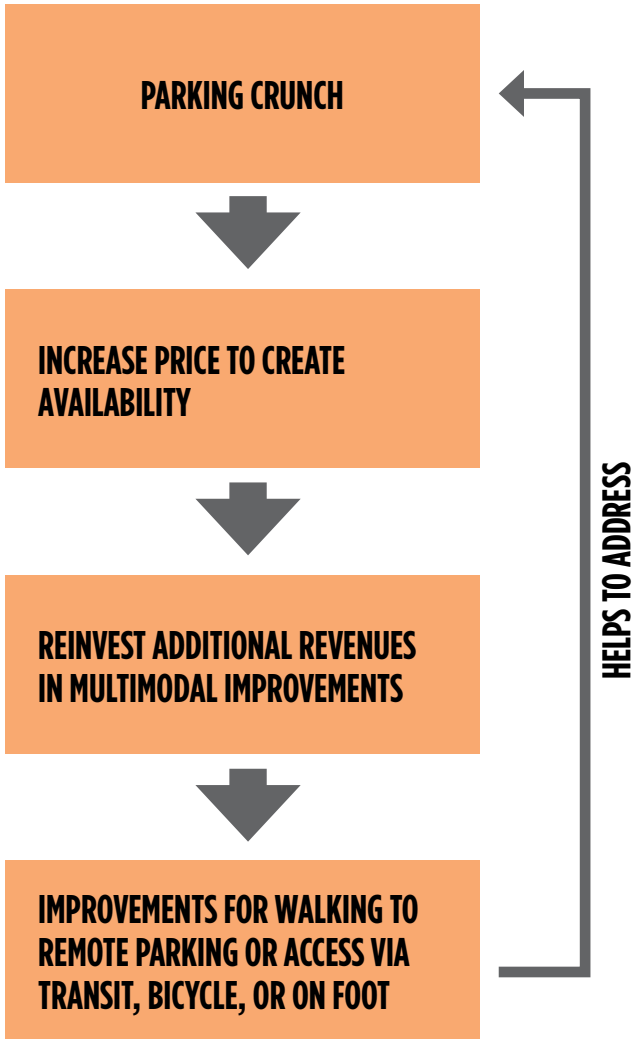
Utilization Level	Below 60%	60 - 75%	75 - 85%	**85 - 90%**	**Above 90%**
Action	**Reduce or eliminate price**	**Flag this block length for consideration**	**None required**	**Flag this block length for consideration**	**Increase price**
Details	Underperforming parking could be more efficiently used; price may not be needed to manage availability	If consistently underutilized, reduce price.	This is an efficiently utilized parking resource	These spaces are valuable, and the price may need to increase to create availability.	When fewer than 1 in 10 spaces are available, access is limited and users report frustration.
Procedure	Potentially switch to time limits to avoid spillover (particularly in residential neighborhoods)	CARTA/CPA takes monthly or quarterly utilization counts. When four consecutive block lengths are at or below this level for six consecutive hours, CPA recommends price reduction for that area.	CARTA/CPA takes monthly or quarterly utilization counts based on findings of the study data collection effort and monitors block lengths in this range to understand trends.	CARTA/CPA takes monthly or quarterly utilization counts. When four consecutive block lengths are at or below this level for six consecutive hours, CPA recommends price reduction for that area.	CARTA/CPA takes monthly or quarterly utilization counts. Recommend increase in price for at least three consecutive block lengths.

GEN4: REINVEST FUNDS IN MULTIMODAL IMPROVEMENTS

Income from parking should support parking-related initiatives, which includes overall mobility. Every person who parks is on foot at some point during their trip, and for every person who chooses not to drive, another space is available for someone who needs it.

CARTA/CPA already represents a best practice in that the joint organization manages parking and transit together, allowing for coordination such as linking the free shuttle to parking facilities. Additional investments in the multimodal environment may include:

- Improvements to the pedestrian environment, particularly between key parking facilities and activity hubs (see Recommendation SOU1 on page 83). This may include sidewalk widening, lighting, benches, curb ramps, etc.
- Enhancing the environment for people on bicycles, including working toward a complete network of designated on-street bike lanes, secure bicycle parking, and bicycle repair stations.
- Event management materials as necessary, such as temporary signage or enforcement
- Funding study and/or operations of additional CARTA shuttle or transit routes
- Real-time availability indicators built into directional signage for large parking facilities.



GEN5: POTENTIAL TRANSIT SERVICE ENHANCEMENTS

CARTA has had long-term plans for reorganizing its route system around the future development of a central multimodal passenger facility; this should present multiple opportunities for changes to transit service that can help to address current parking needs and provide access from high-parking-demand areas to remote parking supply:

Although the study remains neutral to specific transit technology and vehicle types and this section is intended to discuss transit service connections in a broad sense, it is important to note that CARTA's Electric Shuttle service has been highly popular to riders throughout its existence and was frequently mentioned during stakeholder discussions as a desirable form of transit connection. This is due largely to its lack of a rider fare and its high frequency. While shuttles may be appropriate to serve some of the specific transit connections discussed in this section and later in the study, the study speaks broadly about transit and does not draw material distinctions between the Electric Shuttle and regular fixed-route bus service. Either could be used to make key connections, provided that the service is attractive to parking customers so that they choose more remote parking locations.

It is important to note that CARTA is currently limited in its ability to pilot new service without direct financial contributions to fund it—the agency provides service for the larger Chattanooga urban area, not just downtown, and currently provides this service no additional surplus in its operations resources. Simply stated, adding transit service in one location, whether a new route or an increased frequency on an existing route, must mean reduction of service somewhere else in the system.

Through recommendations such as this one, CARTA is in a position to evolve into more of a holistic mobility service provider, and its management of public parking downtown already gives it a position of leadership over key elements of the downtown transportation system. However, it does not have sufficient resources to do this today, and is limited even in its ability to pilot short-term programs such as fare holidays, reduced-cost transit passes, or new shuttle connections.

CARTA/CPA should work with the City and its agency partners to build consensus on how it can provide these kinds of mobility services to address parking needs and understand what level of additional support would be needed to achieve this potential.

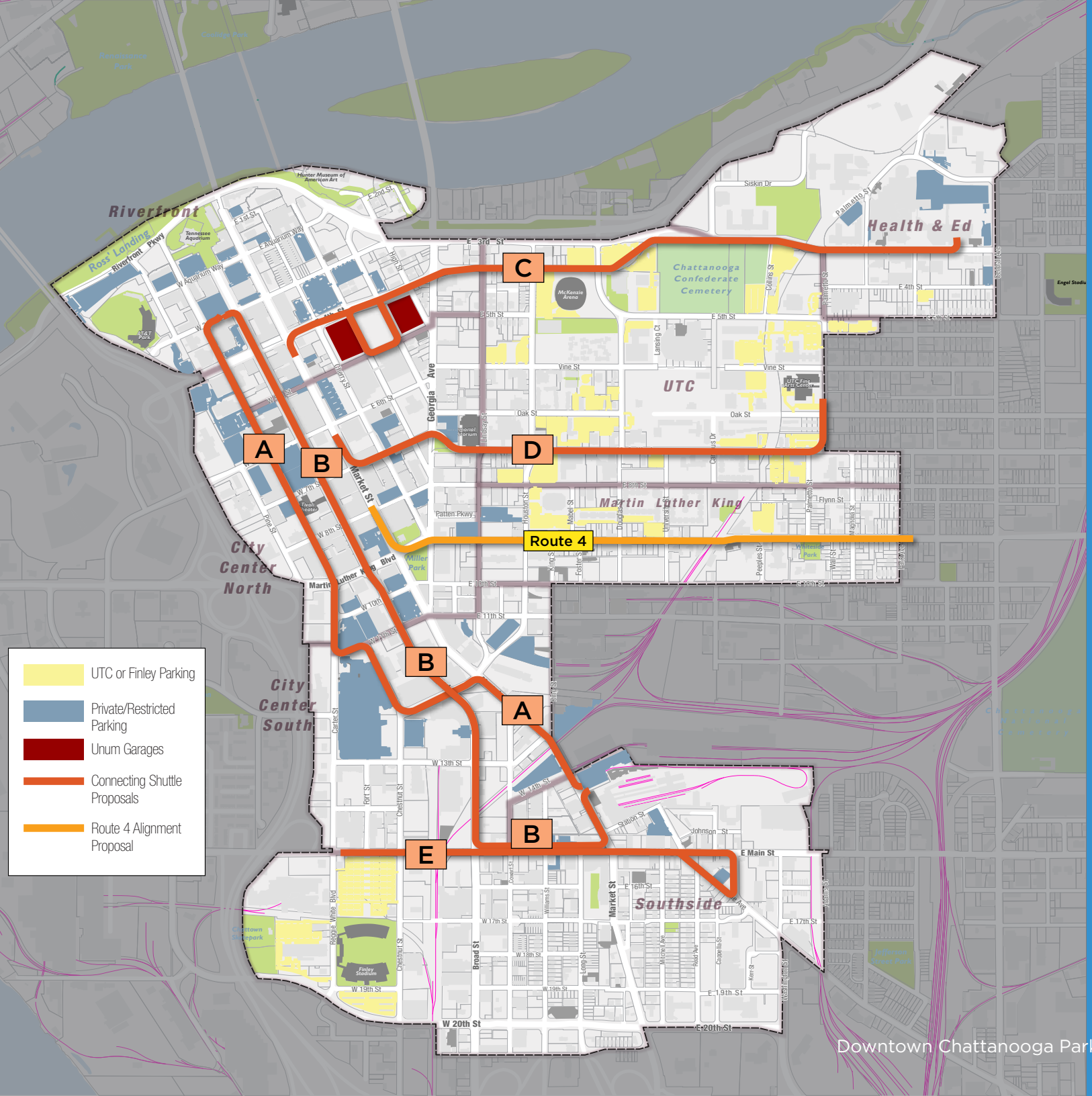
Although the concepts discussed in this section would significantly increase transit connections through the study area, they should be explored further as part of a comprehensive route system and operations analysis and considered from a broader perspective of all multimodal connections. Further steps to develop these concepts include:

- Funding study and/or operations of additional CARTA shuttle or transit routes
- Improvements to the pedestrian environment, particularly between key parking facilities and activity hubs (refer to Recommendation SOU1 on page 83 for a more detailed example of this concept).
- Enhancing the environment for people on bicycles, including completing downtown's network of designated on-street bike lanes, secure bicycle parking, and bicycle repair stations.

POTENTIAL TRANSIT SERVICE CONCEPTS

The study has explored a series of concepts for enhanced transit service intended to address critical parking need. Two of these are discussed in further detail in subarea-specific recommendations in Chapter 5.

The following pages discuss principal advantages and disadvantages to each of these concepts.



CONCEPT A: CHESTNUT SHUTTLE

This operating concept moves the current Electric Shuttle alignment from Broad Street to Chestnut Street, placing it within closer reach of downtown's main hotel corridor and connecting this directly to the Convention Center (already a major source of the shuttle's ridership). However, the corridor is not readily sized to fit the shuttle, which would operate in mixed traffic in a single lane and would require added right-of-way (or removal of existing street facilities such as bicycle lanes) to fit larger-footprint enhanced stops. This route provides more direct service to underutilized parking in City Center South.

Concept A Tradeoff Analysis
Benefit for Parking Needs
Moderate: allows parking in remote locations for hotels and attractions; offers increased utilization of Southside garage (in City Center South district)
Advantages
Direct service to downtown hotels and Convention Center
Places alignment further from Market Street and reduces competition between services
Establishes a distinct route in overall downtown modal priority system (Chestnut for shuttle, Broad for bicycles, Market for fixed-route buses)
Disadvantages
With current street design/right-of-way, insufficient space for adding enhanced stops that are currently in use on shuttle
Reusing/relocating current Broad Street stops adds significantly to implementation cost

CONCEPT B: BROAD STREET SHUTTLE WITH SOUTHSIDE TURN

As most of the shuttle's alignment is currently on Broad Street through the City Center district, this concept continues that alignment and connects to the CARTA South garage through a turnaround alignment along Main Street. This is intended to provide service to a part of the Southside and Main Street corridor, although extending the shuttle south on Broad Street removes it from direct access to publicly accessible parking south of Martin Luther King, Jr. Boulevard. Riders not wishing to visit the Southside may find the indirect routing to the CARTA South garage to be inconvenient.

Concept B Tradeoff Analysis
Benefit for Parking Needs
Low: with southern realignment, shuttle provides less direct service to parking facilities than current alignment, though short run on Main Street may help to serve Southside needs by reducing travel time to remote parking locations
Advantages
Almost entire alignment on a single street, extending current Broad Street corridor
Provides additional service in Southside and may eliminate need for additional Main Street connections
Disadvantages
No direct service to parking or major destinations between 11th Street and CARTA South garage; still requires Market Street alignment to reach CARTA South
Longer alignment adds to operating costs

CONCEPTS C AND D: 3RD STREET AND MCCALLIE SHUTTLES

Envisioned as 'sister' routes to connect the Health & Ed and UTC districts to larger parking facilities in City Center that may have potential to be shared, these two routes may be feasible with support from organizations that currently fund CARTA shuttle service (the Route 14 Moc shuttle, funded by UTC) or that provide their own private transportation services (Erlanger). These would be fully public routes accessible to all riders, though with significant peak hour service increases to meet demand of remote parking customers. **Refer to the recommendation on Page 51** for more detail on this concept.

Concepts C and D Tradeoff Analysis
Benefit for Parking Needs
High: Provides multiple direct connections between high parking need areas (Health & Ed District and UTC central campus) to a larger supply in the City Center districts
Advantages
Streamlines current shuttles to two public fixed routes operating on key corridors
Allows increased mobility options in these areas beyond the parking customers for whom they are intended
Focusing southern UTC shuttle service on McCallie can allow CARTA to realign both directions of Route 4 revenue service to Martin Luther King, enhancing service on that corridor
Disadvantages
Changes current UTC service patterns around campus
New service requires additional operating funds

CONCEPT E: MAIN STREET SHUTTLE

The Main Street corridor in the Southside is a burgeoning commercial district that has a large concentration of nightlife and evening entertainment, but is removed for a large off-street parking supply. This shuttle service is envisioned to provide easier access to the Finley Stadium lots, a large supply of parking that is currently not fully used.

This service may be less important once other Southside recommendations are implemented (**refer to those beginning on Page 75**), and its lack of an apparent funding source means that operations will be challenging to implement.

Concept E Tradeoff Analysis
Benefit for Parking Needs
Moderate: Southside business and entertainment district has access to a broader parking supply at Finley Stadium lots, though this is only needed during specific hours
Advantages
Utilizes existing parking to serve a growing commercial district
Increases mobility options along Main Street corridor
Disadvantages
No immediately apparent funding sources for new capital requirements (added vehicles) or operations; Southside business district does not have the financial momentum or leverage of larger employers to the north
Part-time service only
Does not connect to CARTA South garage as proposed

GEN6: ELIMINATE TIME LIMITS AT CERTAIN PRICE LEVELS

Time limits tell parking customers that they need to leave a given location, and create frustration for both users and enforcement when there is demand to stay longer than time limits allow. Setting the price on spaces to match parking demand allows people to buy the amount and type of parking that they need, and price is a much more effective regulator of demand and availability than time limits that may not be able to respond to the purposes of parking in a particular area.

The study recommends that when price levels are increased beyond current rates that time limits in those same locations are eliminated. This allows price to be the sole regulator of how long parking customers stay and reduces the level of obligation that on-street parking customers face.

Technology improvements such as pay-by-phone services, already in use in Chattanooga, facilitate active downtowns by allowing people to extend parking time as necessary, for example, if a meeting runs long or they want to visit one more shop or restaurant.

Refer to Recommendations CCN1 (page 57), CCS1 (page 67), and RIV1 (page 75), which recommend locations where price increases may help to regulate use of space and provide availability in higher-demand areas.

This recommendation works closely with GEN3 (page 36), in which thresholds are defined for when price increases should be considered.

GEN7: PURSUE PUBLICLY ACCESSIBLE SUPPLY

In certain areas, many customers parking in Chattanooga have experienced a parking shortage. Although spaces may be available, they are often restricted to specific user groups, and the general public can access less than half of the 43,000 parking spaces in the study area.

In addition, downtown Chattanooga is growing. While the modeling associated with this study is a planning-level exercise, it does conclude that certain areas in greater downtown will need new parking, while others may need new publicly available supply. In other areas, there may be opportunities to consolidate parking as land redevelops.

To the greatest extent possible, new parking supply should be open to the public and integrated into the urban environment. This means that parking should not be restricted to certain user groups and instead should be available at market rates, which will be the most efficient use of new spaces. Moreover, retail, housing, or other active uses should wrap around new structured parking to maintain a healthy and vibrant urban environment.

OFF-STREET SUPPLY

This study includes a detailed assessment of six locations for new parking facilities, intended to function as shared public resources that support both private businesses (serving a role of parking for employees and customers) as well as the general public interested in visiting a destination. Even beyond these sites, **the study recommends that the City and CARTA/CPA set a policy that any new structured parking constructed in downtown will include at least some of its supply as shared public use.**

ON-STREET SUPPLY

In addition to the off-street sites that the study has explored, **the study also recommends assessing the potential for added on-street parking on key downtown thoroughfares, especially multi-lane streets that do not need their full traffic-moving capacity for the entire day.**

The study recommends that the City establish a program to provide businesses and property owners the ability to apply to have off-peak curbside parking. This is intended as a way to get better use out of the curbside space that is needed to accommodate traffic during peak times but not needed for that purpose during off-peak, and several locations that appear to fit this description, such as 4th Street in Riverfront and Market Street in the Southside, are located in parts of downtown with retail activity and high demand for convenient, short-term parking. The study did not perform traffic analysis that would determine full feasibility of this, but generally recommends that any locations the City determines to feasibly support off-peak parking in curbside lanes to be considered. The following could serve as criteria for such a policy:

- Off-peak on-street parking can be provided by request of businesses along a single block as long as at least 75% of existing property or business owners are party to the request.
- Off-peak on-street parking can be provided by City action if at least one lane per direction remains for general traffic in off-peak times and traffic volumes in that direction are 500 vehicles per hour or less. In all cases, the City will be responsible for collecting traffic data to make this determination.

GEN8: UPDATE TECHNOLOGY TO SUPPORT MANAGEMENT GOALS

Parking technology is changing and growing, and Chattanooga should capitalize on this to create a seamless user experience. For many recommendations, improved customer service is key. For example, in order to create a performance-based pricing system that matches price with demand, customers need to know where to find lower cost parking for long term stays. In addition, people parking don't mind paying a little bit more if the payment process is seamless, so Chattanooga's system should support multiple payment options. Specific recommendations for future technology include:

- Signage and wayfinding that incorporates real-time availability and pricing information for large parking facilities.
- Payment technologies that support multiple payment types, including cash, credit card, and mobile devices. This should include the option for secondary parties to sponsor parking, such as merchants purchasing parking for their patrons or parking gift cards.
- Online resources that provide real-time availability and pricing information to allow for trip planning.
- Ability to provide information on all facilities, including on-street, structured parking, and surface parking.
- In any implementation, allow a "grace period" for people to adopt new systems – for example creating a "first ticket free" policy when changing payment systems.
- Meeting with local stakeholders such as large employers, merchants, and residents as well as press releases ahead of any new technology rollout.

Beyond these immediate improvements, technology upgrades should facilitate improved management, which in turn will improve the parking experience for the user. Key considerations when implementing new technologies include:

- Data sharing and "open source" data in particular, as many connected devices can provide valuable information on how the system is working and adjustments CARTA/CPA and/or the City should make, as well as allowing technologies to integrate with one another.
- Back-end systems that are simple and user-friendly, so that existing parking staff can easily access needed information.
- Integration with existing systems, such as electric shuttle information, location information for bikeshare and/or other mobility systems, and potentially payment.

Overall, it will be important that the City use the goals of this study (or a set of newly defined goals) to guide the implementation and evaluation of any new technology related to parking and mobility. This will ensure that negotiations with vendors, evaluations of new ideas, and implementation of new systems have objectives are align with other citywide and local efforts.

GEN9: CONSISTENT SIGNAGE AND WAYFINDING

A simple and complete signage and wayfinding system should easily guide people parking to resources that meet their needs. For example, employees may want to find lower-cost long-term parking, while visitors may be price neutral and simply want to get close to the front door. A parking information system should align with other mobility information systems (i.e. bus stops, bikeshare locations, pedestrian wayfinding) and consider the following elements:

Before arrival

» Online resources that indicate where key parking facilities are. This is particularly important for event management to help direct large numbers of parkers who may be unfamiliar with the system.

» Working with local businesses, transportation managers and associations, and event managers to link their information to a common resource that provides parking information, ideally on the CARTA/CPA website.

» Providing GPS-ready addresses that help drivers find parking facilities instead of driving directly to the front door of their destination.

At arrival

» Real-time auto-oriented directional signage at strategic locations to direct people to large facilities, such as CARTA North and South. These signs should incorporate both availability and price.

» Directional signage with a consistent look (i.e. font, colors, branding as Public) that directs people driving to other parking facilities. Signage should include at least general information on price ("discount" v. "premium") and should match signage at facilities.

» Signage at facilities that clearly designates public parking. For shared parking facilities that are restricted at certain times of day and/or privately owned, signage should clearly indicate when the parking is available to the public.

» Simple signage that is user-oriented and clear about what times parking is allowed, rather than focusing on when parking is restricted.

During stay

» Pedestrian-oriented signage that helps people who have parked return to their vehicles

» Parking information on printed materials. This can be distributed by local businesses as well as with parking tickets/warnings to help people find the resources they need.

This approach will help broaden the reach of the parking system as it helps people to understand how it works, and directs drivers to parking resources that may be located just a block or two away from a given destination. For example, in the MLK district, the CARTA North garage is a large parking resource within a five minute walk of many restaurants and the museum. Clearly providing a path for both people driving and walking to and from that facility will help increase awareness of that resource.

GEN10: CURBSIDE MANAGEMENT FOR EMERGING MOBILITY

As technologies change, Chattanooga's limited curbside space will become valuable in different ways than it is today. The growth of transportation network companies (TNCs) such as Uber and Lyft, expansion of bikeshare, the rise of online retail and its attendant reliance of goods delivery, and the character of land use and development in downtown will all put pressure on the curb in Chattanooga. A simple example from today is the increase in restaurant uses in the MLK district, which means more leisure visitors who may want to drive directly to the door no matter the price.

In addition, expected future transportation technologies will bring still further competition for curbside space. Autonomous vehicles, whether personal or shared, are broadly understood to facilitate front-door access that will rely more heavily on streets and curbsides than traditional off-street parking facilities.

The amount of curb space in greater downtown Chattanooga is not likely to change drastically into the future even as these technologies shift, and therefore it is important that the management of this limited resource is consistent with Chattanooga's goals and objectives for the downtown it wants. Priorities for the curb in the future may include:

- Building on and maintaining the database created by this study, which is a comprehensive understanding of curbside regulations.
- Prioritizing prime spaces for passenger loading, either for valet or rideshare services. These spaces can be used to incentivize efficient mobility choices, for example only allowing shared rides to drop off in primary spaces and requiring drive alone trips to use less convenient locations.
- Allowing flexibility, so that a space may be available for personal vehicle parking or truck loading during the day, but valet parking in the evening.
- Repurposing curbside parking lanes to serve transit or bicycle facilities that allow more people to move in a limited amount of space.

The City and CARTA/CPA should set the following policies in guiding how future curbside use in downtown Chattanooga is regulated:

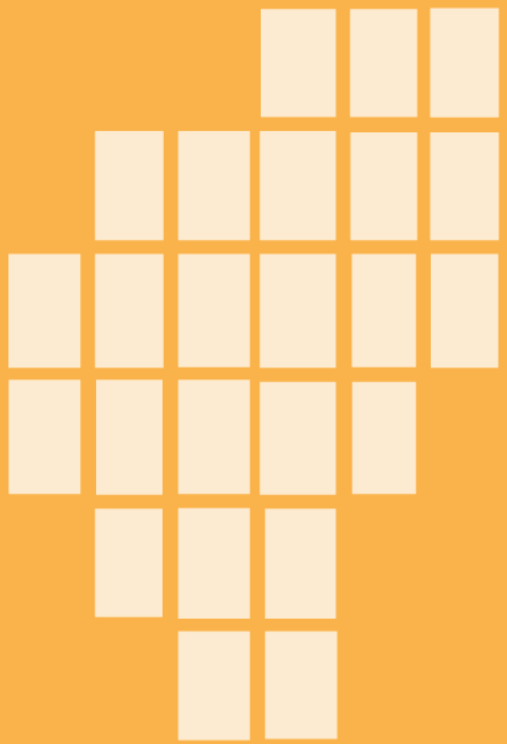
- **Request trip information and data from TNCs to understand where dropoff and pickup locations are concentrated downtown.** This information should be used to plan for curbside locations where TNC loading is prioritized, and TNC passengers should be guided by signage and other wayfinding to these locations. This does not assume that these locations will take on all TNC loading activity, but is intended to help concentrate the activity in the most high-demand locations.
- **Prioritize centralized delivery of small freight.** Study the use of freight dropoff locker locations currently in limited use by online retailers and freight delivery companies; work with these providers to identify potential locations for package delivery to reduce the need for front-door delivery throughout downtown.
- **Consolidate special curbside uses to the greatest extent possible.** Examples include freight loading and passenger/valet loading zones in dining and entertainment districts. Regulations allowing freight deliveries in morning hours only can use these same curbside spaces as passenger loading in evenings, when businesses are open.

GEN11: EVENT MANAGEMENT

Special events create unique demands on the parking system. In addition to crowds trying to park in a concentrated location, there are often many visitors who are unfamiliar with the downtown parking system and extremely peaked demand.

CARTA/CPA currently coordinates with CDOT regularly on downtown events. Event parking should include:

- Maintaining an online map of parking resources that event materials can reference. CARTA/CPA or a management company can update the map in real-time to show which facilities still have availability.
- Designating parking facilities that can be used for event parking
- Planning for disabled parking, potentially via valet
- Temporary on-street directional signage
- Enforcement/Police presence
- Signage during an event, such as for facilities that are full
- Advance sales of parking, separately but alongside ticket sales. Keeping the costs separate will allow people to choose more expensive, convenient parking or discount parking options. However providing the opportunity to purchase this in advance is an opportunity to manage access and help people plan.
- Extending shuttle hours along established routes
- Creating marketing materials that link existing CARTA bus routes and underutilized parking resources



5 DISTRICT-LEVEL PROFILES AND RECOMMENDATIONS

The Downtown Chattanooga Parking Study has organized its large study area into seven subareas, each generally aligning with locally-understood districts of downtown. These subareas are the basis for more detailed analysis and recommendations.

DISTRICT-LEVEL RECOMMENDATIONS

In addition to the general recommendations in the previous section, the study's focus on its seven subareas for analysis and detailed findings yielded a series of recommendations tailored to these specific districts. Each of the subareas is detailed in this section with a current-conditions profile of inventory and utilization, followed by specific recommendations.

As a general description of parking dynamics in the overall study area, the subareas in the east (Health and Education, the UTC campus and the Martin Luther King corridor) have the most acute parking needs due to a lack of additional facilities to accommodate growth or a shortage of public parking for visitors. The subareas in the west and south (the Riverfront, the City Center districts and the Southside) are not as constrained on overall supply but face their own sets of challenges related to availability. These are described briefly as follows.

City Center North (beginning on page 52). This district, due to the volume of parking it contains and its heavy employment focus, is not facing the same level of supply constraints as some other subareas. Large underutilized garages could support parking needs of neighboring areas, though they will need stronger connections to make this feasible and, critically, for spaces currently reserved for particular business and institutional users to be made more available to a larger customer base.

City Center South (page 62). Although dominated by a smaller number of large employers with mixed office and retail around Warehouse Row, times and locations of high utilization are uneven, sometimes with different use patterns from one side of the street to the other. this district will benefit from management approaches such as reducing or eliminating select pricing, revisiting parking reservations in garages, or changing employee access at select facilities.

Riverfront (page 70). Street parking in particular is heavily used, with the end of enforcement time (6 PM) occurring well before demand for parking in the district declines encouraging parking users to park on street for long periods and leading to perceptions of little available parking. There is not plentiful off-street supply in this area that is open to the public, and Unum controls several large facilities near its campus.

Southside (page 78). This is a growing entertainment and small-business district with few large or readily shared facilities in its east but the large surface parking of Finley Stadium in its west. The CARTA South garage is in this district and could provide better service with stronger connections to the Main Street corridor, but the area will also need other approaches for managing visitor demand, especially in afternoons and evenings, and managing the spillover into the adjacent residential neighborhood south of Main Street.

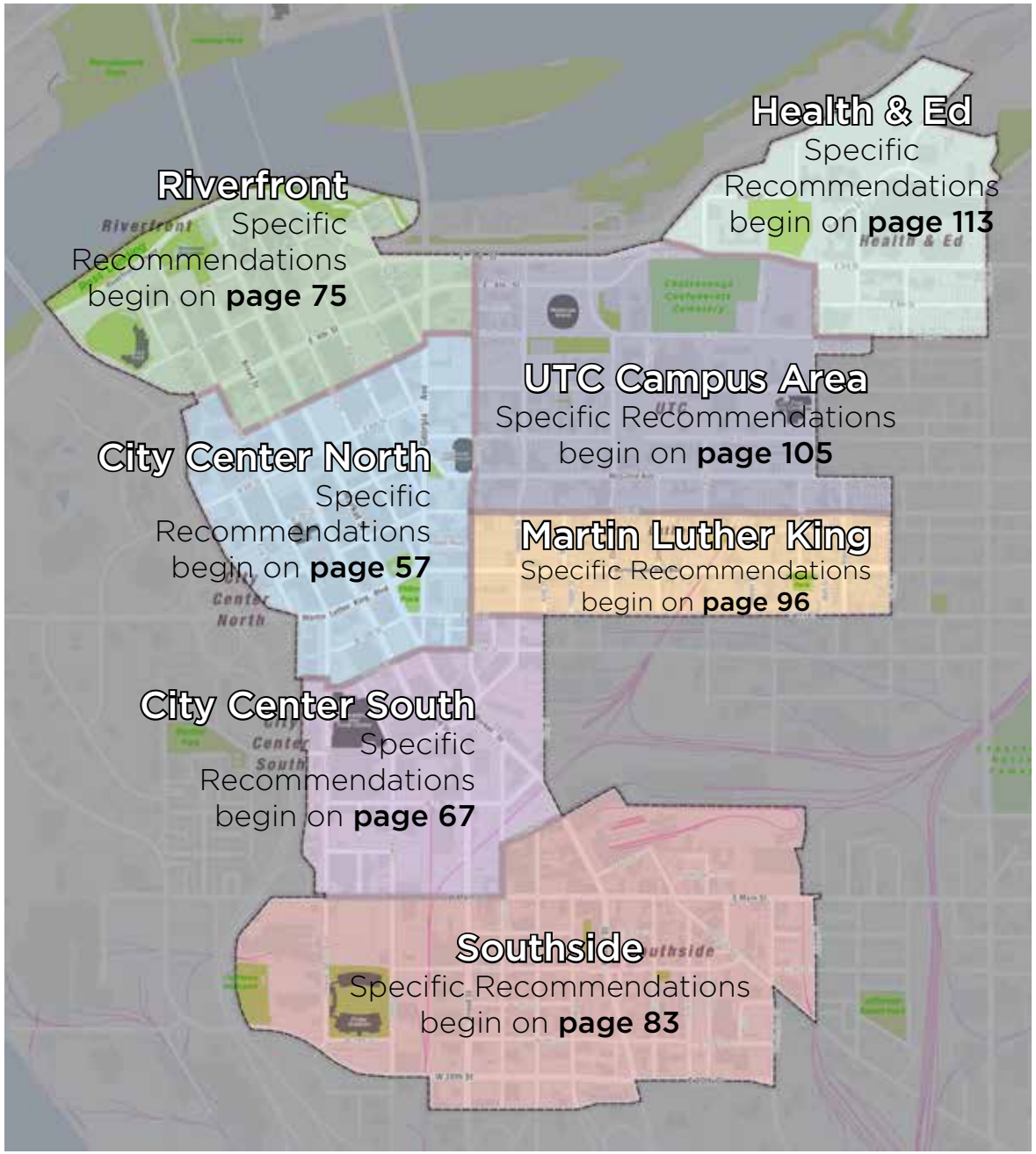
Martin Luther King Boulevard corridor (page 88). The Martin Luther King subarea hosts several attractions as well as office uses, creating a mixed-use, walkable environment that is active throughout the day and into the night. However, it is extremely limited on supply available to the public, with most of this on street, and small businesses and other institutions opening through adaptive reuse of existing buildings do not have immediately available off-street parking. In addition, this area has grown as a residential district for student-focused housing, bringing a new type of parking demand and

increasing pressure on existing parking supply with residential guests not able to park in current residential-supporting parking facilities.

UTC Campus Area (page 100). The campus will soon face a significant parking shortage if current growth continues with current driving-access patterns. In addition to continuing to evaluate and change policy on pricing of University parking and which community members access which spaces, more aggressive pushes to TDM and use of remote transit connections along with regulatory changes (partnership with other parking providers to accommodate student access demands, raising parking pricing) should be used. Many of these have already been considered and should remain key policy objectives for the University.

Health and Education District (page 108). Both the Erlanger Health Center and the Siskin Hospital for Physical Rehabilitation have medium-term expansion plans. Erlanger's plans include the loss of some parking facilities, while Siskin's intensify uses in existing buildings.

Together, these expansion plans will strain existing parking if existing conditions continue.



CITY CENTER NORTH

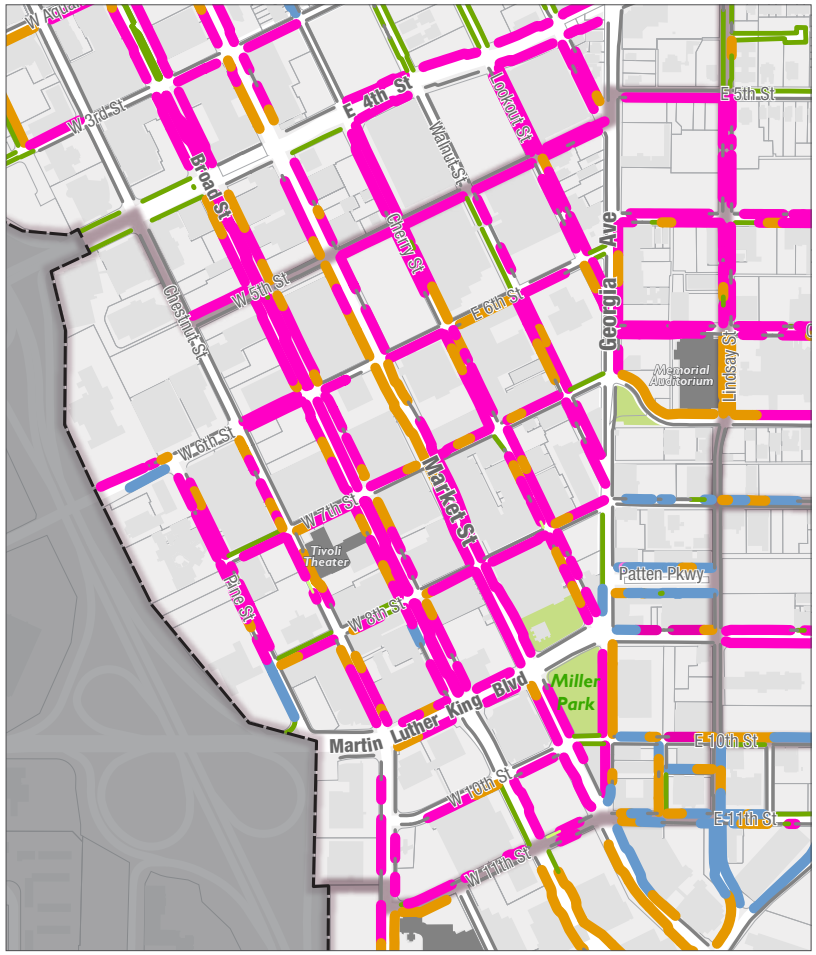
- The largest parking supply of any of the study's seven subareas: over 12,000 spaces total
- Not facing critical supply constraints today; new development is not expected to exceed available supply
- Large underutilized garages could support parking needs of neighboring areas, though they will need stronger connections to make this feasible
- There are opportunities to change coordination and management of parking, especially through balancing pricing with the area's demand

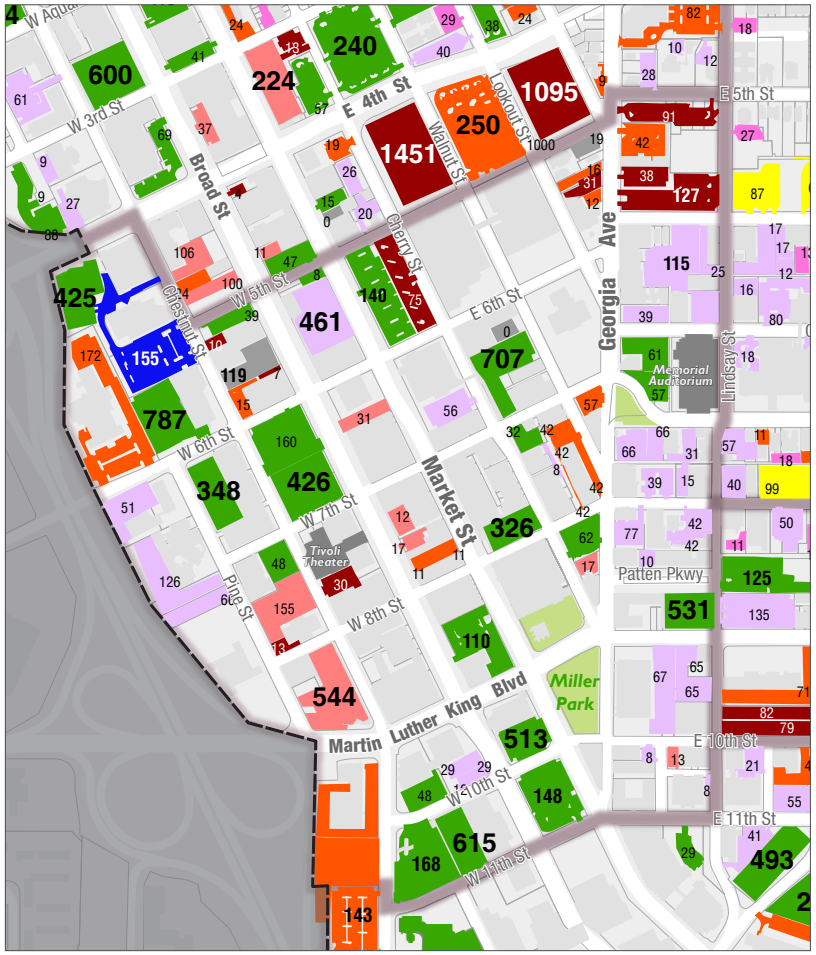
CURRENT CONDITIONS AND OPPORTUNITIES

As Chattanooga's business and financial district and with the largest concentration of parking supply of any of the study's seven subareas, City Center North sees relatively high levels of use during business days and several of its parking facilities are virtually full. However, this is not a consistent pattern throughout the district, and some key facilities are not heavily utilized at any point during the day.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	12,612	100%
ON-STREET	**1,227**	**10%**
2-Hour Meters	794	64.70%
No Parking	140	11.4%
2 Hour	90	7.3%
Truck Loading	86	7.0%
Bus Stops	17	1.4%
Unregulated	15	1.2%
Other	70	5.7%
OFF-STREET	**11,385**	**90%**
Open to Public	5,759	51.0%
Employees Only	2,517	21.5%
Reserved Spaces	1,410	12.4%
Customers Only	789	6.9%
Employees and Customers	617	5.4%
Valet Parking	155	1.4%
Other	138	1.2%

CITY CENTER NORTH: INVENTORY AND UTILIZATION





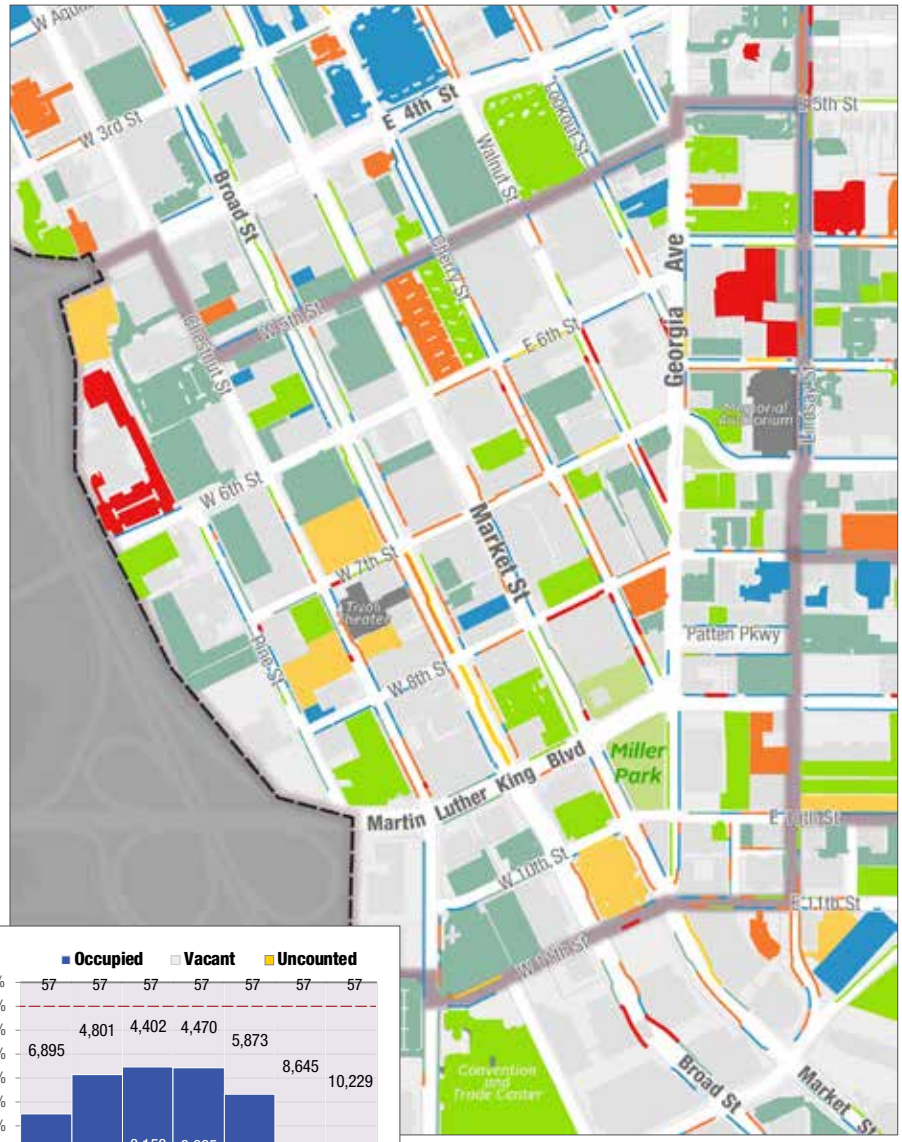
ON-STREET PARKING TYPES

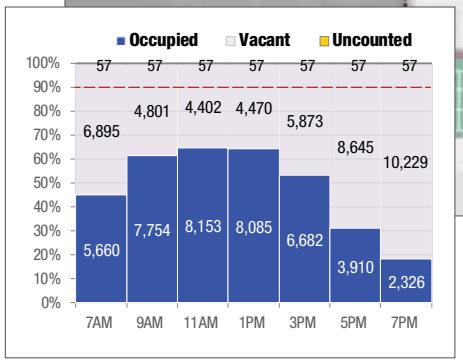
- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

OFF-STREET PARKING TYPES

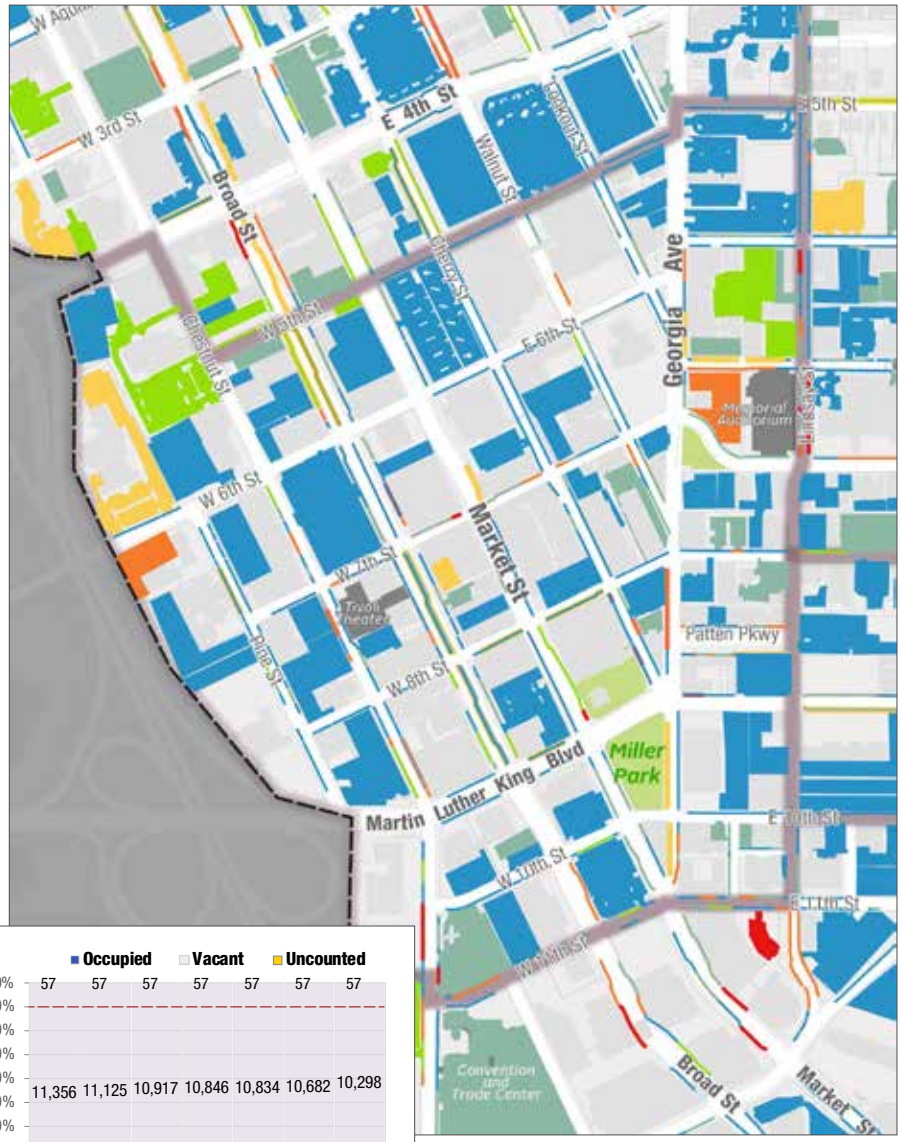
- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

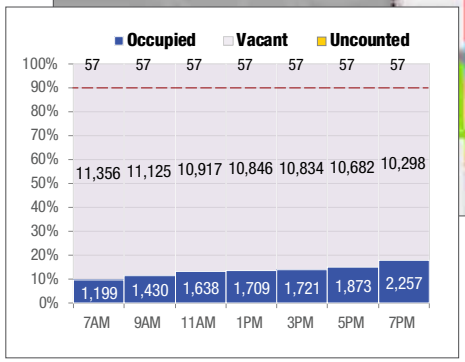
Parking Utilization 0% - 30% | 30% - 60% | 60% - 80% | 80% - 90% | 90% - 100% | **Over 100%**





WEEKDAY DEMAND PEAK
11 AM - 1PM





WEEKEND DEMAND PEAK
7 PM - 9PM

CITY CENTER NORTH: UTILIZATION AND DEMAND

There is opportunity for this district to accommodate more parking and serve the needs of other parts of downtown, although not all of these districts are immediately adjacent to City Center North. This points to additional mobility options to provide seamless connections, especially to the Health and Education district and the UTC campus.

In particular, Unum's two parking garages between 4th and 5th streets offer a greater inventory of unused parking than any other single facilities in the study area. With controlled entries and internal organization of these garages that facilitates reserving certain areas, these garages represent an opportunity to satisfy other districts' near-term needs.

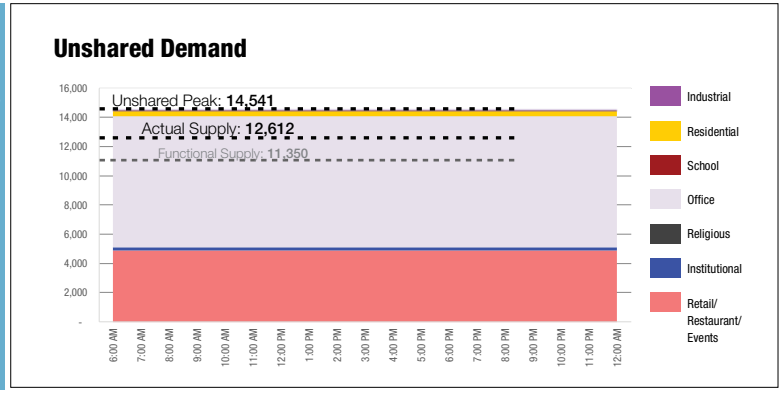
ESTIMATING DEMAND

City Center North is dominated by office uses, and these drive the overall demand in the district. This leads to a substantial gap between peak levels of use, typically during the day, and 'shoulder' levels of use in the evenings— a difference of almost 5,000 spaces.

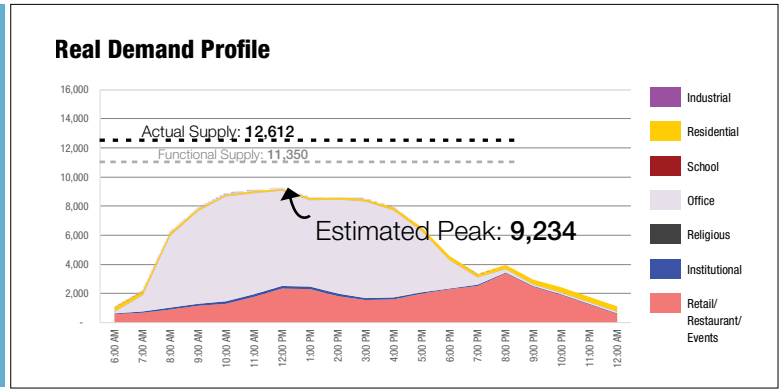
The difference in expected demand and observed use, as shown in the lowest graph diagram to the right, is significant as well, with observed peak levels of use over 30 percent below the estimated demand from land uses.

Both of these factors point to a large amount of available supply in this district, especially in evening periods, although relatively few of the larger facilities are currently open to use. Nonetheless, the presence of such a large supply of parking in the district does raise opportunities for better using it, which may include supporting the parking needs of adjacent subareas.

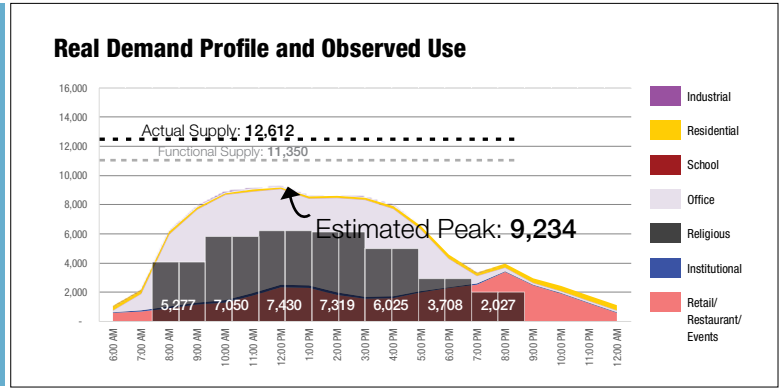
Traditional Analysis



Shared Parking Model



Calibrated Results



EXISTING LAND USES

Land Use	Square Feet	Unit Estimate
Residential		
Apartments		220 units
Condos		100 units
Multifamily		10 units
Retail		
Furniture Store	20,000	
Retail	271,000	
Restaurants and Hospitality		
Hotel		800 rooms
Restaurant	98,000	
Office		
Bank	22	
Office	2,300,000	
Government Office	1,000,000	
Community Uses		
Churches	31,000	
Hospitals and Health		
Hospital		50 beds
Medical Office	14,000	
Industrial		
Industrial	62,000	
Warehouse	48,000	
Other Services	81,000	

Note: Table does not include single family homes. These are assumed to be self-parked.

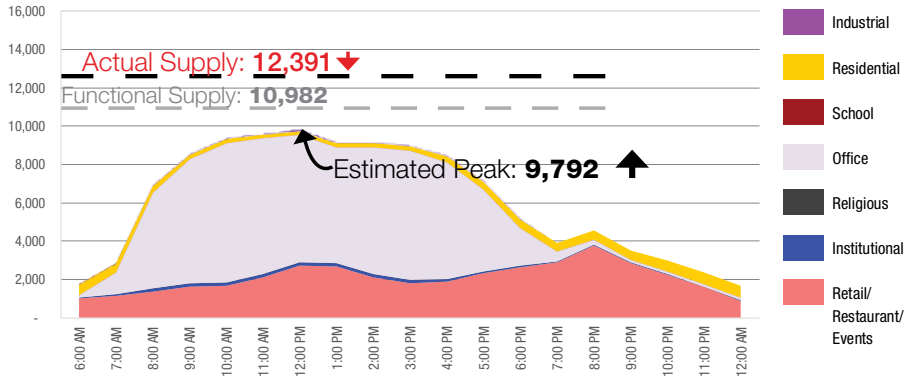
LONG-TERM DEVELOPMENT SCENARIO

In addition to the existing land uses in the table to the left, the study team added in the following development, resulting in the estimated shared demand graph below.

+ 100 hotel rooms
+ 200 apartments
+ 10 town homes
+ 20,000 sf office
+ 1,000 sf retail
+ 1,000 sf restaurant

Estimated Parking Supply Change: -250

Real Demand Profile: Long-Term Future Growth



CONCLUSIONS

Parking demand will likely be higher in the future in City Center North, and new development is expected to reduce current supply slightly (due to construction on current surface lots). However, existing parking supply can likely accommodate future demand, leaving roughly 1,000 spaces from that expected peak demand and the functional supply (90 percent of the total). Given the prevalence of reserved parking in downtown, this supply will not be readily available to other outside uses that may need it, though the study recommends focusing on accessing this parking before adding new supply.

CITY CENTER NORTH: RECOMMENDATIONS

CCN 1: ADJUST PRICING TO MATCH DEMAND

Parking regulations should be set to match Chattanooga's ever-evolving demand patterns. Parking spaces in front of busy retail storefronts or offices will be more valuable than those that are in more remote locations with less activity. The price of these spaces should reflect their desirability and should be set to create availability while efficiently utilizing all parking assets. In some cases, this may mean lowering the price to encourage people driving to park on streets or in facilities that have spaces open.

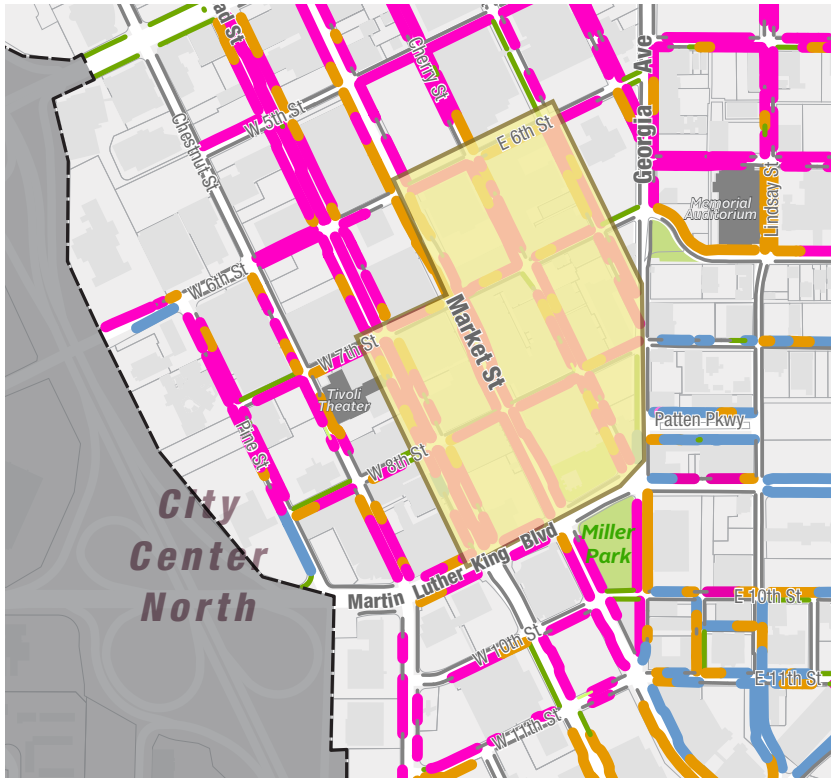
If the price is set properly, time limits are less critical to create turnover. Instead, using price to manage demand allows users to buy as much parking as they want or need at a given price point. For example, people who only want to run a quick errand or who are less price-sensitive (i.e. tourists) might be willing to pay a more to be right out front, while those who want to stay somewhere longer-term will find a less expensive space.

The Parking Study data provides a snapshot in time on a typical day in Chattanooga, and is a good indicator of a given facility's current utilization. Efficiently used parking, by parking industry standards, is typically 90 percent full off-street and 85percent full on-street. At these rates, there are always some spaces available. The data collection for the parking study identified a few areas where adjusting the price may be appropriate, as shown on the map at right.

As with other price-adjustment recommendations in this study report, CARTA/CPA should use the guidance suggested in Recommendation GEN3 on page 36.

POTENTIAL PRICE CHANGE AREA

The highlighted area below is generally the highest area of utilization. The study recommends using this as a starting point for increased hourly on-street rates.



CCN 2: ADJUST TIME SPAN OF REGULATIONS

In some on-street locations, enforcement hours should shift to meet demand. For example, Cherry Street between Martin Luther King Boulevard and 7th Street remains busy while the County Garage next door is never more than 60 percent full on a weekday. This indicates a mismatch in regulations; the county garage is at least $4 for the first hour, while the on-street parking enforcement ends at 6:00 pm, effectively creating free parking. In addition to adjusting the price, this parking that is in high demand should be priced later into the evening. In contrast, the pricing in this area may not need to start until 9 a.m. as not many blocks are busy at that time.

CCN3: SHARED PARKING APPROACH

Many restricted parking facilities in City Center North have ample availability throughout the day and could serve not only parking demand in this district, but other districts as well. In particular, select Unum facilities, including its two main garages between 4th and 5th Streets, are never more than 80 percent full at any given time of day. If CARTA/CPA and/or River City can help to negotiate the use of these spaces and others like them for other entities than those they primarily serve, over 1,000 new spaces throughout the subarea could be made available to support other uses.

There are many potential arrangements for shared parking; the list below outlines a few options:

- An outside entity leases spaces in lots from Unum for either financial or in-kind compensation.
- CARTA/CPA leases underutilized lots and takes over management, including issuance of employee permits.
- CARTA/CPA arranges partnerships between the hospital facilities in the Health & Ed district (Siskin and Erlanger) and Unum. This maybe more attractive to Unum as the user pool is limited. CARTA could provide shuttle services between this lot and key stops at Erlanger/Siskin.

CCN4: ADDITIONAL MOBILITY OPTIONS

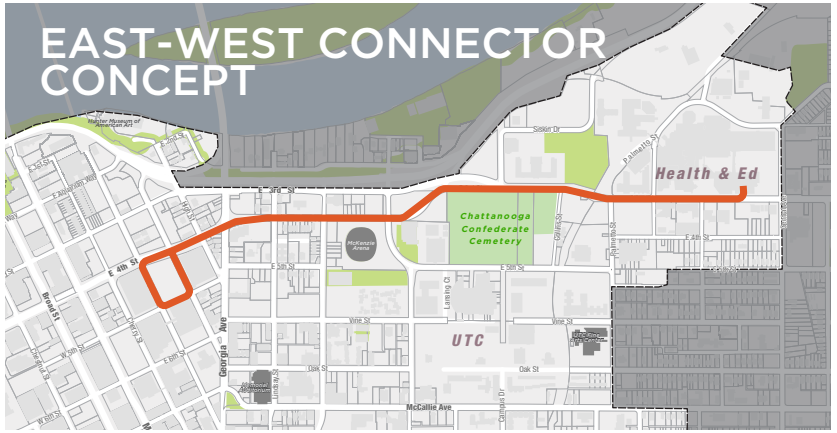
Enhancing transit access, bicycle access, and pedestrian access in this area can not only spread out parking demand as the area grows, but also encourage people to travel by other modes. **For more information, see GEN5.**

CONNECTING EAST TO WEST

As the heart of CARTA's transit network, the City Center North subarea enjoys strong transit connectivity to the east and south. Market Street functions as a de facto bus transfer facility, with CARTA routes 1,3,4,7, and 9 running along it. Multiple routes run east-west along 3rd Street and 4th Street to the Erlanger / Siskin medical complex area and beyond.

In addition to this transit service, the study recommends instituting a new service that focuses on the employment-heavy Health & Ed district and connects this to the larger supply of parking in the City Center North district. This is envisioned as a simple corridor shuttle focused on the core parking supply area of City Center North, extending east on 4th Street and connecting to 3rd Street around the UTC campus, then terminating at Erlanger Hospital, as shown in the graphic to the right.

The table below the graphic provides a basic summary of operating costs for the shuttle service. This is significant compared to CARTA's overall operating budget, especially for such a short route, but could have potential funding sources beyond those conventional sources supporting CARTA fixed routes, such as direct employer contributions.



Planning Factor	Details
Operations and Costs	**$363,750/year**
Hours of Operation	15/day (6am - 9pm)
Peak Hours	4/day (6am - 8am and 3pm - 5pm)
Peak Hour Frequency	10 minutes
Off-Peak Frequency	20 minutes
Operating Cost per Day	$1,455
Estimated Capital Costs	**$400,000**
New Fleet Vehicles Needed	1
Estimated Cost	$400,000

CREATE ENHANCED TRANSIT AMENITIES

Upgrading the infrastructure available at high-ridership transit stops with high levels of frequency is an efficient way to bring transit into parity with the private car as a travel choice. This may include:

- High-quality, temperature-regulated or covered shelters at bus stops
- Real-time availability indicators such as those currently used in the downtown Market Street and Broad Street transfer centers
- Amenities such as trash cans, benches, and maps/ timetables

SUPPLEMENT EXISTING BICYCLE ACCESS

Creating an east-west route and investing in other bicycle facilities will encourage people to bike rather than drive, even if only occasionally, which can reduce parking demand. Broad Street and Chestnut Street offer designated and in some cases protected bicycle facilities. Connecting to these via an east-west route would help link residential neighborhoods to the east and south into Center City North. In conjunction, investments in secure, quality bicycle racks, public bicycle repair stations, and bicycle wayfinding will support people who travel by bike.

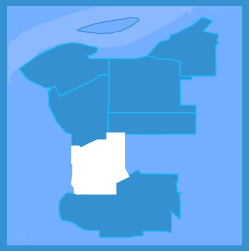
CARTA operates several of its system's fixed bus routes through the study area.

CARTA's Electric Shuttle is a popular and well-used service designed originally to connect from remote parking locations through Chattanooga's urban core. It features enhanced shelters and passenger amenities along its route.

CCN5: CENTRAL BROKER

The current knowledge base between CARTA/CPA, Republic Parking and River City will position any of these agencies (especially CARTA/CPA and River City) well to serve as a resource to building owners, property managers, and employers in finding new parking locations. River City could proactively seek partnerships and/or respond to requests by:

- Utilizing the parking information collected by this study on large and underutilized facilities to help address immediate and imminent parking issues
- Keep model shared parking agreements on file
- Work with CARTA/CPA and Republic to open more restricted parking to the public, including incorporating signage and information.



CITY CENTER SOUTH

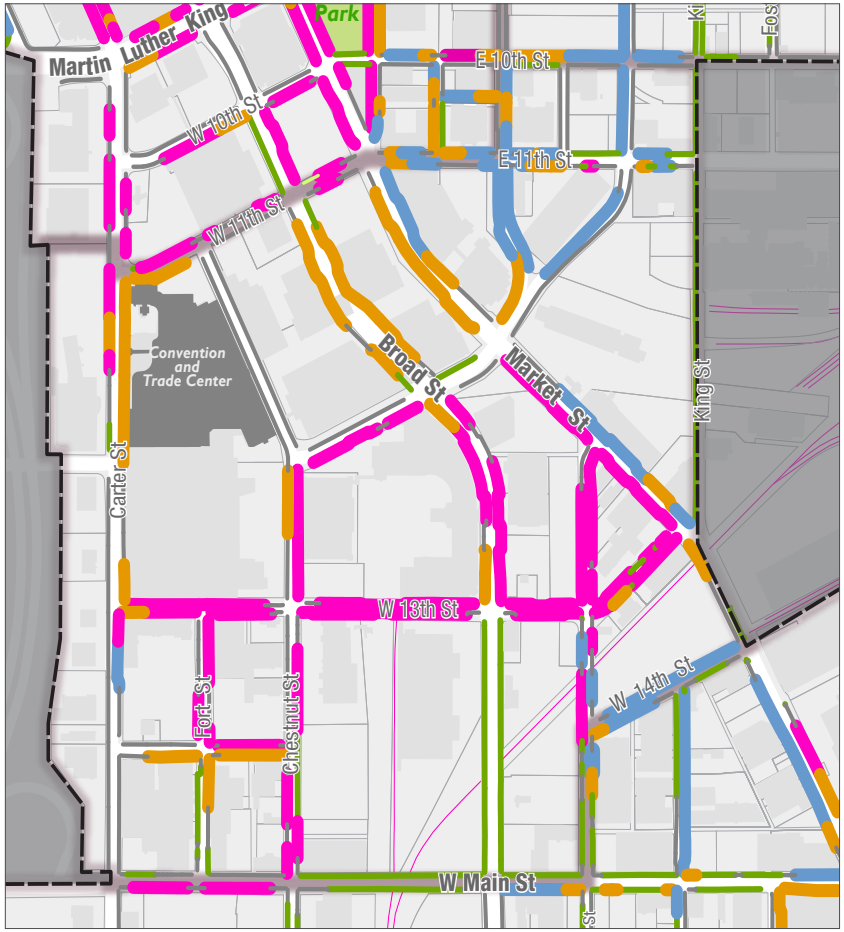
- Adjacent to Chattanooga's core business district, the presence of major institutional employers, and the city's convention center.
- Nonetheless, parking is not fully utilized, even during the weekday.
- Times and locations of high utilization are uneven, sometimes with different use patterns from one side of the street to the other.
- Management recommendations are detailed and light-touch: reducing or eliminating select pricing, revisiting parking reservations in garages, or changing employee access at select facilities.

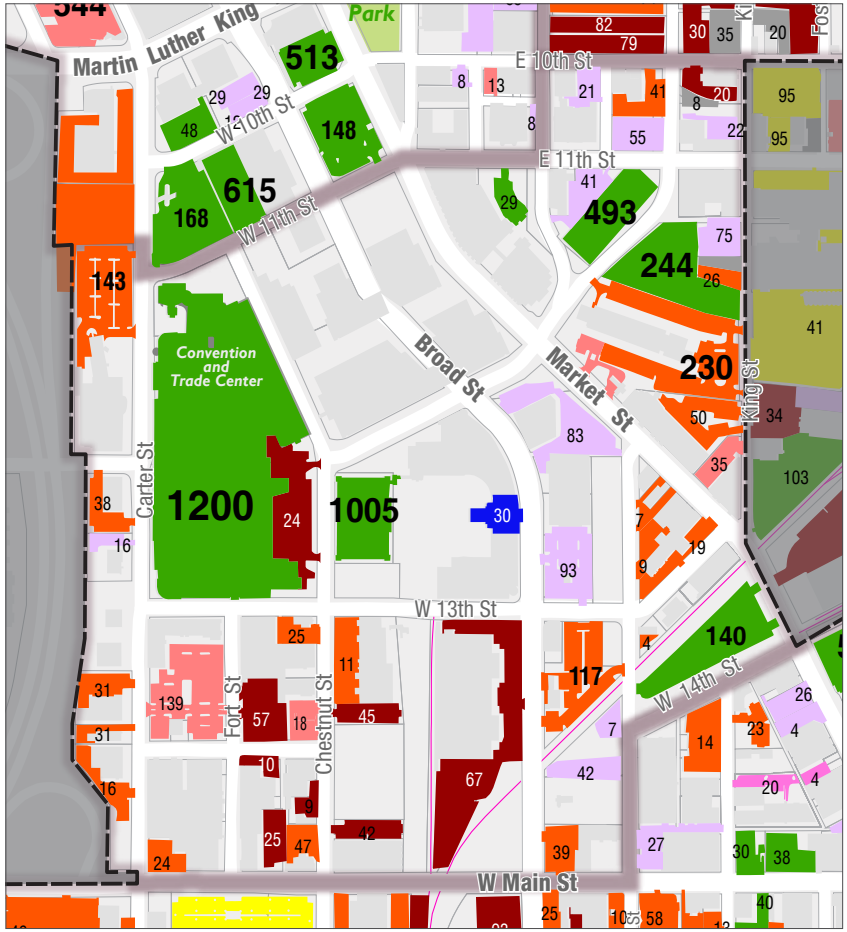
CURRENT CONDITIONS AND OPPORTUNITIES

City Center South includes the Tennessee Valley Authority office campus and the City's Development Resource Center, as well as the Warehouse Row office complex. The subarea contains two of greater downtown's largest parking facilities – the Convention Center and Southside garages along Chestnut Street.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	**5,589**	**100%**
ON-STREET	**568**	**10%**
2-Hour Meters	216	41.2%
2-Hour Free Parking	111	19.5%
No Parking	96	16.9%
Bus Stops	21	3.7%
Unregulated	38	6.7%
General Truck and Passenger Loading	28	4.9%
Electric Vehicle Parking	17	3.0%
Other Regulations	12	4.0%
OFF-STREET	**5,021**	**90%**
Open to the Public	3,111	62.0%
Employees and Customers	908	18.1%
Reserved Spaces	455	9.1%
Employees Only	299	6.0%
Customers Only	210	4.2%
Valet Parking	30	0.6%
Other Categories	8	0.2%

CITY CENTER SOUTH: INVENTORY AND UTILIZATION





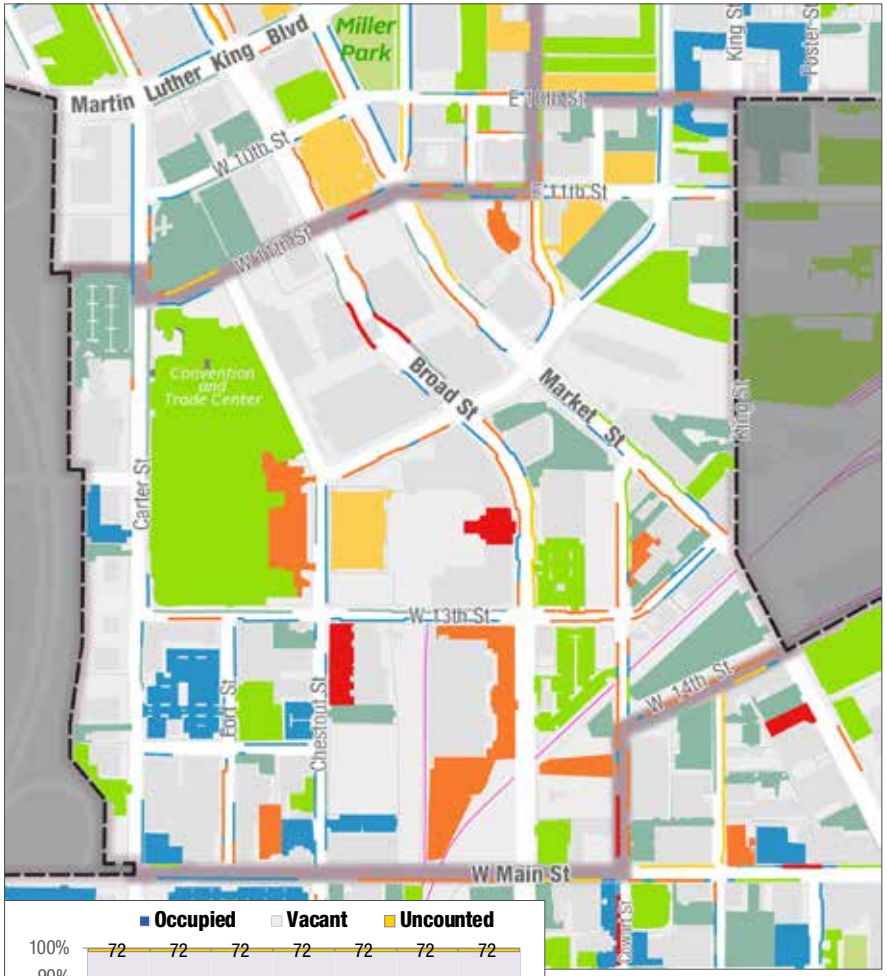
ON-STREET PARKING TYPES

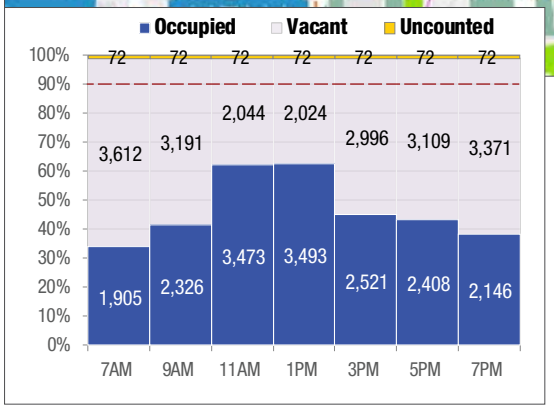
- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

OFF-STREET PARKING TYPES

- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

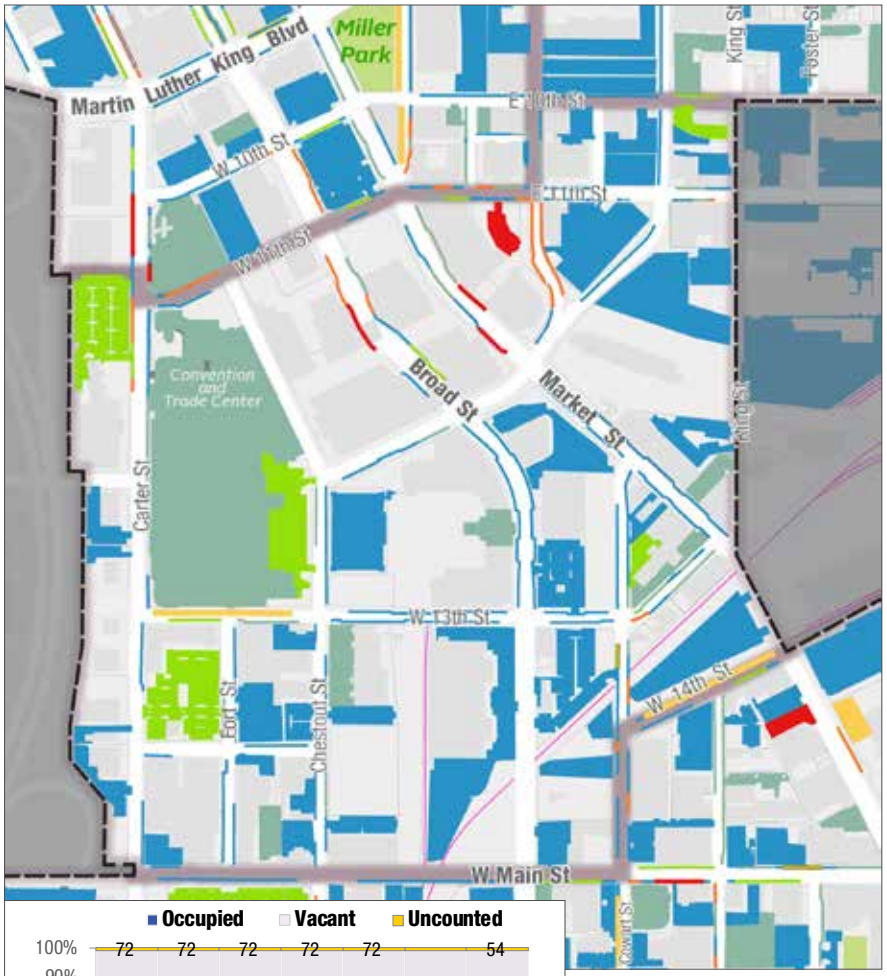
Parking Utilization 0% - 30% | 30% - 60% | 60% - 80% | 80% - 90% | 90% - 100% | **Over 100%**

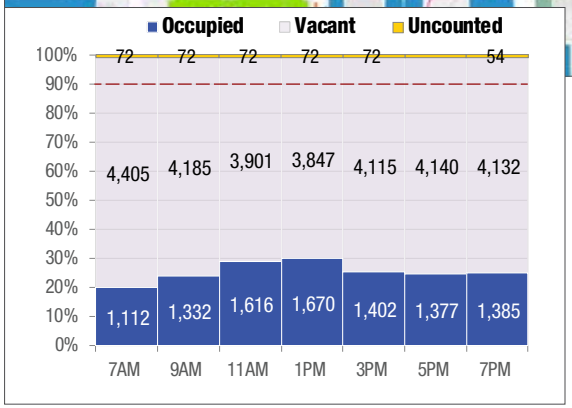




WEEKDAY DEMAND PEAK

1 PM - 3PM





WEEKEND DEMAND PEAK

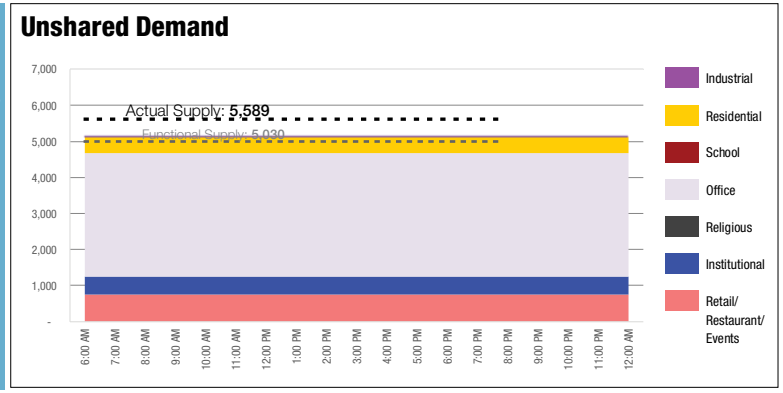
1PM - 3PM

CITY CENTER SOUTH: UTILIZATION AND DEMAND

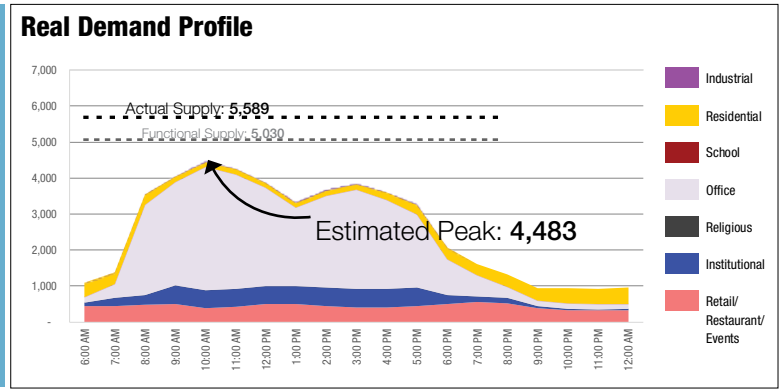
As in that district, the use of parking facilities is uneven throughout the day and from one location to the next. The Southside garage, with three-quarters of its spaces reserved for TVA employees, is highly utilized during parts of the business day, though this use falls to under 50 percent of its spaces being occupied after 4 pm when many TVA employees leave for the day. The Warehouse Row garage, only three blocks away, does not see utilization rates above 60 percent at any point in the day. Several smaller employee-only lots, especially those serving light-industrial and distribution uses to the south of the district, are regularly full during weekday business hours.

Overall, the district does not appear to experience shortages of off-street parking, but does see high levels of use in focused areas that point to opportunities for revised pricing and enforcement of regulations, especially as more evening-focused uses open. This includes not only revising pricing for on-street spaces, but also taking advantage of larger facilities such as the Southside garage and offering lower prices at these facilities to absorb demand for nearby uses – especially on weekends.

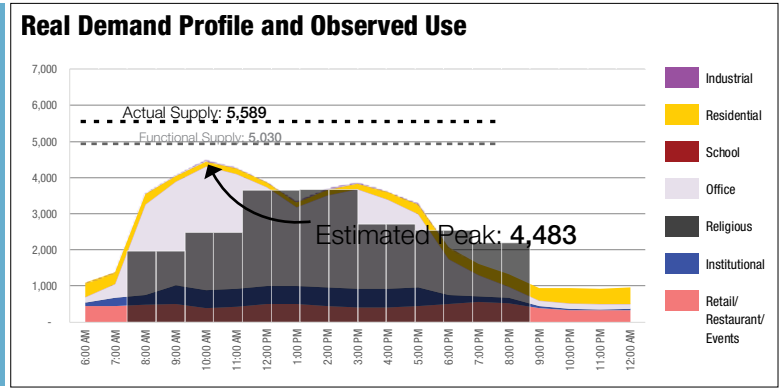
Traditional Analysis



Shared Parking Model



Calibrated Results



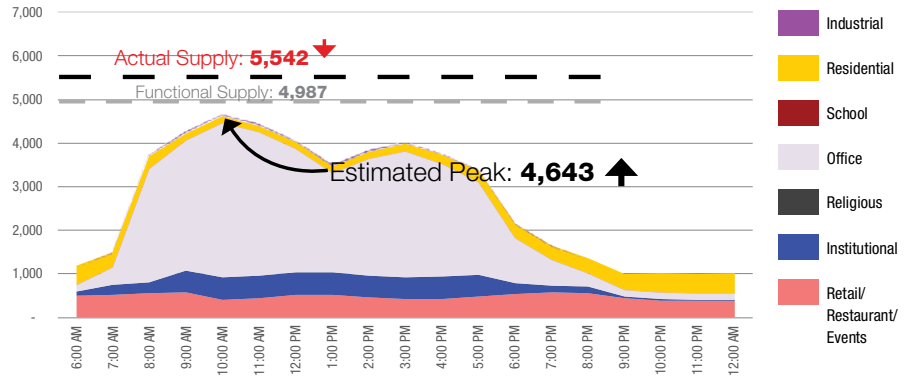
EXISTING LAND USES

Land Use	Square Feet	Unit Est
Residential		
Apartments		350 units
Condos		30 units
Multifamily		10 units
Retail		
Auto Shop	2,000	
General Retail	30,000	
Restaurants and Hospitality		
Hotel		700 rooms
Restaurant	12,000	
Office		
Bank	3,000	
Office	171,000	
Government Office	938,000	
Community Uses		
Convention Center	185,000	
Industrial		
Industrial	52,000	
Warehouse	14,000	
Other Services	16,000	

Note: Table does not include single family homes. These are assumed to be self-parked.

LONG-TERM SCENARIO

Real Demand Profile: Long-Term Future Growth



+ 5,000 SF retail
+ 100 hotel rooms
+ 5,000 SF restaurant
+ 50,000 SF offices
+ 10 townhomes

Estimated Parking Supply Change: -47

KEY TAKEAWAYS

» Parking demand will likely be higher in the future in City Center South

» Similar to City Center North, existing parking supply can likely accommodate future demand without the need for expensive new facilities

» This district is likely to have more capacity to support new development, although the heavy use of existing facilities means that additional supply may be needed for daytime-focused uses. However, this district offers potential to support increased evening-based activity if reserved spaces can be made more readily available.

CITY CENTER SOUTH: RECOMMENDATIONS

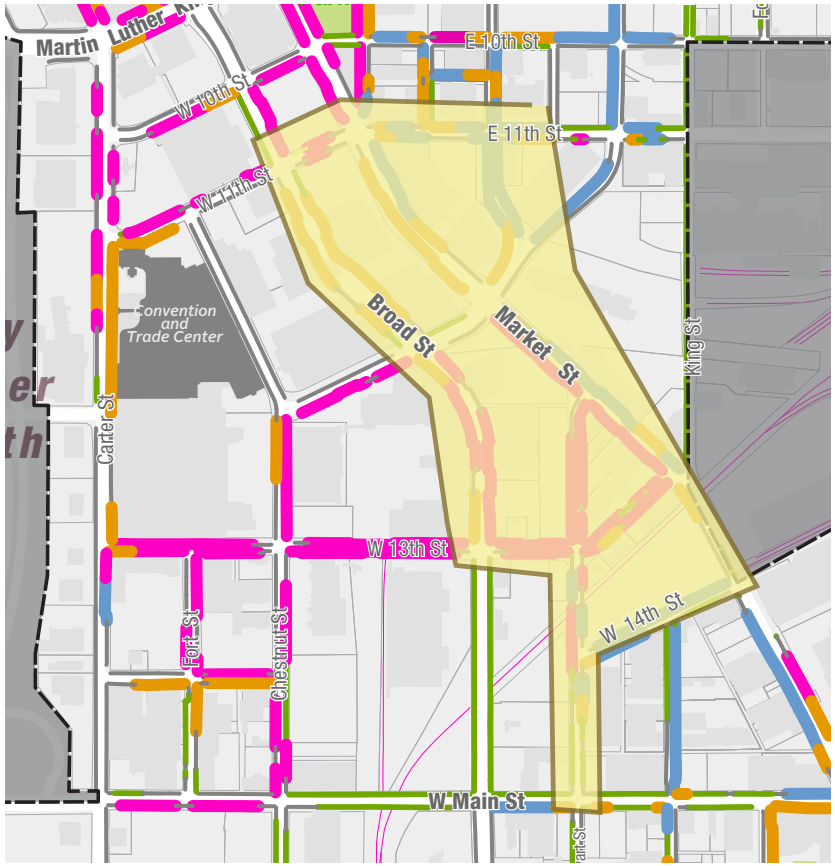
CCS1: SHIFT ON-STREET ENFORCEMENT HOURS

Shifting enforcement hours to match periods of high demand helps to create availability when necessary. On-street utilization patterns in this area show high demand starting midday and into the evening, but in the morning the metering may not be necessary. CARTA/CPA may be able to save both money and personnel hours by enforcing fewer hours later in the day.

As with City Center North, utilization data suggests that low levels of on-street parking use in the earlier morning hours may mean that enforcement is less of a need. The map to the right illustrates the general area where such shifts are most warranted, with the start of enforcement hours shifting from 8 am to 10 am and enforcement continuing into the evening (until 8 pm).

ENFORCEMENT/PRICE CHANGE AREA

The highlighted area below is the area with heavier utilization in evening hours and limited locations where metered street parking is not used. This is recommended as a pilot area for adjusting both price and metering, as well as revising enforcement hours.



CCS2: ADJUST PRICING TO MATCH DEMAND

An efficiently utilized on-street blockface, or one side of a street for a block's length, has about 15% of spaces available—roughly one space available out of seven or eight total spaces. However, Market Street, 13th Street, and Cowart Street are typically more heavily used than this in the afternoon and into the night, likely serving local restaurants. In contrast, Lot A, which runs along 14th Street, is never more than 60% full. However, the price to park in Lot A is double the on-street price – and after 6 p.m. the on-street is free. Flipping the relative price of the two (and using signage to advertise the more remote but cheaper parking) would create availability on-street while encouraging people to use the underutilized facility.

In contrast, the meters on Chestnut and Fort Streets may currently feature a lower price with no time limits. The demand for short-term, $1 per hour meters does not seem strong in this area. Repurposing these spaces into long-term, discount or free parking options would be a good use of this on-street parking. As new development changes demand in this area, it may be appropriate to increase the meter price to maintain availability. (See recommendation GEN3).

CCS3: REDUCE UNDERUTILIZED LIMITED-ACCESS PARKING

City Center South's mix of uses means that the patterns in the district may change significantly day to day and throughout the day, most notably due to the presence of the Convention Center. However, Warehouse Row also hosts a mix of office space, restaurant uses, retail stores, and service outlets.

Instead of limiting spaces to a particular tenant, a more efficient use of City Center South's approximately 2,000 restricted off-street parking spaces is to open them to the public in some way. In City Center South's mixed use environment, reserving parking spaces for specific tenants results in spaces that sit frustratingly empty while customers and visitors search for a space. Interviews with stakeholders indicated that several spaces reserved for monthly parkers tend to be empty. Instead, spaces should be used as much as possible to support the area's demand. This could take several formats, for example:

- Allowing evening parking in spaces reserved for office uses during the day
- Selling monthly permits, but not for a guaranteed, specific space
- Evaluating the cost v. usage of monthly permits; if tenants are only using spaces a few times per week, a daily rate may be more cost-effective
- Eliminating monthly permits and requiring all users to pay daily
- Unbundling parking from office leases, so that potential employers only purchase the parking that they need

CCS4: MOBILITY BENEFITS

Many landowners, employers, campus administrators, etc. present transportation options as part of a package of perks or benefits. For example, providing showers, a locker room, and a bicycle repair station in an office can help attract and support employees who want to ride to work. Meanwhile, having parking available on site for those who want or need to pay for it is similarly a benefit that could help attract potential tenants.

Rather than viewing parking as a requirement to leasing space, building owners should market available parking as a benefit together with the area's other amenities such as frequent CARTA service (Route 9, Route 1, and other CARTA routes provide frequent service together along Market Street). Carter Street and West 11th Street offer a designated bicycle route into the district, and employers can capitalize on this by providing bicycle amenities on site.

RIVERFRONT

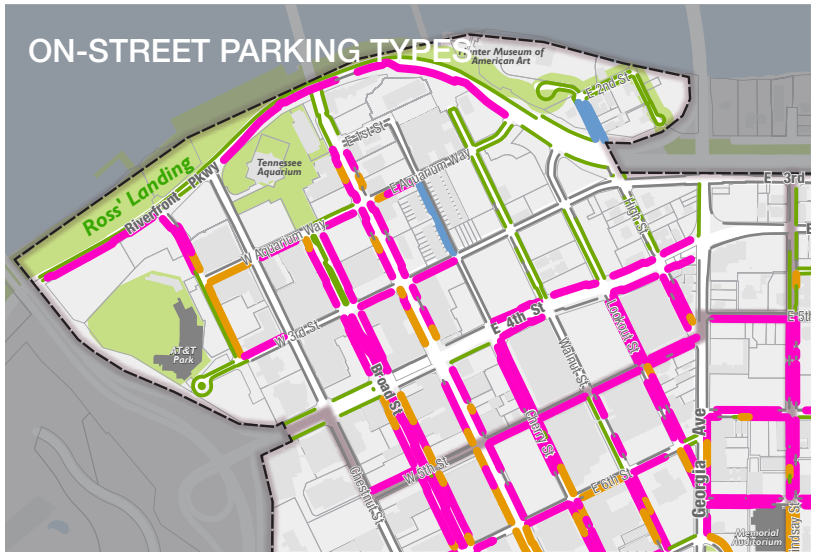
- Similar to City Center North in its utilization levels and opportunities for sharing parking, though with a heavier use pattern on weekends due to visitor attractions
- Street parking in particular is heavily used, with the end of enforcement time occurring well before demand for parking in the district declines – encouraging parking users to park on street for long periods
- Special districts on the edge of the Riverfront area, such as the Bluff View Arts District, have limited parking serving their uses and few clear opportunities today for sharing with other uses

CURRENT CONDITIONS AND OPPORTUNITIES

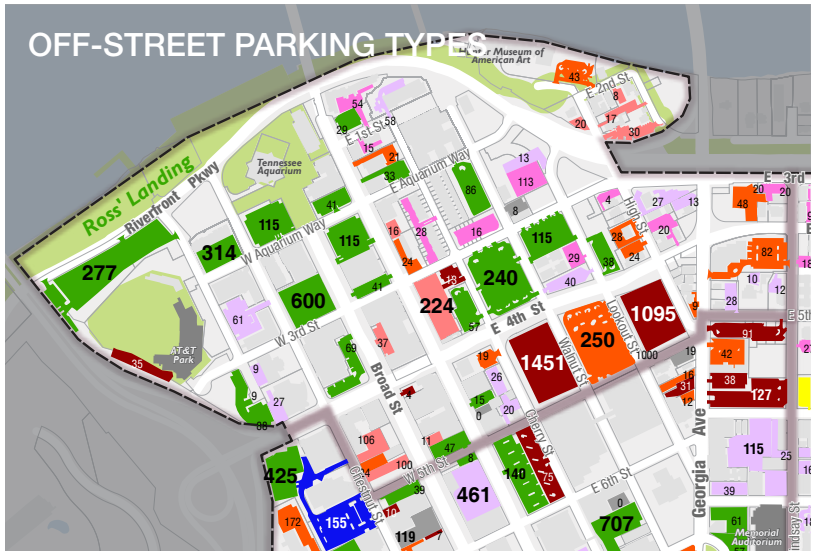
Reflecting its unofficial role as the center of Chattanooga's visitor and tourist attractions, the Riverfront district has the largest share of any of the study's subareas that is open to public use—almost 60 percent. And as its district character suggests, these facilities are most heavily used in the evenings and on weekends. The difference in use between time periods is striking, as lots and garages around the aquarium that are in low levels of use during weekday morning and midday periods are fully at capacity on weekends and approaching being full on weekday evenings.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	4,490	100%
ON-STREET	**576**	**13%**
2-Hour Meters	282	49.0%
Unregulated	118	20.5%
No Parking	61	10.6%
Bus Stops	41	7.1%
2 Hour	42	7.3%
Truck Loading	24	4.0%
Other	50	8.7%
OFF-STREET	**3,914**	**87%**
Open to the Public	2,320	59.3%
Employees Only	52	1.3%
Employees and Customers	322	8.2%
Customers Only	569	14.5%
Reserved Spaces	344	8.8%
Residents Only	299	7.6%
Other Regulations	8	0.2%

RIVERFRONT: INVENTORY AND UTILIZATION



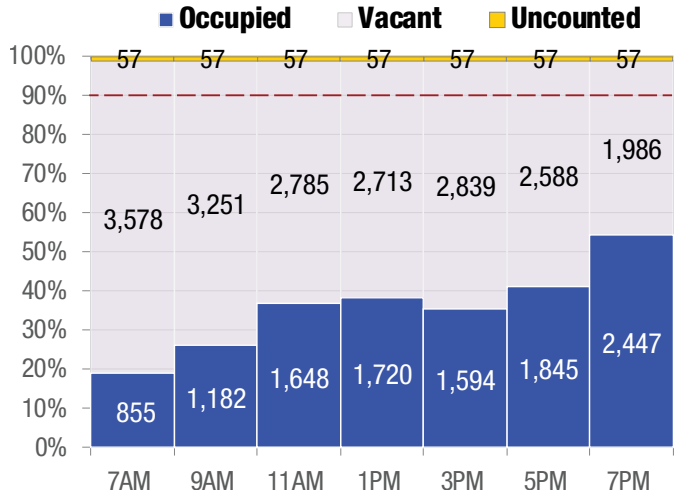
- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking



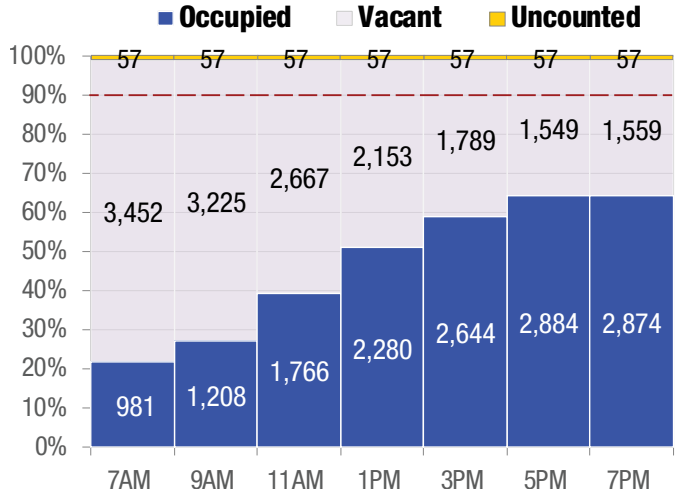
- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

Parking Utilization
Over 100%
90% - 100%
80% - 90%
60% - 80%
30% - 60%
0% - 30%

WEEKDAY DEMAND PEAK
7 PM - 9 PM



WEEKEND DEMAND PEAK
5 PM - 7 PM



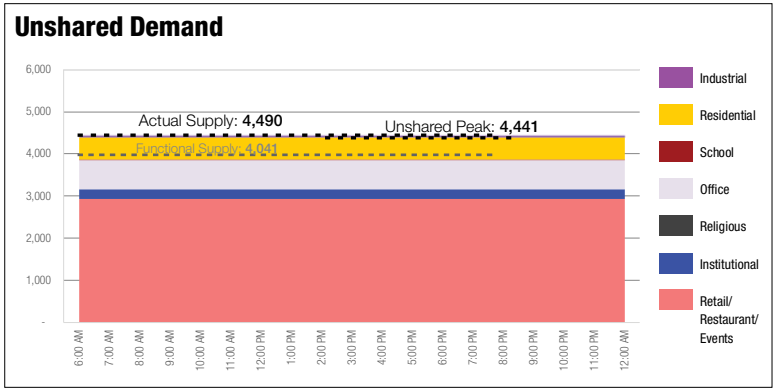
RIVERFRONT: UTILIZATION AND DEMAND

However, with this visitor focus and a large number of restaurants, bars and other businesses serving local residents, on-street parking is heavily used. It is free after 6 p.m. each day and the entirety of Sundays, and as such offers an appealing alternative to lot or garage parking. Although the supply of street spaces is relatively limited compared to garages and lots, it is understandably a first choice for visitors familiar with this part of the City due to its price advantage.

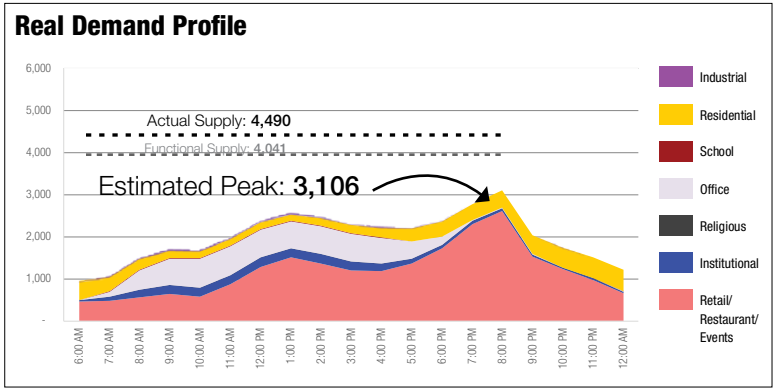
Revising parking and the span of enforcement can help to balance this and drive longer-duration parking demand into space in garages and lots. These are largely utilized as well, suggesting that other sharing—especially with facilities in the City Center North district—may help to satisfy overall parking demand.

In particular, Unum's two parking garages between 4th and 5th streets offer a greater inventory of unused parking than any other single facilities in the study area. With controlled entries and internal organization of these garages that facilitates reserving certain areas, these garages represent an opportunity to satisfy other districts' near-term needs.

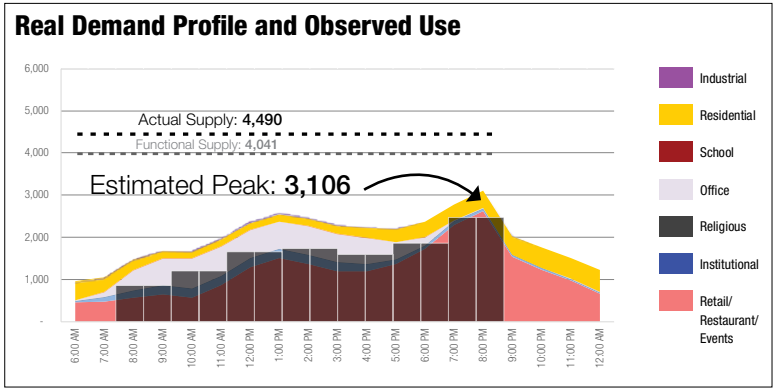
Traditional Analysis



Shared Parking Model



Calibrated Results



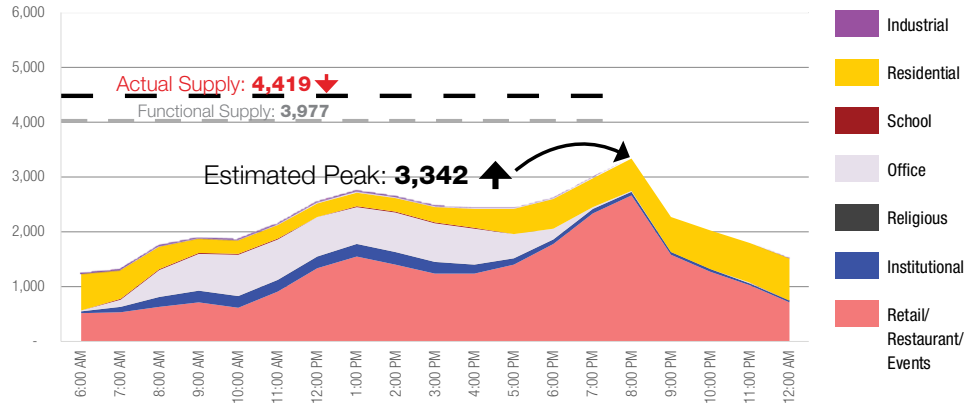
EXISTING LAND USES

Land Use	Square Feet	Unit Est
Residential		
Apartments		120 units
Condos		250 units
Multifamily		20 units
Retail		
General Retail	103,000	
Restaurants and Hospitality		
Hotel		690 rooms
Restaurant	103,000	
Office		
Bank	5,000	
Office	229,000	
Government Office	36,000	
Community Uses		
Community Center	22,000	
School		100 stud.
Theater	1,000	
Movie Theater		12 screens
Museum	7,500	
Hospitals ad Health		
Medical Office	7,300	
Industrial		
Industrial	19,000	
Warehouse	61,000	

Note: Table does not include single family homes. These are assumed to be self-parked.

LONG-TERM SCENARIO

Real Demand Profile: Long-Term Future Growth



+ 100 hotel rooms
+ 200 apartments
+ 10 townhomes
+ 20,000 SF office
+ 1,000 SF restaurant

Estimated Parking Supply Change: -71

KEY TAKEAWAYS

» Parking demand will increase slightly under the proposed future development scenario for the Riverfront

» The bulk of demand will continue to come from restaurants, retail, and events in this area

» There is enough supply to accommodate parking demand, but with so much coming from uses that attract the general public, publicly accessible supply will be very important

RIVERFRONT: RECOMMENDATIONS

RIV1: ADJUST PRICING TO MATCH DEMAND

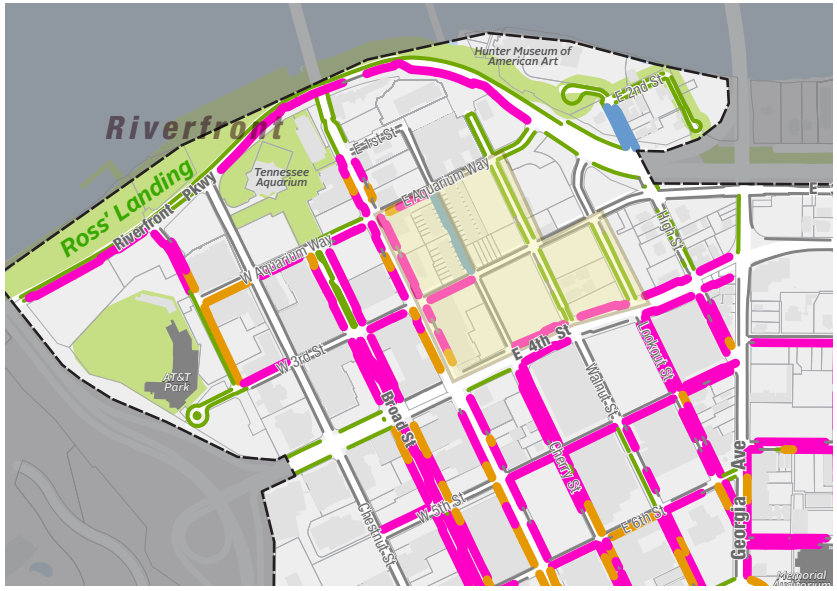
Today's system includes free on-street parking, in some cases all day and in some after 6 p.m. There is free parking along Walnut, which is full into the evening. In addition, CARTA/CPA does not enforce the meters on Broad, Market, and other streets beyond 6 p.m., creating free parking in these prime locations.

To create availability, CARTA/CPA should consider revising the price price of parking along Lookout and Walnut Streets. CARTA/CPA can use price rather than time limits to manage demand, so that people on these streets can purchase as much convenient parking as they might need. As these spaces are likely more convenient for users, the parking at adjacent locations should be less expensive.

As with other price-adjustment recommendations in this study report, CARTA/CPA should use the guidance suggested in Recommendation GEN3 on page 36.

ENFORCEMENT/PRICE CHANGE AREA

The highlighted area below is the area with heavier utilization in evening and weekend hours. This is recommended as a pilot area for adjusting both price and metering, as well as revising enforcement hours.



RIV2: EXTEND ON-STREET ENFORCEMENT TIMESPAN

Enforcement should respond to demand patterns that peak in the evening, generally reflecting the tourist and evening focus of this area. Pricing along existing streets should extend into the evening until at least 9 p.m. The exception to this is the on-street pricing around the Unum parking facilities. These spaces are likely undesirable as they are not next to active land uses, and thus should continue to be free in the evening until demand (and/or redevelopment) warrants pricing.

RIV3: SHARED PARKING

A shared parking approach in Riverfront would unlock current and future economic development while maintaining a healthy and active street environment. Restricted parking spaces that sit empty are not a good use of land in this growing district. For example, the Sportsbarn garage, with over 200 spaces, is never more than 60% utilized. These spaces could support additional residential, retail, office, and/or event uses.

RIV4: EVENT PARKING COORDINATION

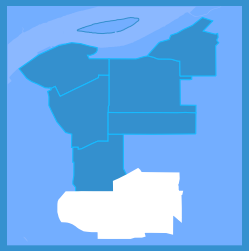
The Riverfront area in particular faces parking challenges from large events and out-of-town visitors. Advance coordination for these events can help alleviate strains on the parking system by providing information for visitors before and at arrival. Additional coordination with organizations like the Lookouts, the Aquarium, the Creative Discovery Museum, or the Riverbend Festival could help streamline event parking. For more information, refer to Recommendation GEN11.

CARTA/CPA currently coordinates with CDOT regularly on downtown events. Additional coordination with organizations like the Lookouts, the Aquarium, the Creative Discovery Museum, or the Riverbend Festival could help streamline event parking.

RIV5: USE TICKET PRICING TO INCENTIVIZE REMOTE PARKING

Today's pricing system at certain attractions, such as the Hunter Museum, creates a critical shortage of parking at the front door of many Riverfront attractions. Pricing is focused on admission while facilities like the Hunter provide free parking for guests. Meanwhile, parking facilities such as the River Pier Garage or the surface lot at 4th and Walnut Streets (northwest corner) are underutilized throughout the day. This is because relative to visiting these attractions, these lots are more expensive and farther away, straining facilities like the Aquarium parking lot or the Hunter Museum parking lot.

Restructuring pricing to "unbundle" parking from admission at these facilities will allow people to choose the option that works best for them, which may be slightly farther away at a discount price. For example, admission to the Hunter could be $10 and $5 for parking, instead of $15 for all.



SOUTHSIDE

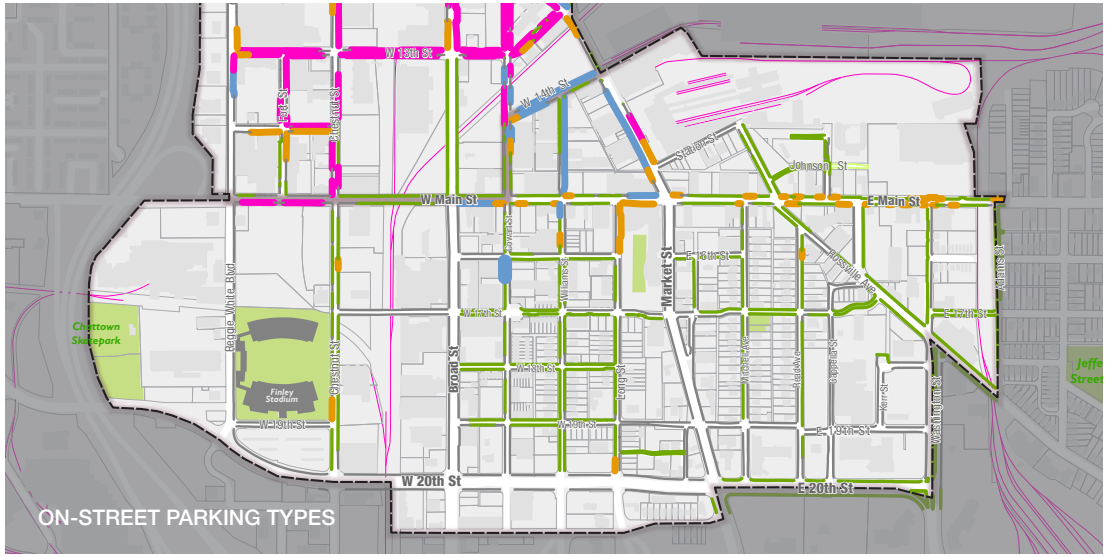
- The Main Street business district and the Chattanooga Choo-Choo have attracted dining and entertainment businesses, though without a clear and easy connection to nearby parking facilities (such as the CARTA South garage) that could comfortably serve demand.
- The Main Street business district and a more employment-focused commercial district along Broad Street are both immediately adjacent to a residential neighborhood.
- A lack of regulation on residential street spaces has led to their use as support for the business district, putting pressure on this supply.
- The length of the Main Street corridor is a deterrent to parking at regularly-available facilities, such as the Finley Stadium lots.
- Currently, CARTA only enforces as far south as Main Street.

CURRENT CONDITIONS AND OPPORTUNITIES

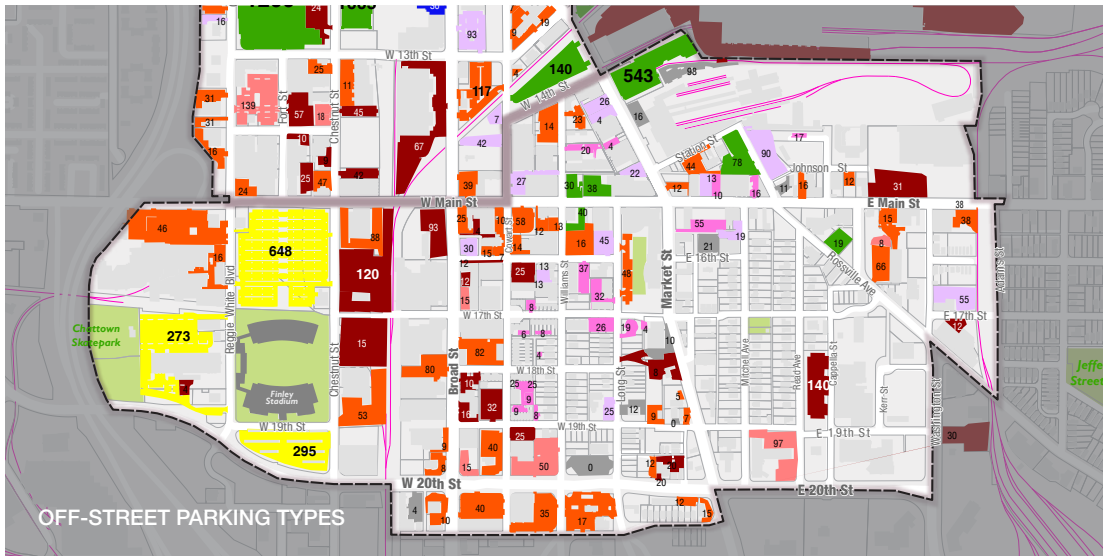
Although it has nearly as much parking as the City Center South district, the Southside covers a much larger area and includes one of CARTA/CPA's two downtown public garages (the CARTA South garage facility that is the terminus for Electric Shuttle routes). It also includes the Finley Stadium lots, which account for over 1,200 spaces and are only fully used around special events. Apart from these facilities, the district is notable for having many smaller facilities, most under 100 spaces, on private lots supporting adjacent business land uses. When not counting the Finley Stadium lots, about half of the remaining off-street spaces (1,666 out of 3,350) are reserved for employees or customers only.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	5,619	100%
ON-STREET	**996**	**19%**
Unregulated	758	76.1%
No Parking	99	9.9%
2-Hour Parking	53	5.3%
Loading and other regulations	275	27.6
OFF-STREET	**5,006**	**81%**
Employees and Customers	1,035	20.7%
Residents Only and other reservations	1,311	26.2%
Permit/Event Parking	1,216	24.3%
Open to the Public	748	14.9%
Employees Only	631	12.6%
Other Regulations	65	1.4%

SOUTHSIDE: INVENTORY AND UTILIZATION

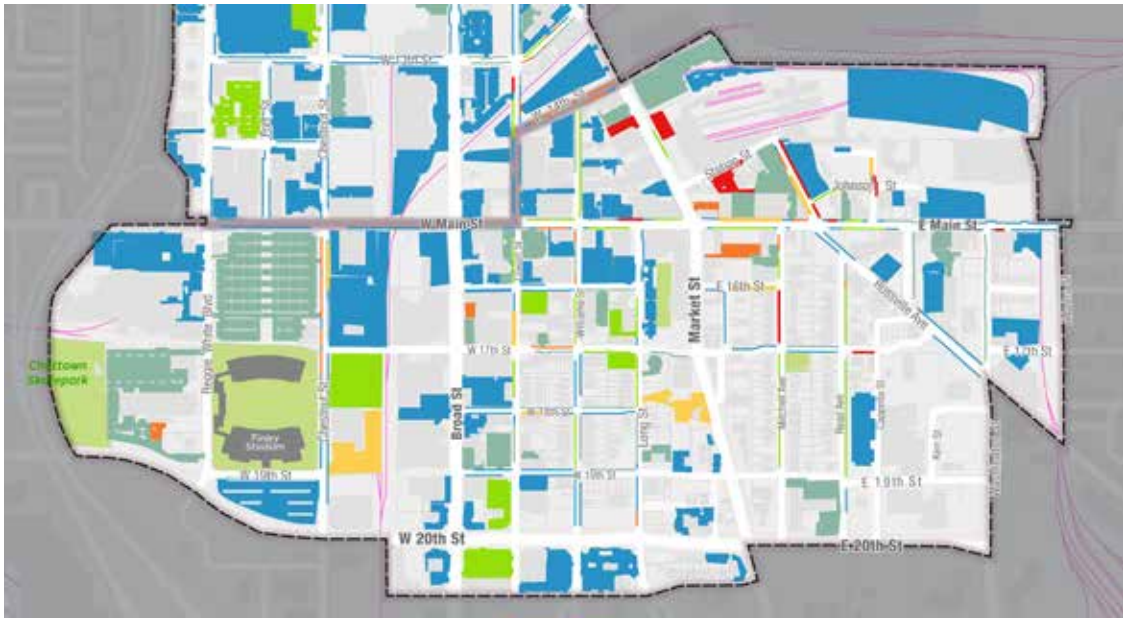


- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

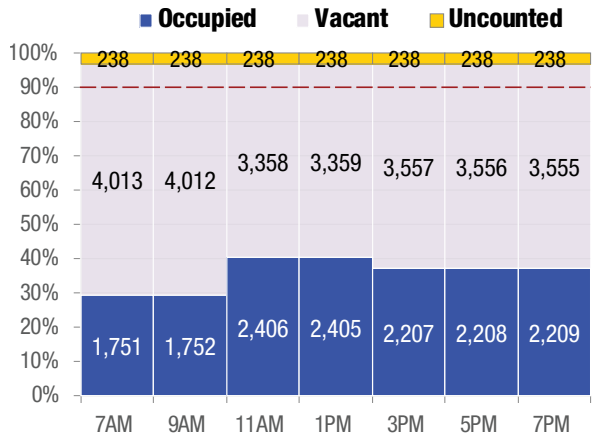


- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

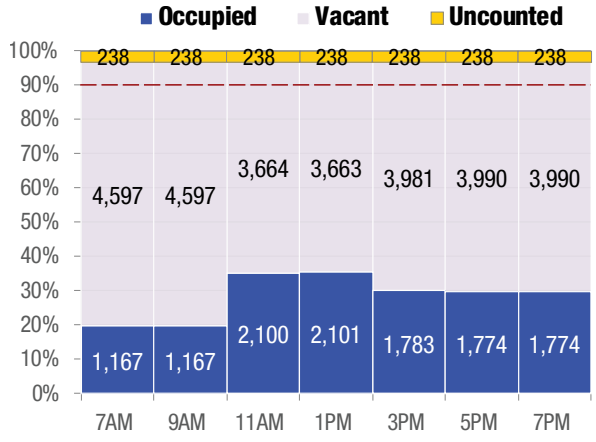
Parking Utilization
Over 100%
90% - 100%
80% - 90%
60% - 80%
30% - 60%
0% - 30%



WEEKDAY DEMAND PEAK
11 AM - 3 PM



WEEKEND DEMAND PEAK
11 AM - 3 PM



SOUTHSIDE: UTILIZATION AND DEMAND

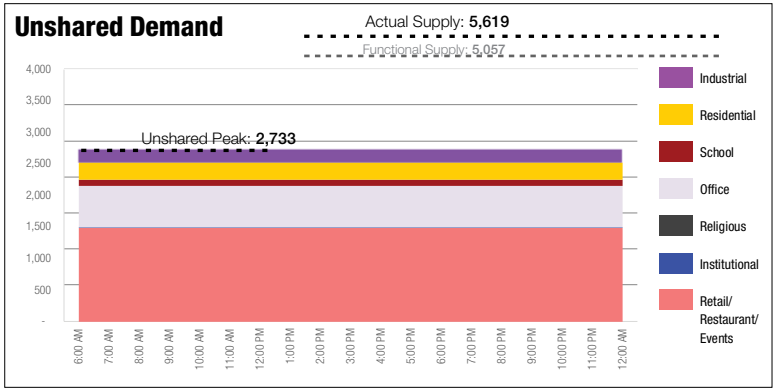
CURRENT CONDITIONS

As a result, many of these smaller lots see higher levels of use during weekday business hours, although unlike in other employment-focused areas, several of them are in high levels of use on Saturdays as well.

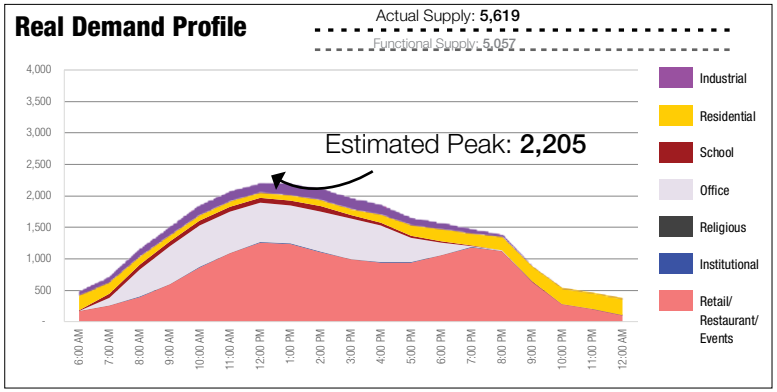
The most prominent patterns of heavy use are found along the eastern end of the Main Street corridor, in the restaurant and entertainment district around the Chattanooga Choo-Choo, and along Main Street east of Market Street. This area features generally less off-street parking and several of these parking facilities are restricted to certain user groups. As a result, these facilities are generally not heavily used on weekends, but street parking in this area is. This street parking is an important resource to the residential neighborhoods which is in limited supply due to narrow streets and small block dimensions.

Although this eastern end of the Southside district is relatively far from the Finley Stadium lots and public parking resources of the City Center South district, it is not far from the CARTA South garage—although it is separated by the historic station structure of the Choo-Choo and walking environment challenges. There is opportunity to better utilize this garage on weekends to support the entertainment-based uses and relieve pressure on neighborhood streets. This will require managing on-street parking differently, with the use of pricing and regulation to help ensure availability for short-term stays and as well as availability for residents.

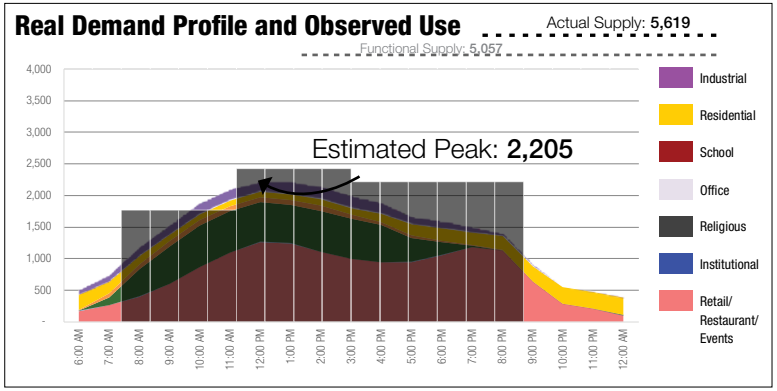
Traditional Analysis



Shared Parking Model



Calibrated Results

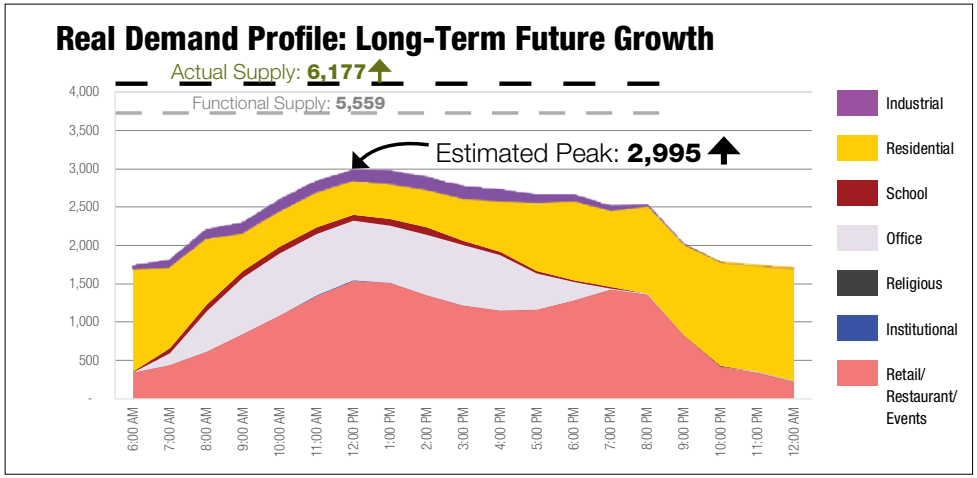


EXISTING LAND USES

Land Use	Square Feet	Unit Est
Residential		
Apartments		60 units
Condos		150 units
Multifamily		57 units
Retail		
Auto Shop	111,000	
Retail	228,000	
Supermarket	14,000	
Restaurants and Hospitality		
Hotel		150 rooms
Restaurant	58,000	
Office		
Office	309,000	
Government Office	19,000	
Community Uses		
Churches	45,000	
Community Center	22,000	
School		400 stud.
Museum	7,000	
Stadium		21,000 cap.
Hospitals and Health		
Medical Office	21,000	50 beds
Industrial		
Industrial	147,000	
Warehouse	204,000	
Other Services	2,000	

Note: Table does not include single family homes. These are assumed to be self-parked.

LONG-TERM DEVELOPMENT SCENARIO



+ 900 apartments
+ 100 town homes
+ 50,000 sf retail
+ 250 hotel rooms
+ 10,000 sf restaurant
+ 60,000 sf office

Estimated Parking Supply Change: +558

KEY TAKEAWAYS

» With substantial growth in the Southside, there is still capacity

» However, much of the capacity is far away from the Main Street corridor where recent development has occurred (and where more is expected into the future)

» Future demand in the area of Market and Main (model results not shown) will also be lower than available supply

» Although supply in this area is underutilized, it is not currently publicly available. Without regulatory changes, this area will experience a parking crunch

» Additional development is expected to add to the supply. To support additional uses, this parking will need to be shared and/or open to the public

SOUTHSIDE: RECOMMENDATIONS

SOU1: IMPROVE ACCESS TO CARTA SOUTH

Using wayfinding, investments in streetscape improvements, and information, CARTA South will become an integral part of the growing restaurant district on Main Street. Today, the garage is utilized at 75% or less in the evening, leaving over 100 spaces open.[1] If the five to seven minute walk between this garage and the restaurants on Main Street becomes more accessible, this parking supply could unlock access to this district.

The diagram to the right illustrates potential improvements that intentionally link the garage to these restaurants.

1 Counts in Southside were limited; it is likely that there is more availability in the CARTA garage in the evening.

SOU2: ADJUST PRICING TO CREATE AVAILABILITY ON MAIN STREET

Today's pricing system incentivizes people to search for on-street parking. Today, the CARTA south garage is $4 per day at all times, while parking on Main Street is free. Main Street (east of Cowart), where the spaces are most convenient to restaurants, is mostly free and unregulated. These spaces are far more valuable to someone visiting or working in this district than the garage, and are therefore often full particularly during restaurant peak hours. This in turn creates frustration, and visitors to the area who can't find parking once may not return.

Instead, Main Street is a good candidate for parking pricing, potentially just in the afternoon and evening. The price of Main Street should ideally be higher per hour than CARTA South. and CARTA/CPA should consider setting this pricing with no time limits, allowing those who wish to purchase front-door parking for as long as they would like while providing a less expensive option at CARTA South for those who are price-sensitive.

SOU3: INVEST IN SIGNAGE AND WAYFINDING

Signage and information will be a big part of parking management in this area. Key considerations include:

- Auto-oriented signage that reflects the adjustments listed in SOU1 and SOU2 should focus on intercepting traffic and directing people to the CARTA garage and/or the Squirrel Lot.
- Pedestrian-oriented signage should help guide people to the restaurant district as well as back to the Squirrel Lot and CARTA garage.
- All signage is an excellent opportunity to brand this district, and should capitalize on any existing neighborhood association (Fort Negley, Jefferson Heights, Southside Cowart Place) or restaurant district vision. In general, all signage should be streamlined so that it is easy for the user to understand.

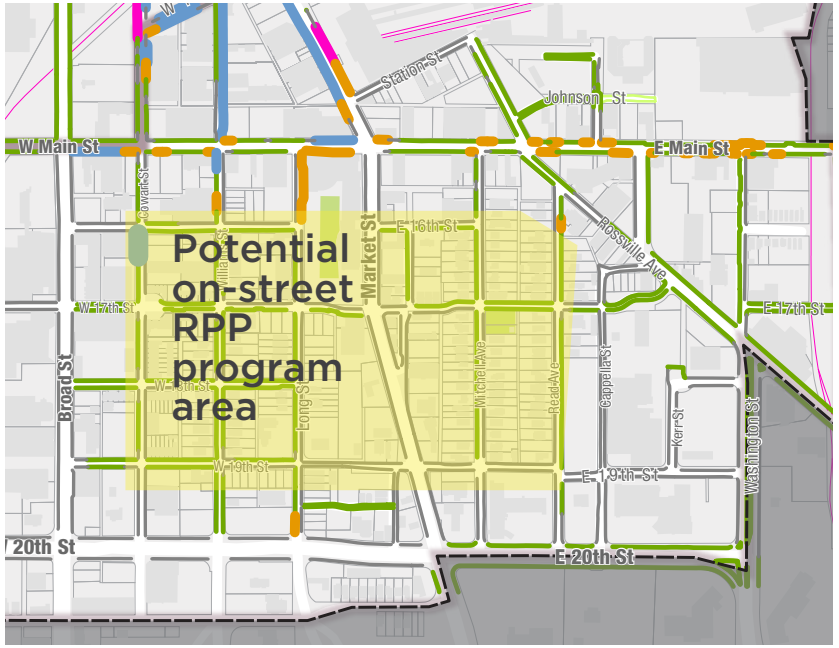
SOU4: RESIDENTIAL PARKING PERMIT (RPP) PROGRAM AND EXTEND ENFORCEMENT SOUTH

An RPP system will help preserve access for Southside residents while allowing the area to grow. As the restaurant district grows, the residential streets surrounding Main Street will likely feel the effects of spillover if they remain unregulated.

Considerations for an RPP program include:

- Charge an appropriate amount for permits. If permits are free or extremely low-cost, parking demand will be unconstrained. Eventually, there will not be enough spaces for residents.
- Additional vehicles should cost more. Creating a system that incentivizes people against storing multiple vehicles on the street will maintain availability for everyone.
- Allow public parking. Whether time-limited or paid, maintaining public access to spaces is beneficial for all. There is no visitor permit program to administer, and people can use parking spaces efficiently. There are a few options for this:
  - Allow public parking on only one side of each street
  - Allow public parking only on certain streets
  - Sell employee and other long-term permits for these residential streets, so that the pool of potential other occupants is limited
  - Time-limit public parking, so that the spaces remain available for residents. This can be difficult to enforce but is visitor-friendly
  - Price the spaces (in line with CARTA South and Main Street) and reinvest the revenues locally.
- Create an opt-in program for residents. For example, many municipalities require over 50% of the residents of a given block or area to agree that a parking program is necessary.
- Follow CDOT regulations as necessary (Chattanooga City Code Ch. 24, Section X.8)

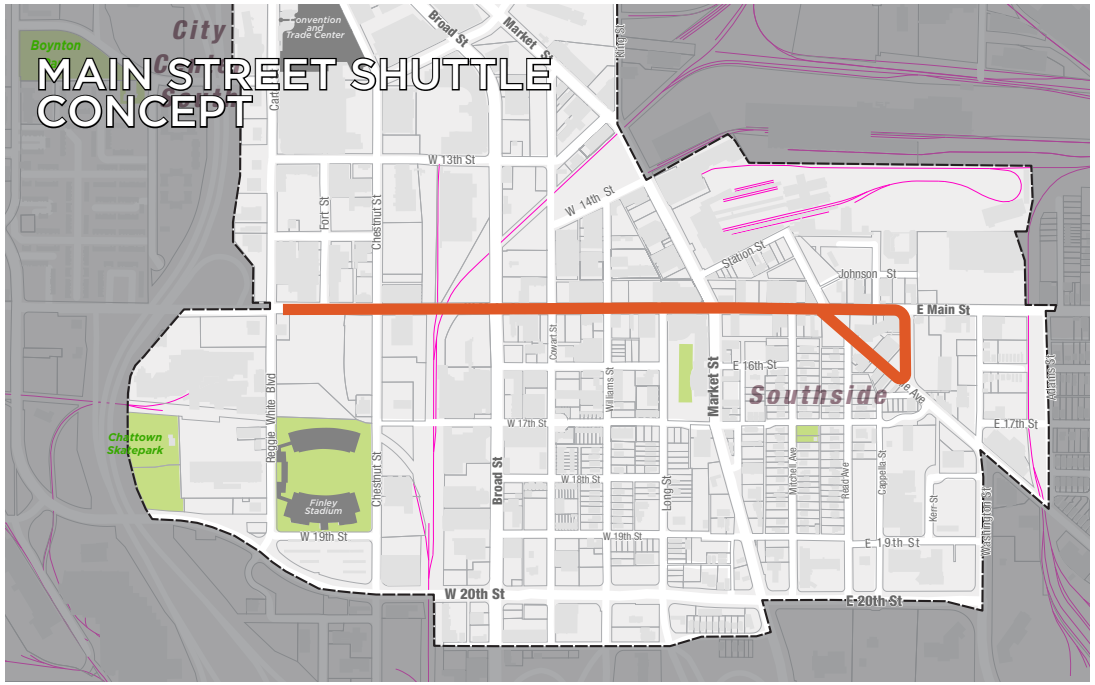
Today, CARTA/CPA only enforces as far south as Main Street. However, in order to implement recommendations like SOU4, CARTA/CPA will need an expanded enforcement area. This will require additional resources, but will help to address parking demand in this growing area.



SOU5: SOUTHSIDE SHUTTLE

Similar to the 3rd Street Shuttle discussed in the Health & Education and City Center North district recommendations, a shuttle service along the Main Street corridor could help to connect limited parking facilities and high demand in the east of the district to additional parking supply in the west—in this case, the East Main Street business district and the Finley Stadium parking lots.

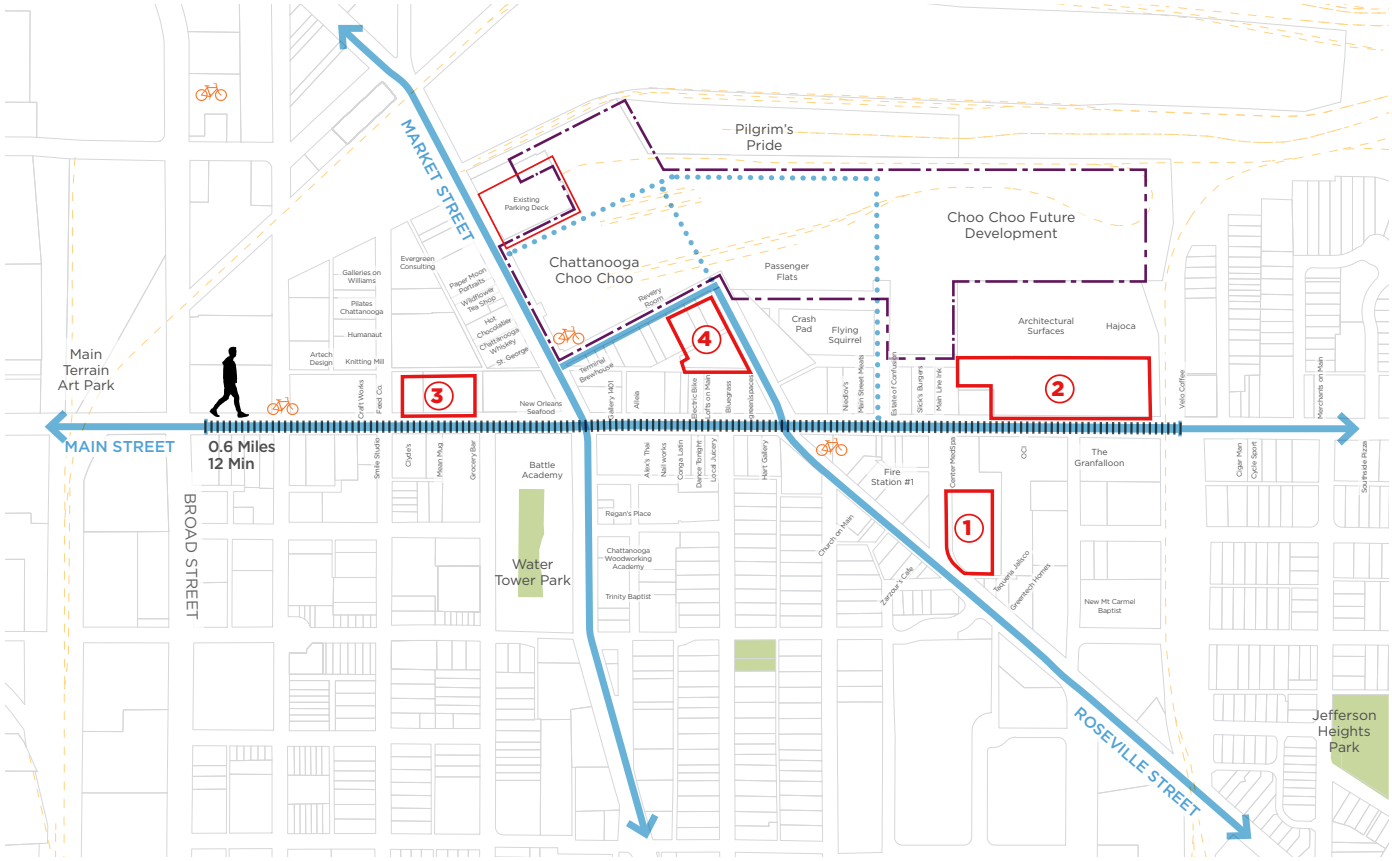
The diagram and table below provide additional detail on how this service would operate. The cost of this service is less than the 3rd-4th Street service, though this is a business-focused shuttle connection rather than an employment-focused service, and potential funding sources for it are less apparent. Southside stakeholders will need to partner with CARTA/CPA on this service and work together to determine feasible funding sources.and CARTA will need to identify vehicles to operate the service based on the concept described below.



Planning Factor	Details
Operations and Costs	**$208,000/year**
Hours of Operation	7/day (4pm - 11pm)
Service Frequency	10 minutes
Operating Cost per Day	$679
Estimated Capital Costs	**$400,000**
New Fleet Vehicles Needed	1
Estimated Cost	$400,000

SOU6: NEW SUPPLY

New development in this area should include parking that is completely open to the public. Building more restricted parking will create inefficiencies in the system. In a destination commercial district like Main Street, where development is relatively dense and the walking environment is enhanced by street-fronting retail and other active uses, additional unnecessary parking to see similar rates of use to what is currently observed is not the best use of land.



MARTIN LUTHER KING CORRIDOR

- This area has extremely limited parking supply that is open to the public (about 400 spaces in total, with only one off-street facility).
- The Martin Luther King area hosts several attractions as well as office uses, creating a mixed-use, walkable environment that is active throughout the day and into the night.
- Parking demand from some of these uses can overlap, particularly when the UTC academic calendar is session and students park in designated lots. This may cause parking crunches and spillover into residential neighborhoods.
- UTC's proximity impacts this neighborhood, and parking issues at the university and at student housing spill onto the district's streets.

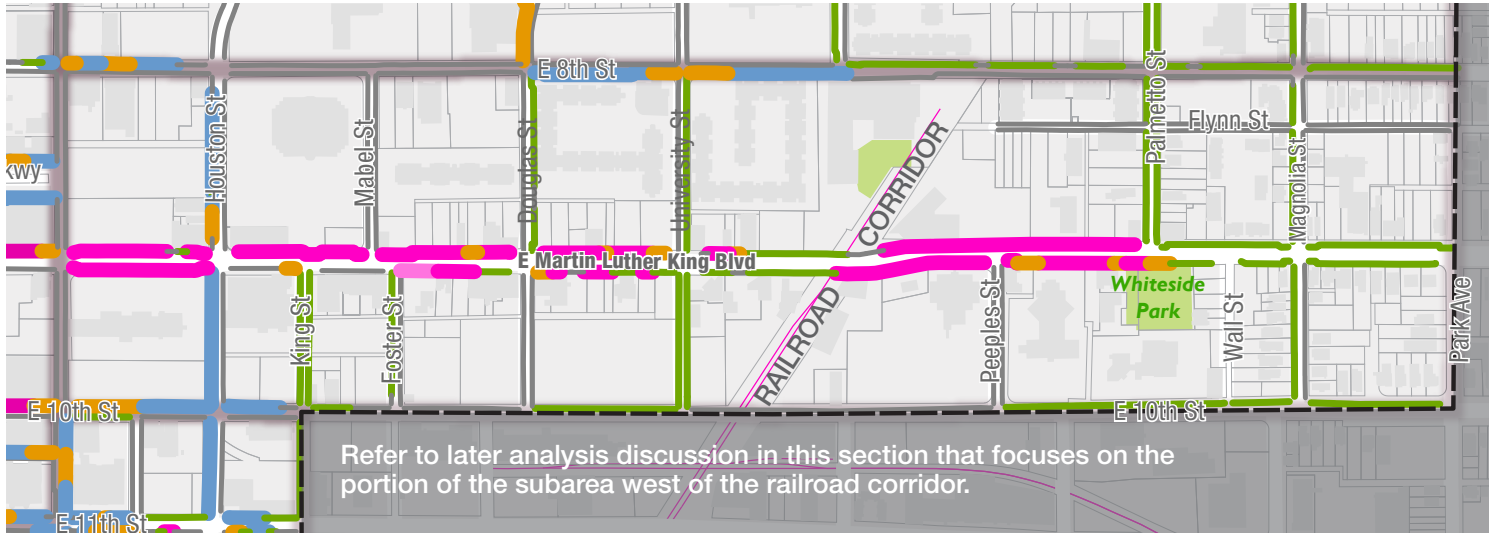
CURRENT CONDITIONS AND OPPORTUNITIES

MLK has extremely limited public parking supply, which contributes to public perception of parking issues and limits access. The only off-street parking that is open to the public is the American Legion Lot (125 spaces) on Lindsay Street. The City owns a collection lots on 10th Street, but these are restricted to specific user groups. Private entities own the other lots, so even if spaces are open, a visitor may not qualify to park in these locations. On-street, Martin Luther King Street has meters, but streets just off of this commercial corridor are unregulated, including the residential streets to the east.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	3,017	100%
ON-STREET	**384**	**13%**
Metered Parking	154	39.1%
Free, No Time Limit	173	45.1%
No Parking	31	8.1%
Other regulations	26	7.7%
OFF-STREET	**2,633**	**87%**
Reserved Spaces (includes resident only parking)	1,187	45.1%
Employees Only/ Employees and Customers	762	28.9%
Permit/Event Parking (UTC)	460	17.4%
Open to the Public	125	4.7%
Other Regulations	99	3.8%

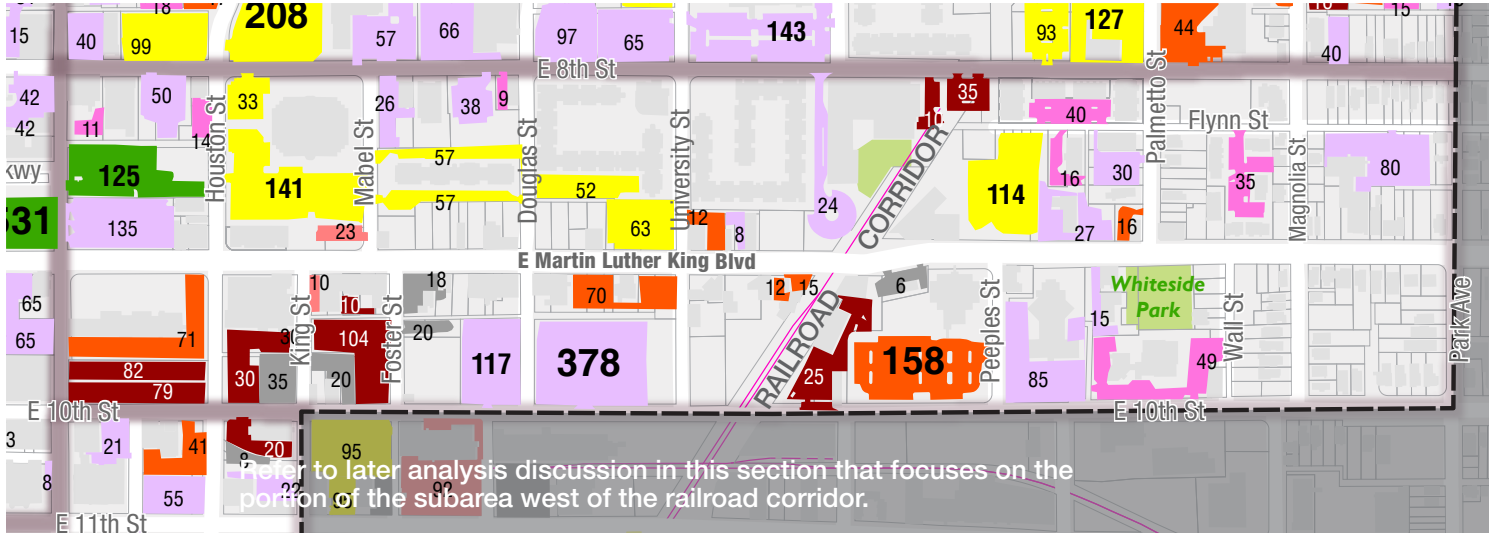
MLK CORRIDOR: INVENTORY

ON-STREET PARKING TYPES



- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

OFF-STREET PARKING TYPES

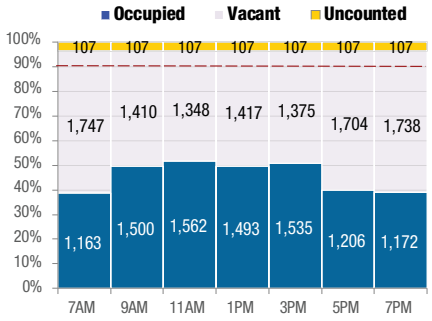


- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

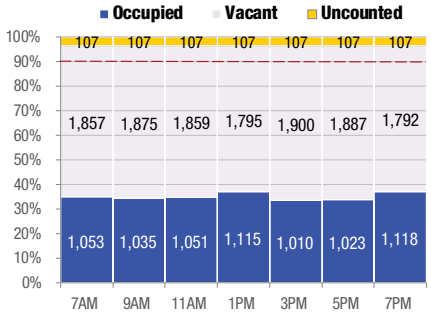
MLK CORRIDOR: UTILIZATION

Parking Utilization 0% - 30% | 30% - 60% | 60% - 80% | 80% - 90% | 90% - 100% | **Over 100%**

WEEKDAY DEMAND PEAK: 11 AM - 1 PM



WEEKEND DEMAND PEAK 7 PM - 9 PM



MLK CORRIDOR: UTILIZATION AND DEMAND

The corridor, particularly to the west of the railroad tracks, is quickly developing into an active retail destination with storefronts lining the street, and parking should support that system. However, the general public has limited parking options. Much of the parking in this growing area is currently restricted to specific user groups and thus cannot support parking demand from the general public. Without additional supply, additional growth will face a parking shortage.

In response to the parking issue, several businesses in the MLK corridor have worked out shared parking arrangements with varying degrees of formality, which is an efficient use of parking but a strategy that offers limited potential for further growth. The Bessie Smith Cultural Center has some agreements to support events, and some restaurants also report that businesses that are closed at certain hours will allow patrons to park in their facilities. These sharing agreements have been worked out on an individual, case-by-case basis, and some of the district's parking (especially UTC-owned facilities) is not shared in this manner.

As shown in the diagrams on the following page, actual usage patterns in this district show a greater amount of use than demand that might be expected. Part of this is due to the heavy levels of use of UTC-owned facilities that are in the district, with 460 spaces owned by the University and many of these facilities over 90 percent occupied throughout the mid-day. The land uses that generate the parking activity in the district, which begins south of 8th Street, are not located in the district's boundary. Even with these facilities removed, however, actual use is close to what would be expected from the district's mix of land uses. As a significant portion of land use growth in the district is expected to be in restaurant and retail uses that will attract outside visitors, additional publicly-available parking may be needed to support the district's needs.

EXISTING LAND USES: ENTIRE DISTRICT

Land Use	Square Feet	Unit Est
Residential		
Apartments		560 units
Condos		50 units
Multifamily		25 units
Single Family		80 units
Retail		
Auto Shop	2,000	
Retail	13,000	
Restaurants and Hospitality		
Restaurant	34,000	
Office		
Office	21,000	
Government Office	44,000	
Community Uses		
Churches	183,000	
Community Center	18,000	
Theater		4,800 cap.
Industrial		
Industrial	11,000	

THE OVERALL DISTRICT

The diagrams to the right illustrate the unshared and real parking demand estimates for the entire district based on the current land use program described on the previous page.

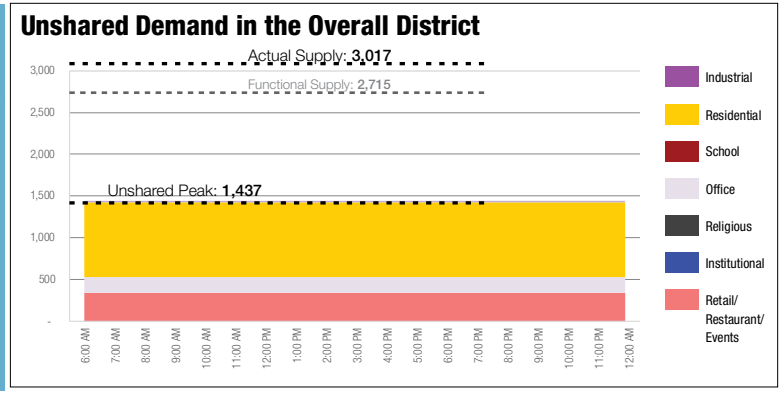
The district's land uses are dominated by residential demand, but much of this is student-focused housing that does not see the same variation between daytime parking demand (which is generally lower with residential uses) and evening demand (which is generally higher). The variation in this type of residential land use is less than what might typically be observed in other residential development. For this reason, there is a more consistent level of parking demand throughout the day.

However, as the third diagram (below) illustrates, actual observed use is far in excess of this amount. This is explained partly because of the presence of the 460 UTC spaces in the geographic boundaries of the district, which are highly used throughout the day, and the location of the land uses generating this parking demand outside of the district. However, the actual observed use also reflects a high level of demand throughout the day, underscoring that the district's residential uses remain consistently parked during a time when most residential land uses would show less parking activity.

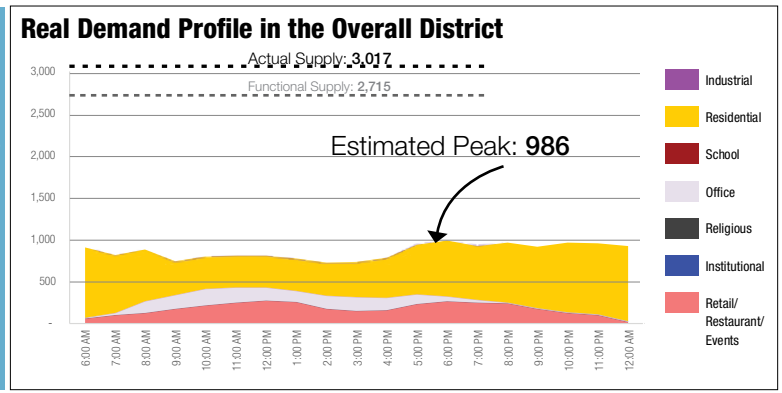
FOCUSED AREA OF ACTIVITY WEST OF THE RAILROAD CORRIDOR

Because of the nature of much of the development activity in this district, which has been a mix of larger-scale residential developments and small-scale commercial uses reusing existing buildings, parking expectations are divided largely between having dedicated spaces for residents and having available and convenient spaces for visitors, especially in the evening when restaurant and entertainment uses are active.

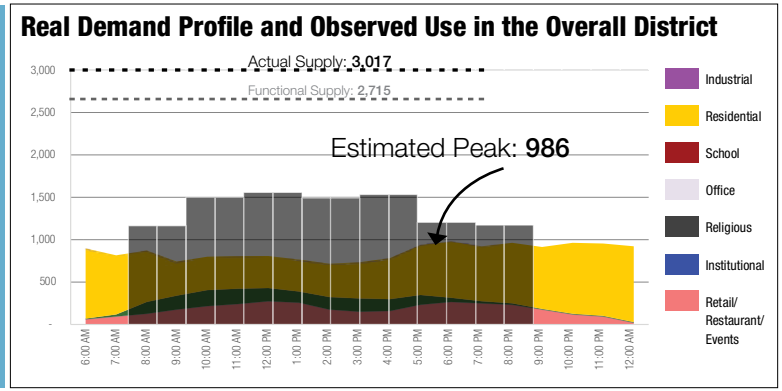
Traditional Analysis



Shared Parking Model



Calibrated Results

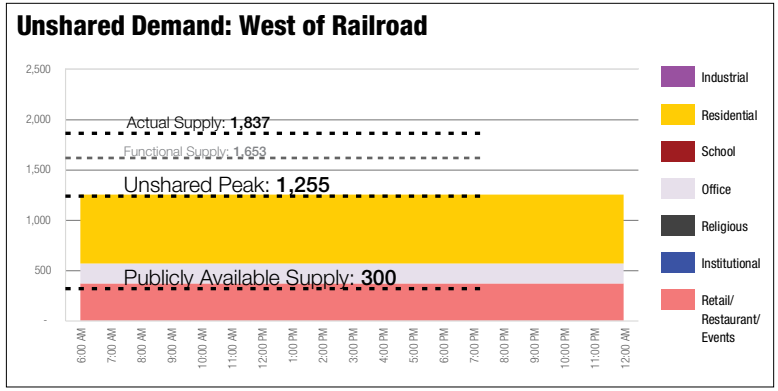


The diagrams to the right illustrate the same unshared demand and real demand comparison for this select subarea. As a subset of the district it has fewer spaces in its total inventory, and the inventory included in these graphs also excludes the 460 UTC spaces that lie within this part of the district. Even though this subset of the district has a lesser inventory, it has virtually the same amount of residential land use, which keeps its unshared and real demand levels close to those of the entire district (as illustrated on the previous page).

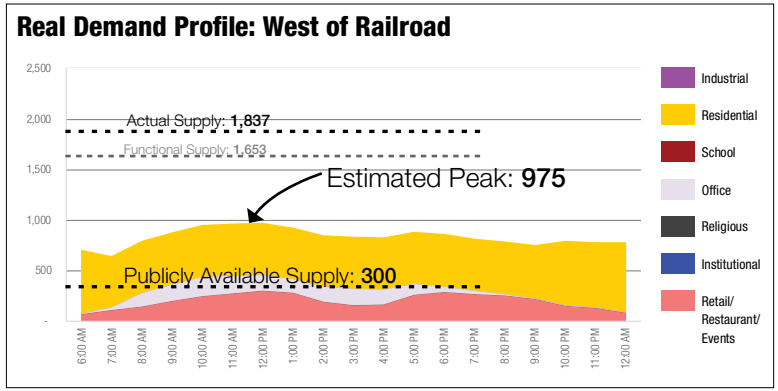
The second and third diagrams to the right illustrate the real demand estimated from the ways that different land uses' individual demand levels vary throughout the day. Significantly, these diagrams also note the 300 spaces of public supply for this district—the 125 spaces in the park-for-hire American Legion lot on Lindsay Street and the 175 available on-street spaces in this part of the district. It is important to compare these to the retail/restaurant land uses noted in red on the graph: the highest levels of parking demand for these uses approach the level of parking supply that is publicly available, when the peaks in the graph occur at midday and mid-evening. This underscores that the other parking inventory in the district, which is generally restricted to apartment residents, employees of businesses, and members of churches, is not available for visitors of the general public who may visit the district for these retail and restaurant uses. With substantial additions to restaurant and retail development in the district, this same 300-space parking supply on which these uses are largely reliant could easily be exhausted if other parking is not provided.

Indeed, as illustrated in the third diagram, actual parking activity is nearly identical to the expected demand in this district, with the highest level of observed parking activity (1,018 occupied spaces, occurring generally from 11 am to 1 pm) slightly higher than the estimated peak shown in the demand graph.

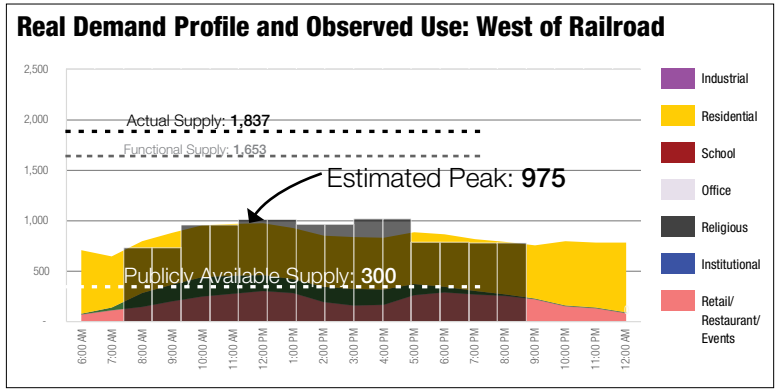
Traditional Analysis



Shared Parking Model



Calibrated Results



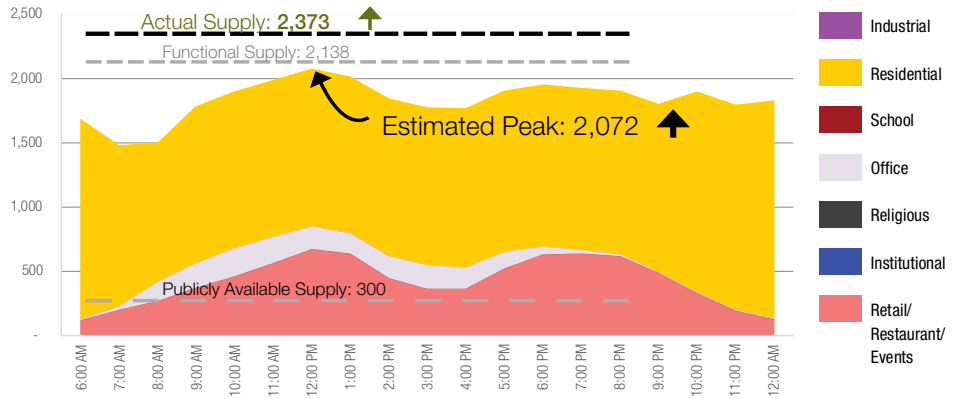
LONG-TERM DEVELOPMENT SCENARIO: WEST OF RAILROAD VIADUCT

Because of the current momentum of development in this sub-district west of the railroad, it is important to understand how future growth and development would fit within the district's likely parking supply. The study team used River City-collected information on real estate market potential to estimate new development and parking demand in the district, and the diagram and table to the right illustrate this.

This forecast for growth continues to add housing for students, both in conventional student housing and in market-rate apartment housing oriented to the UTC student community. The study team observed current student-based housing developments and the parking patterns in their parking faciltiies, using these observed levels of parking demand with future development of similar facilities. In addition, the study team added nearly 70,000 square feet of restaurant and retail uses, the same uses that depend heavily on public parking supply and are already close to reaching identical levels of demand to this public supply in peak periods today.

The diagram and development scenario to the right represent a significant level of growth, but not one that is unreasonable for the district given UTC's planned growth in enrollment and similar levels of growth in restaurant, retail and entertainment uses throughout the larger downtown study area. As the graph illustrates, leaving the publicly available supply of the district unchanged may leave insufficient parking for these particular uses.

Real Demand Profile: Long-Term Future Growth West of Railroad



ADDED DEVELOPMENT SCENARIO: WEST OF RAILROAD

Land Use	Square Feet	Unit Est
Residential		
Apartments		**1,160 units** (was 560)
Student Housing		**150 beds** (none previously)
Other Multifamily		75 units
Single Family		80 units
Retail		
Retail	**49,000** (was 15,000)	
Restaurants and Hospitality		
Restaurant	**68,500** (was 34,000)	
Office		
Office	**31,000** (was 21,000)	
Government Office	44,000	
Community Uses		
Churches	183,000	
Community Center	18,000	

KEY TAKEAWAYS

Demand in this district, if it increases along with expected growth, cannot be accommodated in existing publicly available supply. Visitors to the district who do not have a reserved use (as residents, workers, and members of the the UTC community largely do) rely on parking that is publicly available, even if they are paying to use it. Today that parking supply is limited to street parking and a single visitor lot at the far western end of the district.

Much of the demand will come from restaurant and retail uses, which traditionally rely on publicly accessible parking. Some of the district's restaurant uses own their own parking lots and have arrangements with district businesses or offices to use other parking lots at certain times. In an urbanizing, redeveloping district, these opportunities will become increasingly scarce, and the publicly available parking supply will face even greater pressure than it does today.

Additional development is expected to add to the supply. While it is to be expected that residential development will add parking more or less dedicated to support these residential uses, at least some of the new parking supply should be shared and/or open to the public. Based on the estimates in the long-term future growth scenario described on the previous page, the growth in this demand could range from 300 to 500 spaces to support the general public.

To support this development, the area needs more shared, publicly accessible parking. This might be developed in conjunction with private development or might involve more substantial sharing commitments with existing parking supply, especially that could support the restaurant and retail uses in the district when their levels of demand are greatest.

MLK CORRIDOR: RECOMMENDATIONS

MLK1: SET APPROPRIATE REGULATIONS TO MANAGE DEMAND

The on-street parking on Martin Luther King Boulevard is some of the most valuable parking in the district for patrons of restaurants, bars and entertainment venues. In particular, parking to the west of the railroad tracks is convenient for these establishments. Enforcement regulations and price should be set to reflect that value and to allow people to stay long enough to eat, drink, and visit multiple establishments if they wish. To create availability into the evening, enforcement hours should likely begin around lunchtime and extend until 8 or 9 p.m.

Douglas and University Streets are fully parked on weekend days and could provide overflow parking for restaurants if priced appropriately. These spaces should be metered, with overlapping residential parking permits if necessary.

Spaces east of the railroad could potentially support other types of development, such as more long-term parking for residential uses.

In contrast, less desirable locations such as off-street facilities that require walking slightly further should be priced at a lower rate to provide a less expensive option.

MLK2: UPGRADE PAYMENT TECHNOLOGY

If paying for parking is seamless, users typically do not mind paying a bit more. On-street parking payment technology should accept cash, credit cards, and cell-phone based payment (which CARTA/CPA's enforced parking spaces already do through their ParkMobile program. Mobile phone payment applications also allow patrons to extend their time remotely rather than running out to a meter.

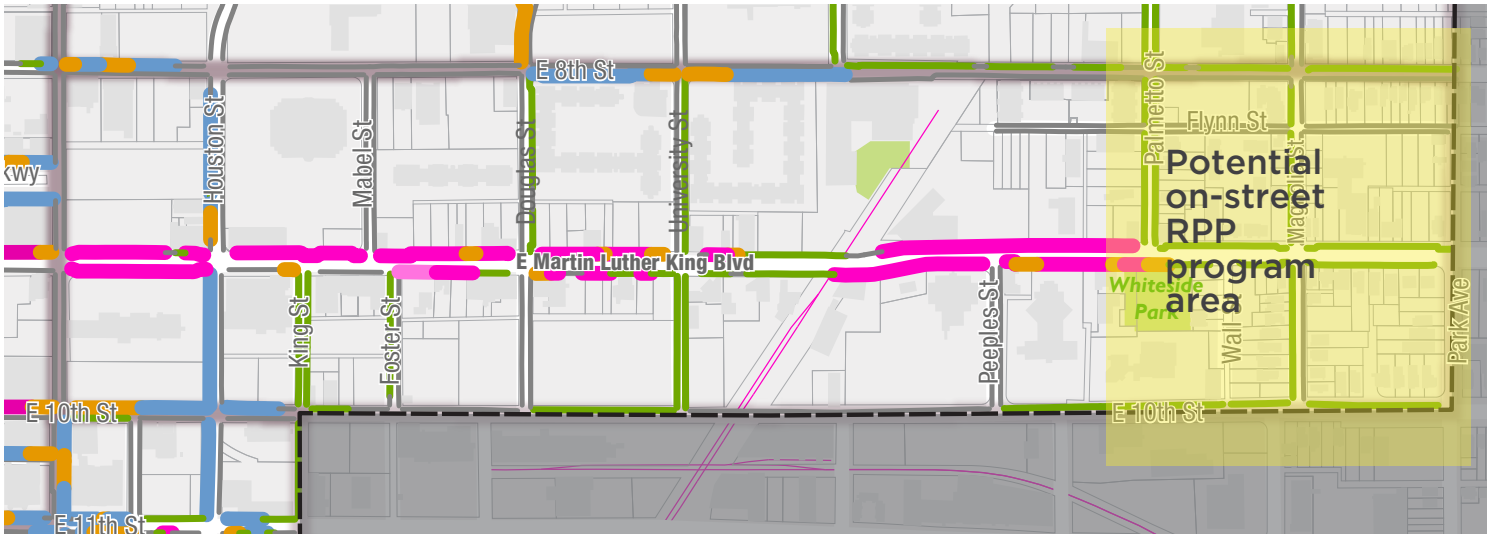
CARTA/CPA already uses the ParkMobile payment system, which allows initial and additional payments through mobile devices in lieu of cash or credit card transactions. Additionally, at the time of writing this report, it has also been exploring partnerships with ParkMe, a technology vendor that provides navigational services to guide parking customers to available spaces. Both of these technologies represent best practices in modernized payment technology and should continue to help the Martin Luther King subarea as well as other subareas in the study area.

However, more basic steps would also be beneficial. CARTA/CPA should also explore multi-space meters on the Martin Luther King corridor to realize greater efficiency in payment and allow credit card transactions.

MLK3: INTRODUCE A RESIDENTIAL PARKING PERMIT PROGRAM

Although the focus of the MLK district's analysis has been on Martin Luther King Boulevard and especially the area west of the railroad corridor, the portion of the district east of the railroad continues to have parking challenges of its own. For residents of the single-family neighborhood portions of the district lying between the growing restaurant district of western MLK and the UTC campus area to the north, a residential parking permit program (RPP) can help preserve vital parking supply for properties without driveways or other off-street parking supply. In this area, there will not be enough on-street parking to support a significant increase in dense, multi-unit residential buildings such as those that have been added into these two districts in recent years. As such, permits should be limited to those living in single or double-family houses, for example.

This would build on CARTA/CPA's current RPP for the Fortwood district to the north of 8th Street, although CARTA/CPA may wish to establish a separate district boundary and enforcement schedule for this program.



MLK4: INCREASE PUBLICLY AVAILABLE SUPPLY

The fragmented parking management in the MLK district presents a problem for future development and growth. Many stakeholders identify "handshake agreements" with neighbors and other types of informal shared parking agreements as critical to serve current levels of customer demand. This is an efficient shared parking approach, but it is limited to the overall set of similar opportunities in the district. Without formal signage and/or agreements, the unfamiliar customer cannot always find this parking, and the perception of public safety problems limits how far customers may be willing to park and walk to reach businesses.

As discussed in the analysis of this section of the report, the expected demand for parking in this district that reflects its development market potential, especially west of the railroad corridor, will exceed the supply that is publicly available. It is important to add to this supply to help the district reach this development potential, which in turn allows neighboring districts (especially the UTC campus area) a walkable destination for their own residents.

The study recommends two principal methods for adding to the parking supply in the district, both of which can be used together to meet the broader district's economic development potential.

USING SHARED AGREEMENTS WITH EXISTING FACILITIES

Some off-street facilities could provide needed capacity in the short-term. Several lots abutting 10th Street have availability and serve mostly daytime uses. In addition, UTC's parking supply north of the MLK corridor is used primarily during the day and could at least provide additional supply in the evenings. With signage and lighting, these lots, located one block off of the MLK corridor, are good candidates to serve as overflow parking. CARTA/CPA should explore shared agreements with these property owners to sign and light these facilities.

ADDING NEW PARKING SUPPLY JOINTLY WITH NEW DEVELOPMENT

To be sure, some future development, especially residential development, will add supply to the area, and these new uses will add to the overall vibrancy of the district. Developers of these projects should partner with CARTA/CPA and other public agency stakeholders to explore potential for jointly adding parking supply—in essence, constructing additional parking beyond what individual private developments require in order to add to parking supply within a shared parking facility. This helps to address the district's apparent future need for additional parking to serve a broader public demand, but also helps to consolidate this public supply in facilities that can serve the district more centrally and reduce the prevalence of small lots and complex shared arrangements that are currently serving the district.

Any investment in new, structured supply should be:

- Wrapped in active uses that will be active throughout the evening, such as retail, restaurant, residential, or a combination. The CARTA North garage is a local example.
- At least partially open to the public and shared, and ideally completely shared. This will ensure that each space is used as efficiently as possible.

- Integrated with the greater parking management system, so that the price structure encourages people to use the garage
- Structured parking is costly, but as the demand for new along the MLK corridor is high, there may be additional means of funding and financing new parking supply, such as tax increment financing districts.

UTC CAMPUS AREA

- UTC is a historically commuter-focused campus now transitioning into a hybrid commuter-residential campus.
- The University's master plan includes growth to 15,000 students (from its current 11,000) in 10 to 15 years.
- The campus will soon face a significant parking shortage if current growth continues with current driving-access patterns.
- More aggressive pushes to TDM and use of remote transit connections along with regulatory changes (restrictions on student access, raising parking pricing) have already been considered and should remain key policy objectives for the University.

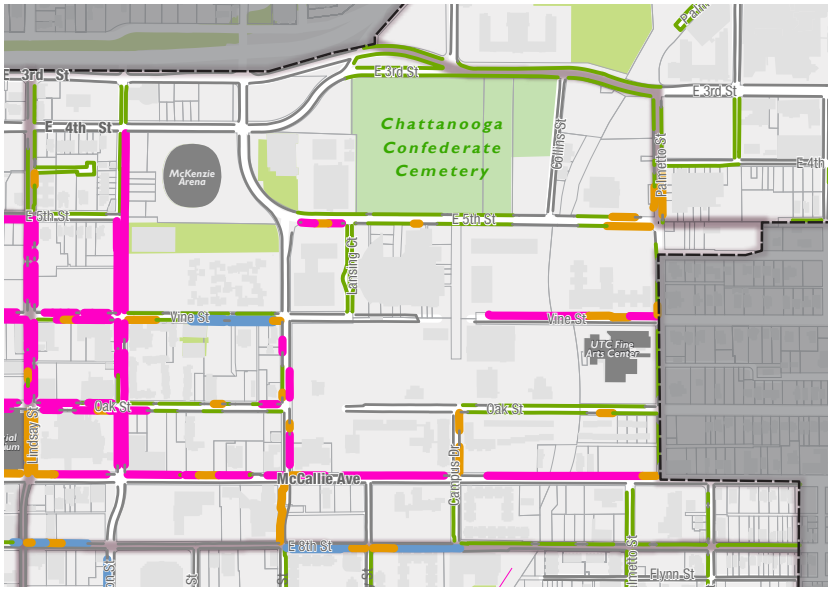
CURRENT CONDITIONS AND OPPORTUNITIES

With limited exceptions on the western edge of the study's UTC subarea, practically all of the parking in this district is permit-based, with individual lots and garages allowed to specific permit holders and parking customers. Some of the University's parking is open to paid public access.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	6,459	100%
ON-STREET	**820**	**13%**
Unregulated	331	40.4%
2-Hour Meters	228	27.8%
No Parking	155	18.9%
Truck and General Loading	28	3.4%
Bus Stop	31	3.8%
Other Regulations	29	3.5%
Time-Restricted, Free	23	2.9%
OFF-STREET	**5,639**	**87%**
Permit/Event Parking	3,953	70.1%
Reserved Spaces	1,226	21.7%
Employees and Customers	342	6.1%
Residents Only	108	1.9%
Other Regulations	10	0.0%

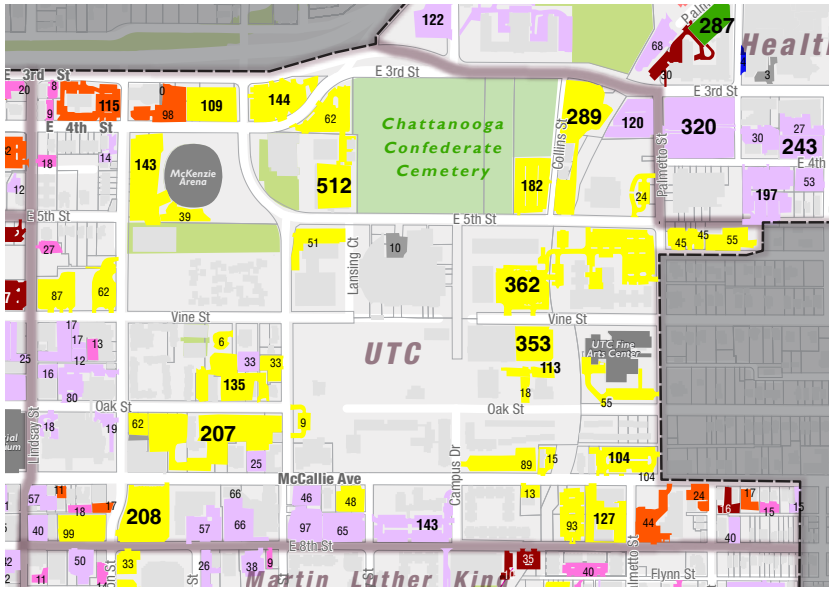
UTC CAMPUS AREA: INVENTORY AND UTILIZATION

ON-STREET PARKING TYPES



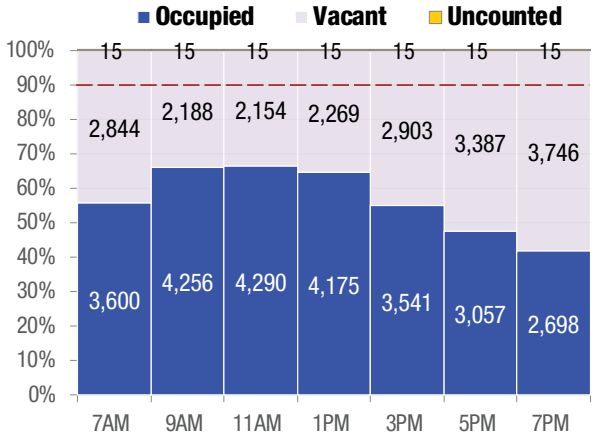
- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

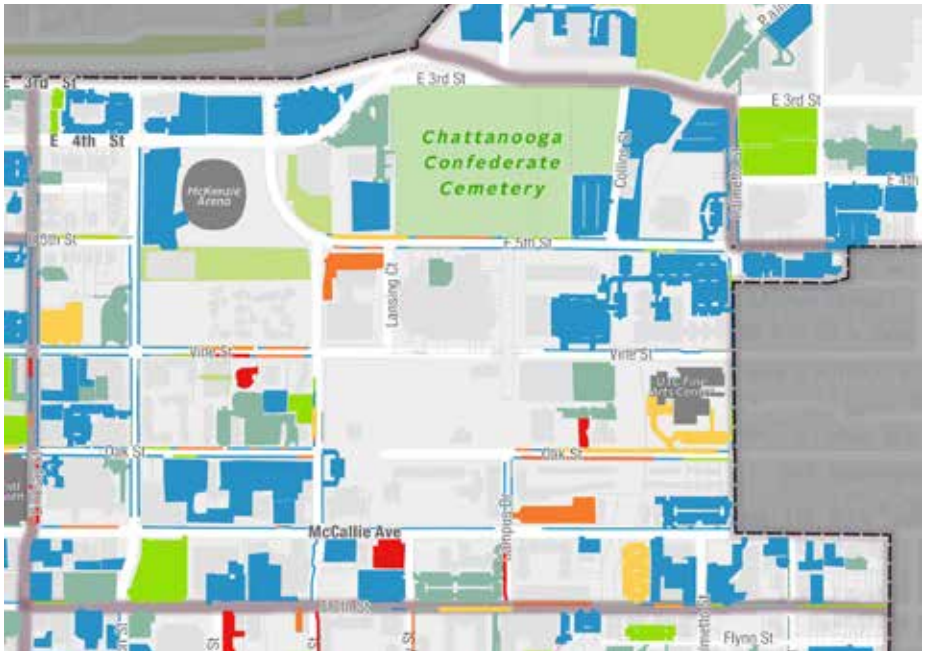
OFF-STREET PARKING TYPES



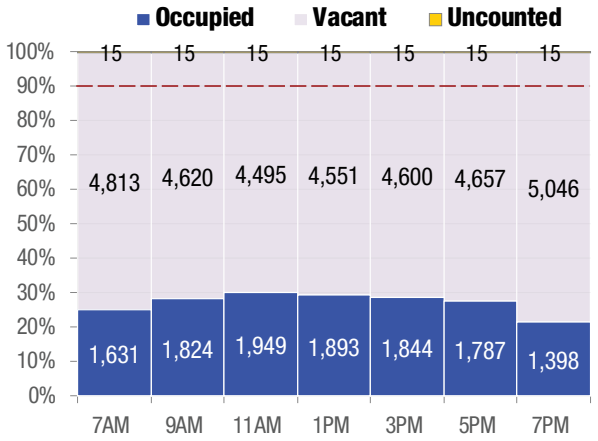
- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

WEEKDAY DEMAND PEAK
9 AM - 1 PM





WEEKEND DEMAND PEAK
11 AM - 1 PM

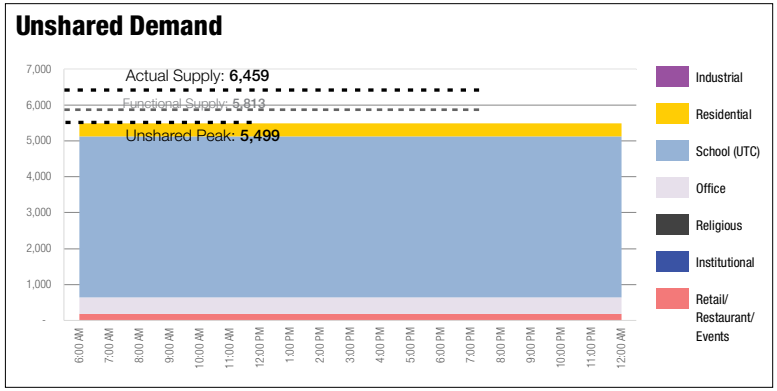


UTC CAMPUS AREA: UTILIZATION AND DEMAND

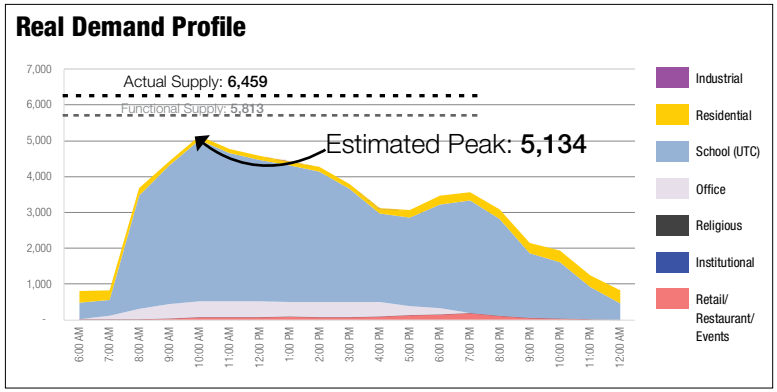
UTC has recently developed a new parking plan (not yet implemented), with a stated goal of efficiently utilizing all available parking spaces. This goal will allow the University to save money in the long-term by using existing spaces rather than building new ones. However, there are additional steps that the University could take to manage its parking demand, especially those building on current relationships it has with CARTA/CPA for universal transit access and with the City of Chattanooga Department of Transportation for continuing to implement a bicycle network.

The University's planned growth to 15,000 students is currently the greatest level of future travel demand represented in the larger study area. Continuing with current trends risks exhausting current parking supply, pointing to a need for strategies beyond simply increasing parking.

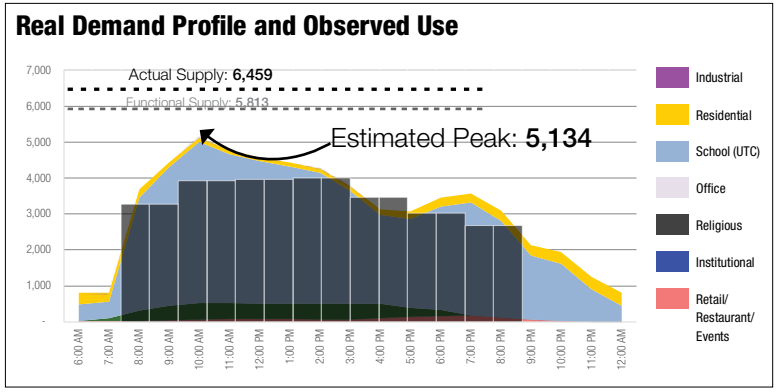
Traditional Analysis



Shared Parking Model



Calibrated Results

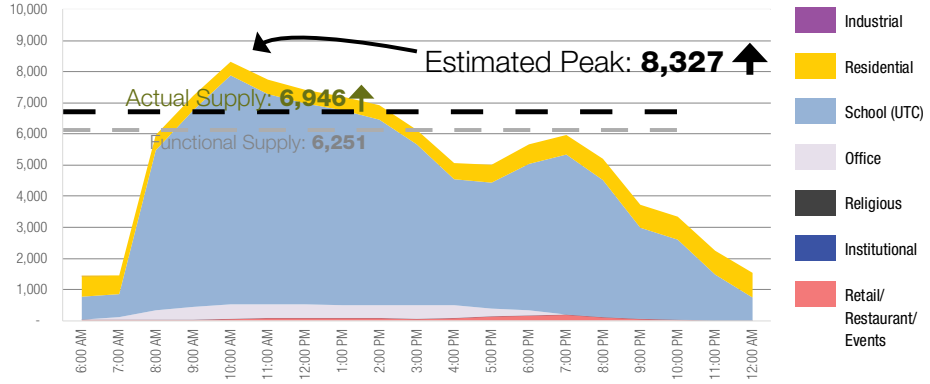


EXISTING LAND USES

Land Use	Square Feet	Unit Est
Residential		
Apartments		250 units
Condos		25 units
Multifamily		25 units
Restaurants and Hospitality		
Restaurant	5,000	
Office		
Office	5,000	
Community Uses		
Churches	394,000	
University		13,600 stud..
Community Center	2,000	
Hospitals and Health		
Medical Office	53,000	
Industrial		
Industrial	9,000	
Other Services	41,000	

LONG-TERM SCENARIO

Real Demand Profile: Long-Term Future Growth



+ 600 student apartments
+ 65% growth in student enrollment

Estimated Parking Supply Change: +487

KEY TAKEAWAYS

» If UTC grows and today's travel trends do not change, the area will experience a parking crunch when school is in session

» There is not enough parking supply in this area to accommodate future demand, even though the area will gain almost 500 parking spaces

» As the bulk of demand comes from one institution in this area, there is significant opportunity for transportation demand management to mitigate parking demand

UTC CAMPUS AREA: RECOMMENDATIONS

UTC1: CAMPUS-WIDE POLICY CHANGES

It is important for UTC to continue considering more assertive policy changes that will help bring about a major shift in driving and parking demand. In 2017, the University developed a working plan that would reassign a large portion of the University's parking supply from reserved spaces to more open commuter access and increase prices on permits to be in line with peer institutions. Although the University has not adopted this plan, it reflects the kind of management strategy that must be considered again in the future as the campus continues to grow.

PARKING PRICING

Foremost among the recommendations from this plan, the University should increase parking pricing to match demand, particularly on-street parking at locations where parking demand is high during the day (e.g. north of 5th Street and south of Oak Street on the eastern part of campus). If demand for these locations is too high, the University should use price to incentivize customers to find cheaper parking outside of this zone.

In addition, the University should continue to explore new methods of increasing pricing for lot and garage parking, similar to its current proposed rate structure for the 2018-19 academic year. Global increases in pricing are seldom popular or easy to implement, but UTC may take different approaches to moving forward with changes, such as:

- Grandfathering current faculty and staff to existing rates but introducing new rates for new faculty and staff
- Designating fewer spaces as reserved and more as allowed for permits of a certain geographic zone, allowing more efficient use of space closer to the heart of campus

USE POLICY AND INFORMATION TO ENCOURAGE CHANGE

Some policy changes can shift travel demand from private car to other modes, including:

- Use a seniority-based system for selling on-campus permits but work with local partners (such as Republic Parking, Finley Stadium, and Erlanger and Siskin Hospitals) to identify locations where more remote parking can be made available, even if only for certain times of the day.
- Promote transit access along 3rd and 4th Streets, McCallie Avenue, and other key corridors to connect to downtown Chattanooga.
- Promote existing CARTA pass program, where a validated UTC ID provides access to all CARTA routes. The University and CARTA already have such a program, but bus ridership on the larger system has not seen substantial increases, and CARTA does not have immediately available ways of tracking the ridership serving the UTC campus as opposed to serving general public travel demand.

UTC2: MOBILITY MANAGEMENT

In addition to the major structural changes discussed in Recommendation UTC1, which focus on price and permits. The University could further manage parking demand and save by investing in systems that allow more rational choice between driving and walking, biking, and taking transit. This would make the most of the mobility options already in place around the campus area and make remote parking a more feasible proposition for commuters.

Recent estimates of per-space costs to construct structured parking in peer cities such as Charlotte, Indianapolis, and Nashville are approximately $17,000.[1] Investing in programs or infrastructure like those described below could reduce the need to take on these kinds of costs by using parking in other areas of the larger study area to meet University parking needs:

SUPPORT BICYCLE USE, BOTH FOR COMMUTING AND SHORT POINT-TO-POINT CAMPUS TRIPS

Investing comparably in bicycle infrastructure (as compared to parking) supports this travel choice as a legitimate alternative to the car, and makes park-once access, especially in off-campus locations, more feasible. These investments may include:

- Expand Chattanooga Bikes bikeshare stations on campus, reaching a national standard of 14 to 20 stations per square mile
- Providing ontinuous bicycle facilities along key corridors, for example building off of the Oak Street spine or completing proposed bicycle connections on Martin Luther King, Jr. Boulevard
- Covered, secure bicycle parking for long-term stays
- Secure, well-lit parking for short-term users in high-profile locations
- Bicycle wayfinding and repair stations at key locations

SUPPORT TRANSIT ACCESS

Improving stop amenities and information will capitalize on UTC's current commitment to give all students free access to CARTA routes. This includes:

- Real-time information displays at bus stops and in key student gathering spaces, and promoting CARTA's Bus Tracker App for real-time bus arrival information
- Other bus stop enhancements such as shelters, lighting, emergency call boxes, trash cans, and benches
- Working with CARTA to increase frequency along key routes that connect student housing to campus (see Recommendation GEN5 under General Recommendations)

EXPAND CARSHARE SERVICES

Car sharing is a low-cost alternative to car ownership, but at a minimum allows students who have found more remote parking to access the UTC campus to have short-term access to a car for a necessary short trip if needed. There is one Green Commuter car located on the western boundary of campus.

UTC should work with existing carshare operators to locate additional vehicles on campus, and then provide memberships at low or no cost to students and faculty/staff.

1 http://www.carlwalker.com/wp-content/uploads/2017/05/2017-Cost-Article.pdf

UTC3: PURSUE SHARING AGREEMENTS TO ACCESS ADDITIONAL SUPPLY

UTC does not have to limit its growth to campus; there may be opportunities to lease office or other active spaces in another subdistrict. For example, an office building downtown that is not fully leased and offers parking could be a good place for UTC to find near-term parking supply to meet its needs.

Even if UTC does not move any operations outside of its campus boundaries, remote parking at underutilized locations may be a good short-term and low-cost option to alleviate parking shortages. Examples include Unum's garages, its Lot C just to the west of the UTC campus, or the surface lots at Finley Stadium, all of which have available parking spaces during the day. Leasing these spaces could generate revenue for current owners and save the university significant funds over building new structured parking.

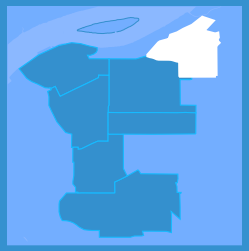
However, as noted previously throughout this report, many spaces that appear to be available are reserved to particular users, and even those open to paid public access are often privately managed through a variety of operators. UTC should take advantage of the extensive local network of management, primarily through CARTA/CPA and Republic Parking, to develop a parking clearinghouse for members of the UTC community who wish to make their own parking arrangements. This encourages these UTC parking customers to select parking options off-campus and use the mobility options of Recommendation UTC2 to make the last-mile connection to reach campus destinations, thus reducing the pressure on campus spaces.

UTC4: PURSUE NEIGHBOR SHARING AGREEMENTS FOR UNDERUTILIZED UTC RESOURCES

The converse of UTC3 is also an important recommendation, particularly for other districts in the larger study area: some UTC facilities have availability at certain times of the day or week, particularly on the nights and weekends, and should be made available to augment nearby public supply. For example, the growing MLK retail and restaurant district to the south would greatly benefit from additional publicly accessible supply (see the Findings discussion of that subarea's section of this report), and some UTC-owned lots are convenient to that district—in fact, located within its boundaries for purposes of this study.

The University should refine management proposals for campus spaces to prioritize these 'fringe' lots and garages for shared public (non-University) use in evenings and weekends, understanding through ongoing utilization counts which lots and garages are best suited for sharing based on parking patterns. This involves the following:

- Setting time limits on these parking facilities so that university users free up their spaces by certain hours
- Engaging a third-party operator to run these lots for use by the general public during times when they are not restricted to UTC permit-holders
- Establishing a revenue sharing agreement with this third-party operator to help provide funding for other recommendations of the study, especially those in UTC2.



HEALTH AND EDUCATION

- Both the Erlanger Health Center and the Siskin Hospital for Physical Rehabilitation have medium-term expansion plans. Erlanger's plans include the loss of some parking facilities, while Siskin's intensify uses in existing buildings.
- Together, these expansion plans will strain existing parking if existing conditions continue.
- Erlanger and Siskin's proximity and similarities in travel patterns and needs should be an advantage to help coordinate mobility in this district.

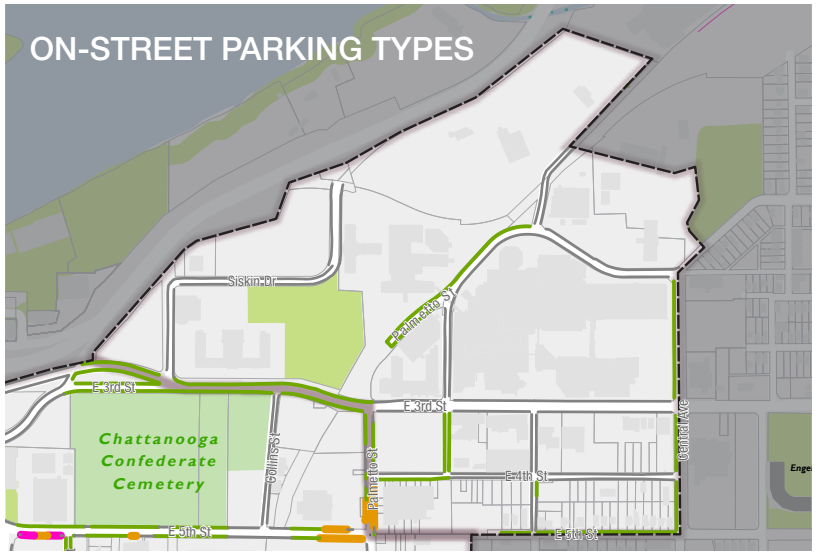
CURRENT CONDITIONS AND OPPORTUNITIES

As a major employment center on the eastern edge of downtown, this area has significant off-street parking supply and almost no on-street spaces. The demand in these facilities reflects shift-based employment hours; many facilities are full or close to full early in a weekday and significant availability exists at other times.

Parking Facility Type	Number of Spaces	Percentage of Spaces
TOTAL SPACES	5,126	100%
ON-STREET	**62**	**1%**
Unregulated	34	54.8%
No Parking	22	35.5%
Bus Stop	6	9.7%
OFF-STREET	**5,064**	**99%**
Open to the Public	2,771	54.7%
Reserved Spaces	1,546	30.5
Customers Only	274	5.4
Employees and Customers	148	2.9%
Employees Only	142	2.8%
Valet Parking	97	1.9%
Permit/Event Parking	52	1.0%
Other Regulations	34	0.7%

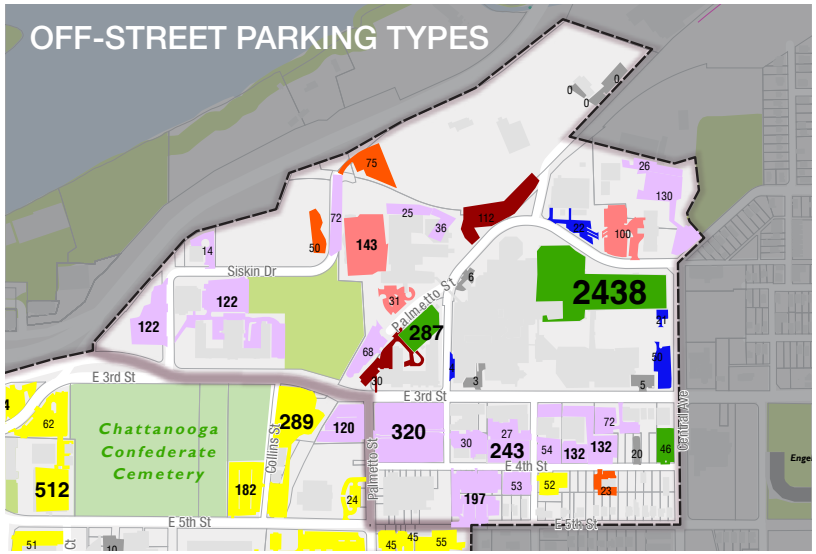
HEALTH AND ED: INVENTORY AND UTILIZATION

Because of the hospitals' large building footprints and their focus on their own parking facilities, there is relatively little on-street parking in the subarea.



- No Parking
- Free, Unregulated
- Free, 30 Min Parking
- Free, 1Hr Parking
- Free, 2 Hour Parking
- Free, Restricted Use
- Metered, 15 Min Meters
- Metered, 2 Hour Parking
- Metered, 4 Hour Parking

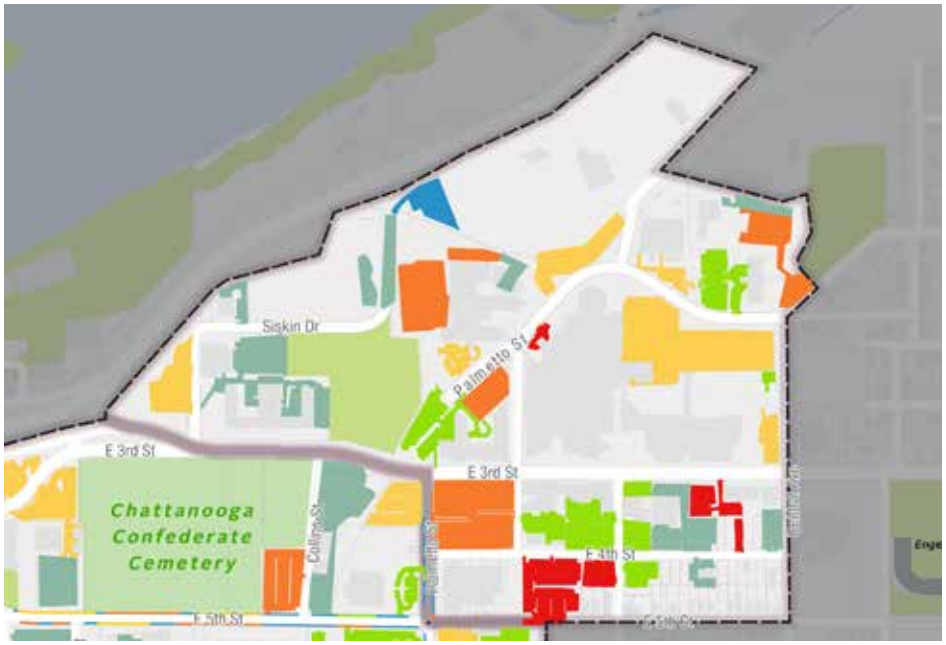
Even within the subarea's off-street parking, most of the supply is concentrated in Erlanger's large parking garage connected to the main hospital buildings. At the time of completion of the study, the subarea's second-largest facility, Erlanger's 320-space surface lot south of 3rd Street and east of Palmetto Street, had been closed for construction of the new Erlanger Children's Hospital expansion.



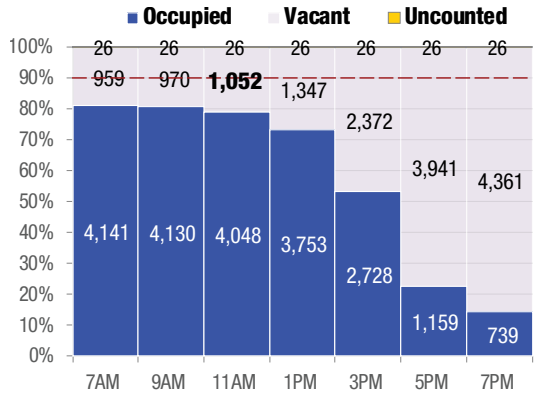
- Employees Only
- Employees and Customers
- Customers / Guests Only
- Permit & Event Parking
- Reserved
- Residence Only
- Valet
- Open / Public

Parking Utilization

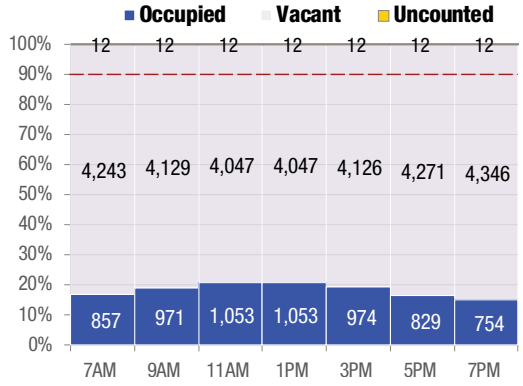
Over 100%
90% - 100%
80% - 90%
60% - 80%
30% - 60%
0% - 30%



WEEKDAY DEMAND PEAK
7 AM - 11 AM



WEEKEND DEMAND PEAK
11 AM - 3 PM



HEALTH AND ED: UTILIZATION AND DEMAND

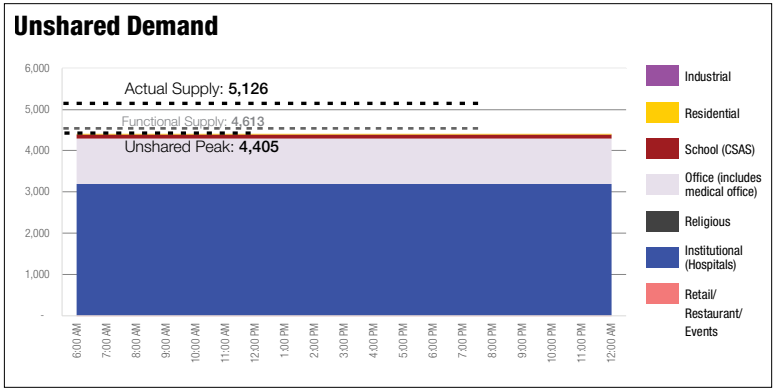
Inconsistent parking policies, however, may drive some of this demand. Parking is free for employees at both Siskin and Erlanger, although anecdotally, some employees at Erlanger will pay $1 to park in the patient/visitor parking because it is more desirable. This shows that paid parking could be viable in this district.

Siskin and Erlanger are both spending a lot of money to solve parking challenges, either through leases or future planning. This policy choice is essentially subsidizing driving for employees, patients, and visitors, making it the most convenient option

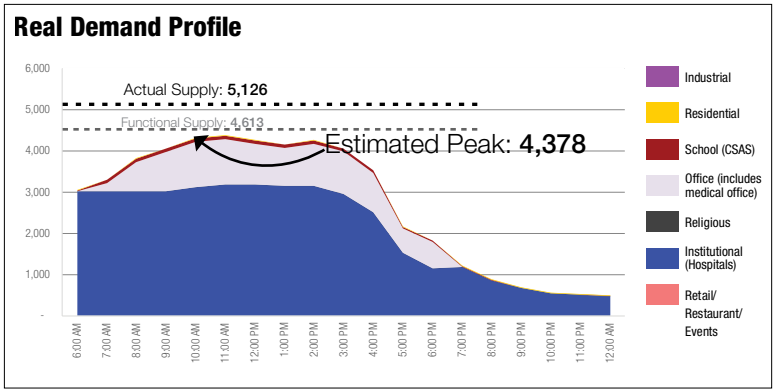
There is opportunity for this district to accommodate more parking and serve the needs of other parts of downtown, although not all of these districts are immediately adjacent to City Center North. This points to additional mobility options to provide seamless connections, especially to the Health and Education district and the UTC campus.

In particular, Unum's two parking garages between 4th and 5th streets offer a greater inventory of unused parking than any other single facilities in the study area. With controlled entries and internal organization of these garages that facilitates reserving certain areas, these garages represent an opportunity to satisfy other districts' near-term needs.

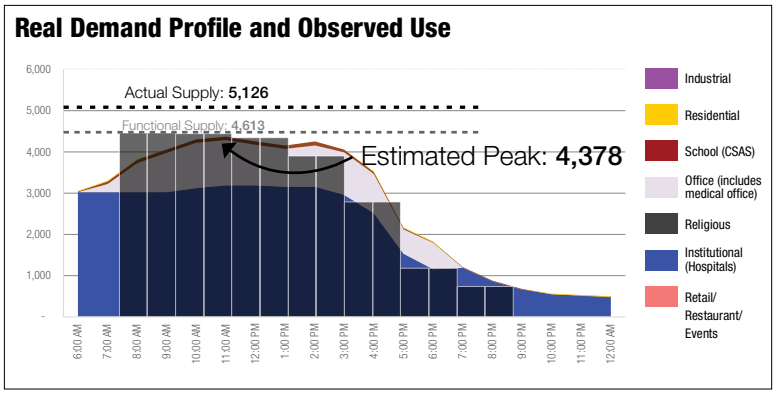
Traditional Analysis



Shared Parking Model



Calibrated Results

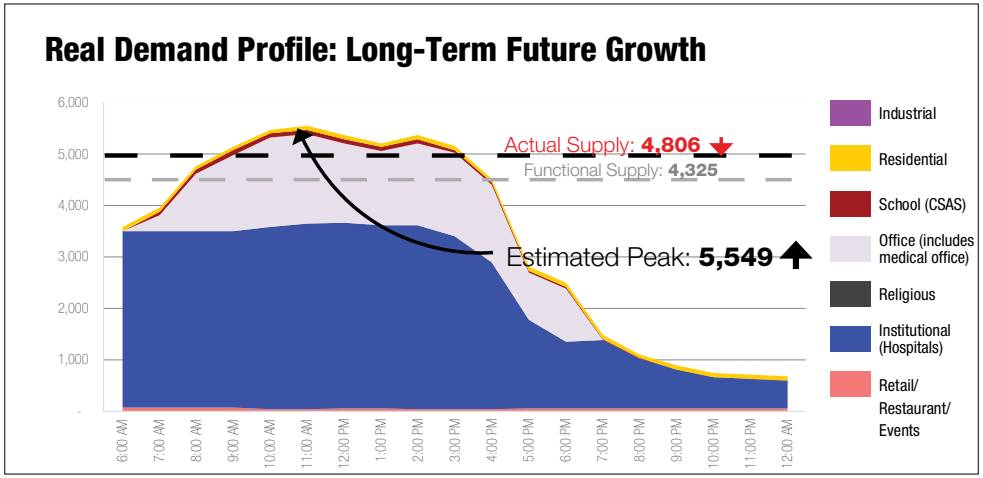


EXISTING LAND USES

Land Use	Square Feet	Unit Est
Residential		
Multifamily		10 units
Office		
Bank	2,000	
Office	65,000	
Community Uses		
Churches	2,000	
Hospitals and Health		
Hospital		710 beds
Medical Office	295,000	

Note: Table does not include single family homes. These are assumed to be self-parked.

LONG-TERM SCENARIO



+ 200,000 sf medical office
+ 40,000 sf retail
+ 50 apartments
+ 10 new outpatients/5 new daily staff at Siskin
+ 20% increase in patient activity at Children's
+ 100 hotel rooms

Estimated Parking Supply Change: -320

KEY TAKEAWAYS

» Expected growth will exceed supply if hospitals in this area expand as outlined above

» The bulk of future parking demand will come from hospitals, indicating that parking solutions need to be tailored to a medical environment

HEALTH AND ED: RECOMMENDATIONS

HED1: COORDINATION AND DISTRICT MANAGEMENT

Coordinating on a regular basis can help Siskin, Erlanger, the Hamilton County Health Department, and UTC grow efficiently. Treating parking as a joint resource, even if each institution must continue to make exclusive use of large parts of the parking supply, will allow the district to achieve the following important mobility management strategies:

- Through regular meetings and strategies, the group can identify common goals and top priorities to meet those goals.
- Take a systematic approach to working with entities such as the City or CARTA/CPA to advocate for investment.
- Provide common TDM options, such as pooling money to make transit passes available, advocating for and/or contributing to improved CARTA routing, or creating an incentive program for those who bike, take transit, or carpool to work.
- Structuring parking management for both patients and commuters that is consistent and clear. For example, a combination of enforcement and coordinating pricing will reduce employee parking in valuable visitor spaces.

HED2: CSAS SHARED PARKING GARAGE

River City Company has led discussions of a group of downtown stakeholders focused on a potential new parking garage at the Chattanooga School for Arts and Sciences campus between 3rd Street and Siskin Drive. Preliminary concepts and cost estimates for this garage have proposed a 1,700-space garage on the current location of the school's athletic fields; the garage would be constructed to allow a new field and bleachers to be constructed on its roof.

The study recommends continuing to pursue this concept, which would offer the most immediate benefit to Siskin and Erlanger hospitals by providing much-needed additional supply. However, the location of the garage also positions it to serve the UTC campus (particularly the future Health Sciences building), the Hamilton County Health Department, and CSAS itself. Coupled with increased transit services on the 3rd Street corridor as discussed in previous recommendations (see recommendations CCN3 and HED5), this garage could serve as a large overflow facility for downtown or UTC-related event parking in the evening and weekend periods when its primary users are not present.

HED3: UNDERSTAND TRUE DEMAND

The concentration of employment in the Health & Ed district and the consistency of peak use throughout a relatively long period of the day suggests that even with more parking to support new growth in the subarea, similar problems would be experienced in the future. Both Erlanger and Siskin hospitals have growth ambitions that could exhaust new parking supplies that the area could conceivably add, such as through the CSAS garage.

Before making such a large investment, it is critical for all major partners to take full evaluations of parking need and understand the weaknesses in their current systems. This involves surveying current employees, assessing potential for ridesharing, non-driving commutes, and other ways of managing demand, and enforcing policies on where both employees and visitors can park.

HED4: REDUCE PARKING SUBSIDIES FOR COMMUTERS

Adjusting the system so that parking is no longer provided for free or at a heavily subsidized rate will encourage people to rethink their mobility choices. It will also create a revenue stream that can eventually fund additional mobility improvements, whether additional parking supply, transit access, or bicycle infrastructure. The ability to use this funding for transit is a central component of recommendation HED5, discussed in the following section.

HED5: 3RD STREET TRANSIT CONNECTIONS

Many landowners, employers, campus administrators, etc. present transportation options as part of a package of perks or benefits. For example, providing showers, a locker room, and a bicycle repair station in an office can help attract and support employees who want to ride to work. Meanwhile, having parking available on site for those who want or need to pay for it is similarly a benefit that could help attract potential tenants.

Rather than viewing parking as a requirement to leasing space, building owners should market available parking as a benefit together with the area's other amenities such as frequent CARTA service (Route 9, Route 1, and other CARTA routes provide frequent service together along Market Street). Carter Street and West 11th Street offer a designated bicycle route into the district, and employers can capitalize on this by providing bicycle amenities on site.

This is discussed in detail with recommendation CCN3, and that recommendation envisions that private partners in the 3rd Street corridor, especially Erlanger Hospital, might be able to contribute revenue through their own means. At Erlanger, this should include revised pricing to raise additional revenue, which can be used to offset the costs of increased shuttle service on 3rd Street.

For more information, see recommendation GEN5 on page 38.