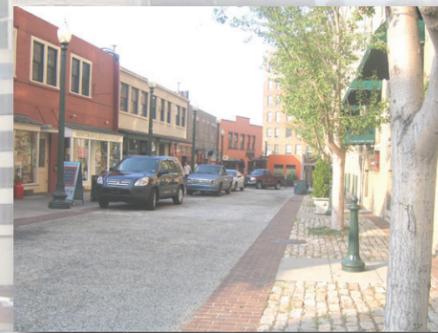


Final Report

City of Asheville Comprehensive Parking Study



Prepared for:



Prepared by:



**Kimley-Horn
and Associates, Inc.**

May 2008

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Introduction

The City of Asheville, with the assistance of Kimley-Horn and Associates, has developed a Comprehensive Parking Study intended to address existing and future parking deficiencies in its downtown core. This study is an update of a previous study, performed in 1998. The previous study outlined many improvements and strategies the City should employ to improve its parking system. This study intends to determine the current state of parking in the downtown with these improvements in place, and provide a new set of recommendations to help the City continue to provide exceptional parking services to its citizens and guests.

This study will review publicly perceived deficiencies discussed during two public involvement sessions, existing deficiencies determined during a thorough field review, parking demand deficiencies determined through the use of an innovative parking model designed specifically for the City, operational deficiencies, and financial deficiencies determined through a review of previously collected financial data. Finally, this report will present recommendations intended to improve these deficiencies and help the City prepare for projected growth and expansion.

Asheville

Nestled high in the mountains of scenic western North Carolina, the land that would become Asheville originally was settled by Cherokee Indians attracted to the fertile lands at the confluence of the French Broad and Swannanoa Rivers. Explorers first arrived in the mid-16th Century and soon began trading with the Native Americans.

Population grew as settlers arrived in the area, and the town of Asheville incorporated in 1797 with a population of about 1,000. By the mid 1800s, the town's population had more than doubled to 2,500. As the transportation network surrounding Asheville expanded, the City earned a reputation throughout the Southeast as a resort destination and large crowds began flocking to this unique and charming community. By the late 1800s, the railroad had connected Asheville to more of the country, and the seasonal population swelled to nearly 30,000 people.

The scenic countryside attracted even the wealthiest of people to the area. The 175,000 square foot Biltmore House – constructed in the late 1800s by the Vanderbilt family – was the largest undertaking of its kind and continues to be the largest home in America. The estate was permanently opened to the public in 1956, and with an estimated one million people



Eagle Hotel in Asheville, circa 1880
(courtesy Pack Memorial Library)



Asheville, circa 1929
(courtesy Pack Memorial Library)



Present day Asheville

visiting the house each year, remains the largest tourist attraction in the City.

Asheville continued to thrive in the early 1900s, experiencing unprecedented growth. However, the Great Depression hit Asheville especially hard, and the City had the highest per capita debt in the nation. Community leaders vowed to pay off every penny owed, and the City struggled with financial burdens until 1977. The City faced a period of slow growth from the end of the depression to the beginning of the 1980s.

Times have changed and today Asheville is flourishing as development and redevelopment occurs throughout the downtown. The current population in Asheville is estimated to be more than 70,000, with millions of additional visitors each year. Live music, conventions, arts, and unique shopping draw residents and tourists Downtown throughout the year. These same visitors have impacted the way people move around the downtown area. As the City continues to grow, it is important to consider how these changes affect daily life for both residents and tourists. The City of Asheville Comprehensive Parking Study represents one of the many ways the City has shown its commitment to plan for its future while maintaining the historic charm that attracts new residents and visitors.

Study Area

The study area for this analysis matches exactly the extents of the previous study. The boundaries include Interstate 240 to the north, Charlotte Street to the east, and Southside Avenue to the South. The western border consists of Asheland Avenue north from Southside Avenue to Hilliard Avenue, Hilliard Avenue west from Asheland Avenue to French Broad Avenue, and French Broad Avenue north to Haywood Street. This study area represents the heart of downtown Asheville, containing a multitude of land uses—including residential, commercial, office, restaurants, entertainment, and cultural.

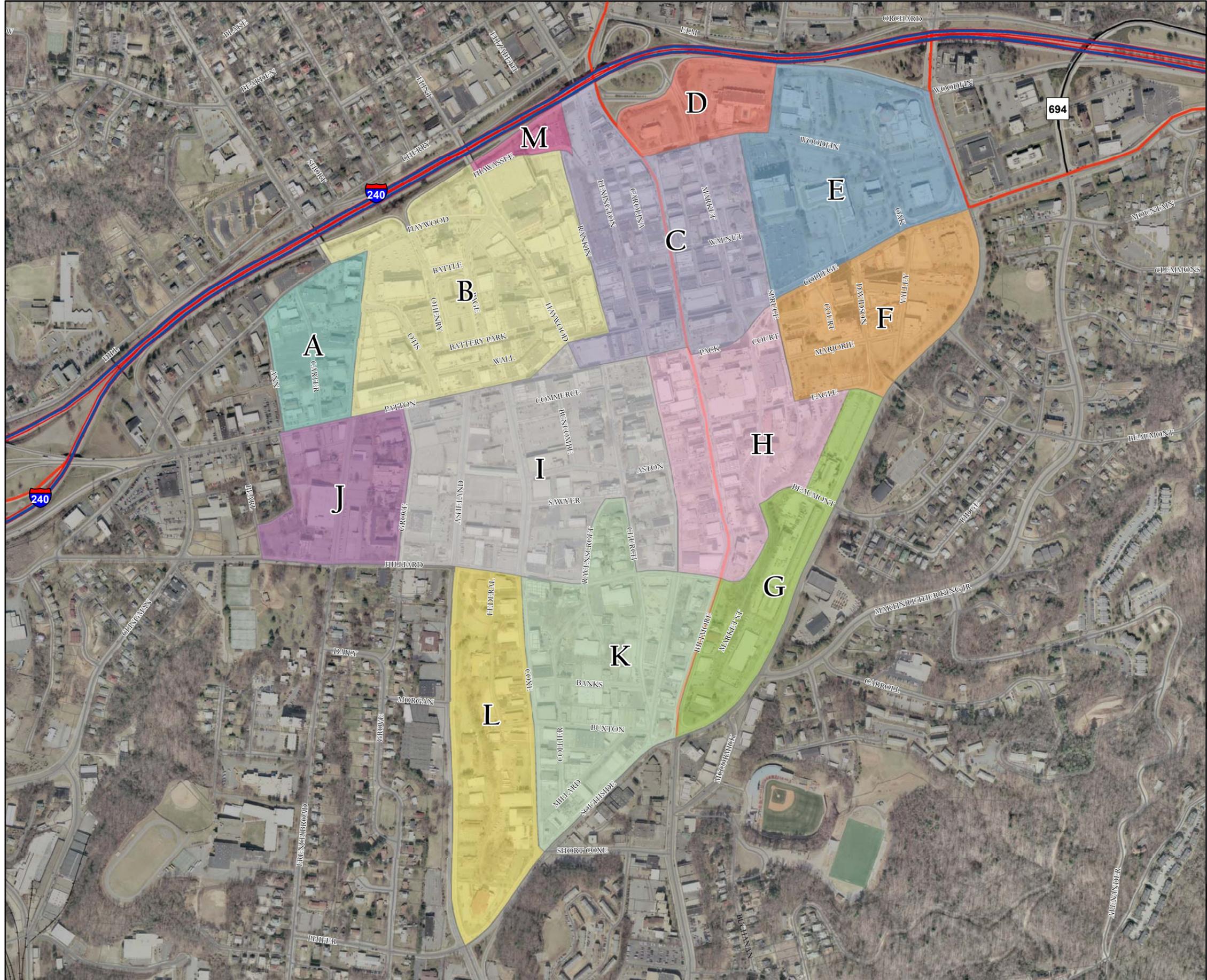
For the purposes of this analysis, the study area was divided into thirteen parking analysis zones. These zones represent areas of differing land use that typically complement each other. For example, Zone B, which contains the Grove Arcade, is mostly commercial and restaurants, with some residential and office. Zone I, which is located around Coxe Avenue and Asheland Avenue, is primarily office, with some commercial uses. It should be noted that these zones are scaled so that they can be considered walkable by the average pedestrian. Typical walking tolerances in urban design studies range from 500 feet to a quarter mile. With that in mind, the zones are sized such that the parking facilities within the zone will serve the destinations located within this walking tolerance.

The parking analysis zones were structured exactly the same as the previous study. The purpose was to identify changes in parking demand and supply since the previous study. Throughout this report, surpluses and deficits will be identified based on the corresponding zone. The existing and future parking capacities are identified by these analysis zones. Recommendations may even be tailored to counteract specific zonal deficits. However, it should be noted that the parking analysis zones are not viewed as independent of one another. Parking demands across the zonal boundaries were evaluated and the sharing of spaces between zones was instrumental in determining the overall demand.

Figure 1 shows the study area and the parking analysis zones. Subsequent figures throughout the report will be presented in this format, with information documented based on parking analysis zone.

City of Asheville Comprehensive Parking Study

Figure 1 - Parking Analysis Zones



- Zone A
- Zone B
- Zone C
- Zone D
- Zone E
- Zone F
- Zone G
- Zone H
- Zone I
- Zone J
- Zone K
- Zone L
- Zone M
- Parcels
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads



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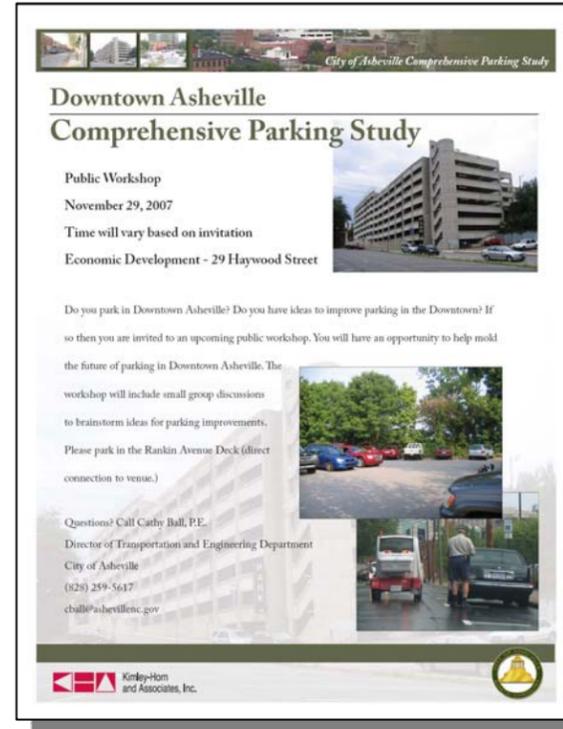
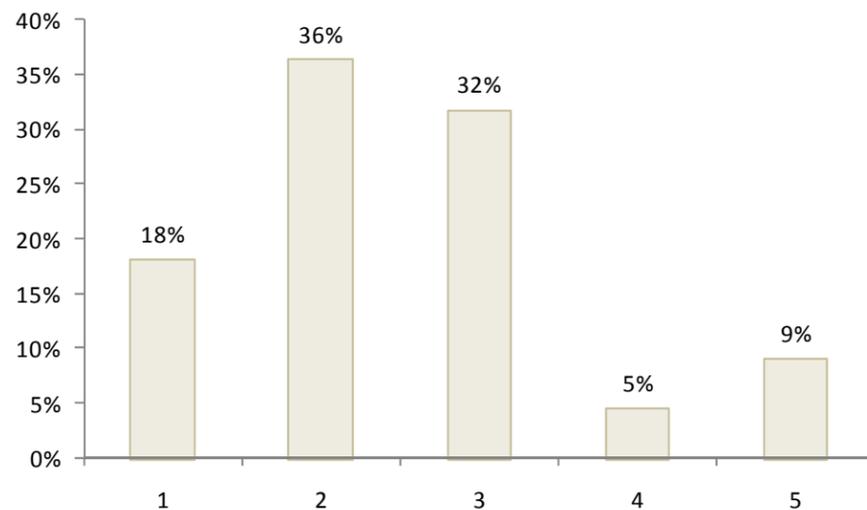
Public Involvement

Two public workshops were held in conjunction with this project to gather input on existing issues and problem areas and discuss potential recommendations. The public involvement process offered a diversity of opinions from residents, business owners, and local stakeholders. The goal of the public involvement portion of the project was to provide the public a forum to voice their opinions about the existing parking system and help formulate ideas to improve the existing deficiencies.

Public workshop #1 was held on November 29, 2007 at the Office of Economic Development in downtown Asheville. The workshop was structured to enable stakeholders and concerned citizens to comment on sections of the community in an open format, with candid discussions and small group breakout sessions to discuss specific issues and identify locations for improvement. The workshop was broken into five sessions, focused on different parking analysis zones. The sessions were Zones A, B, and M; Zones C, D, and E; Zones F, G, and H; Zones I and J; and Zones K and L.

There were over 50 people who attended workshop #1. Each attendee was asked to take a quick survey to rate the existing parking system and provide input on potential recommendations. The results of the survey are as follows.

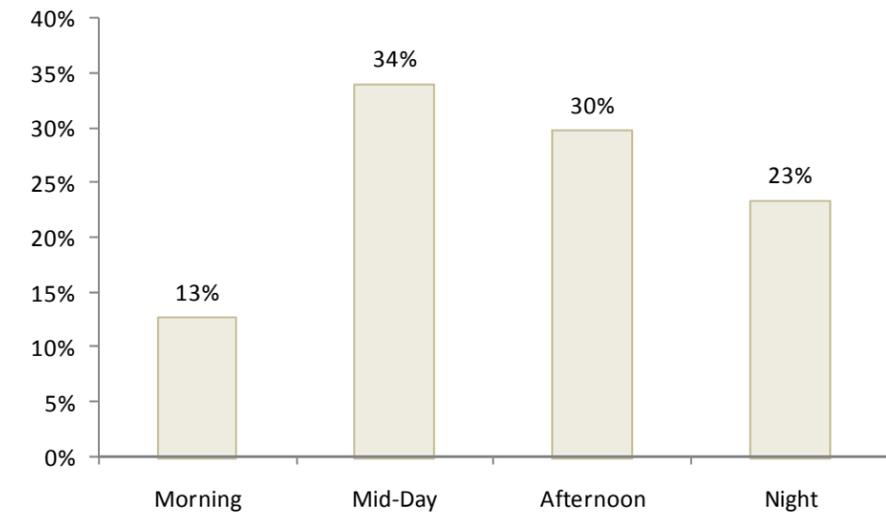
- On a scale of 1 to 5 (with 5 being best), how would you rate public parking downtown Asheville?



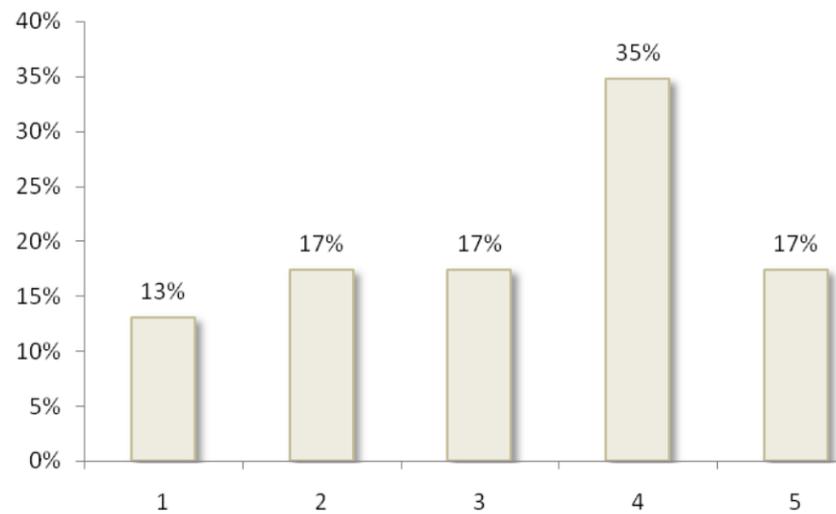
- Where do you experience the biggest problems?

- Grove Arcade and around the Civic Center during events
- Biltmore Avenue, Pack Square, and Patton Avenue
- The entire downtown
- Grove Street
- Battery Park
- North Market Street
- Rankin Avenue Garage

- What time of day is typically worst?



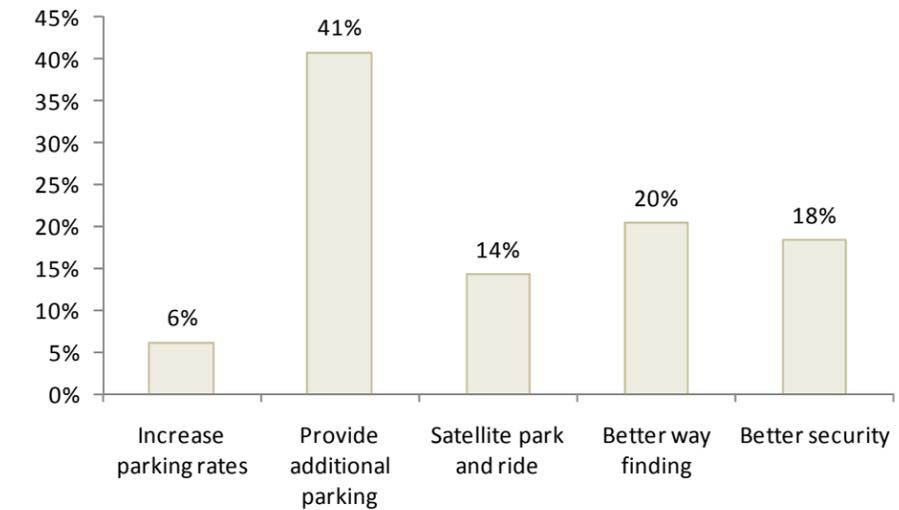
On a scale of 1 to 5 (with 5 being the best), how would you rate parking enforcement in downtown Asheville?



What additional problems can you identify with parking in downtown?

- Shared parking should be encouraged to ensure that empty spaces don't sit unused
- Not quite enough spaces for handicapped parkers
- Lack of free parking
- Too much metered parking
- Spaces are not always available for residents and tourists
- Unclear where/when parking is public, wayfinding to garages needs to be improved
- New construction should address parking before building
- Enforcement is a problem on private property
- Should encourage more owners to use the Civic Center garage

What solutions would you support to enhance parking in downtown Asheville? (Multiple answers per respondent)



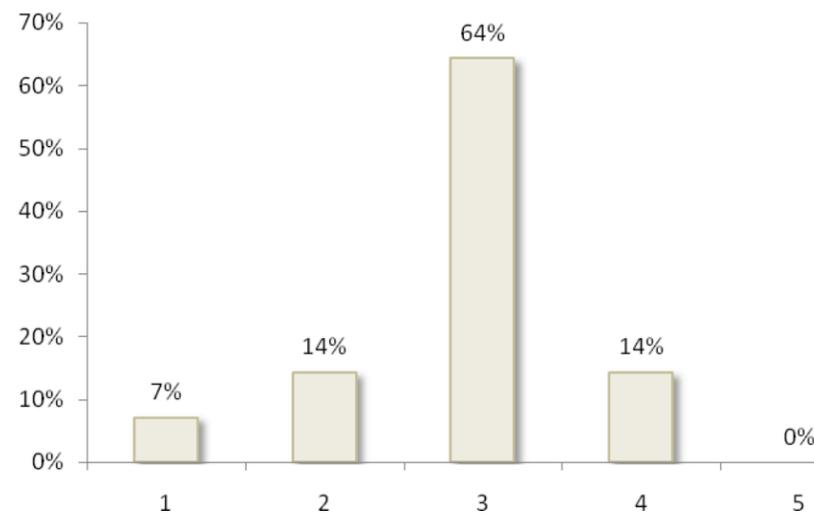
What additional solutions would you like to see considered?

- Coordinate private lots to be more efficiently utilized
- Downtown transit system with short wait times
- Promote alternate modes of transportation
- Parking structure between Rankin Avenue and Lexington Avenue
- One way streets to provide more on-street parking
- Open private lots on nights and weekends
- Longer hours and greater frequency of public transportation
- Require developers to provide enough parking to service the new development

Public workshop #2 was held on January 30, 2008 at Public Works in downtown Asheville. The workshop was held to provide the results of the parking analysis and provide preliminary recommendations. A short presentation was followed by a question and answer session intended to allow the public to provide feedback and concerns related to the parking study.

There were approximately 45 people in attendance for workshop #2. Each attendee was asked to take a quick survey to rate the existing parking system and provide input on potential recommendations. The results of the survey are as follows.

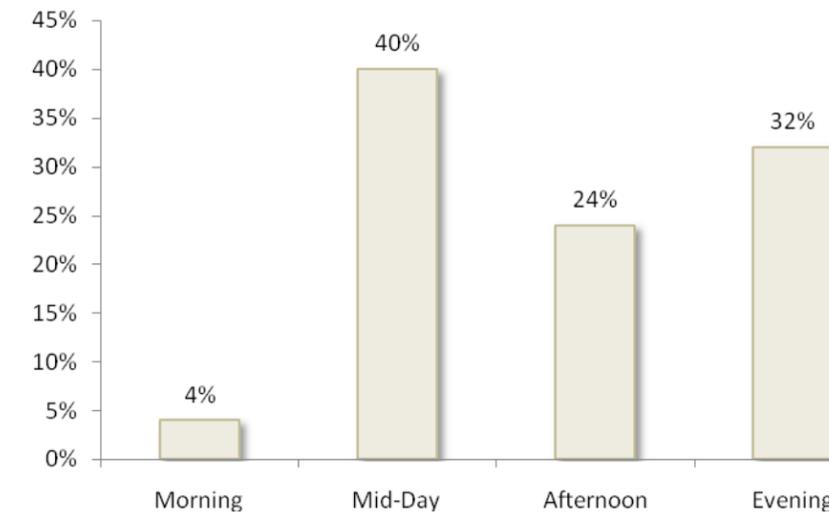
▪ **On a scale of 1 to 5 (with 5 being best), how would you rate public parking downtown Asheville?**



▪ **Where do you experience the biggest problems?**

- Grove Arcade
- Civic Center
- Lexington Avenue
- College Street/Patton Avenue
- Battery Hill
- Pack Square
- Handicapped parking
- Loading zones

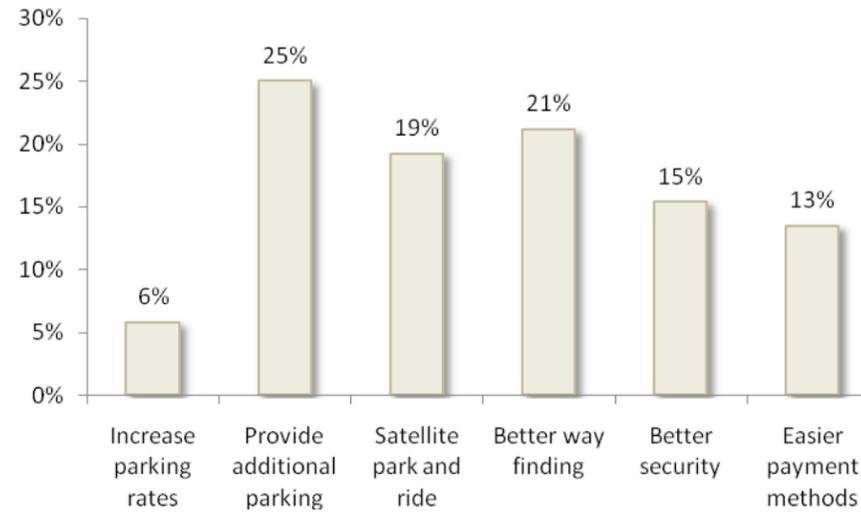
▪ **What time of day is typically worst?**



▪ **What additional problems can you identify with parking in downtown?**

- Security in Civic Center garage is lacking
- Loading zone parking
- Motorcycles park on the sidewalk
- City needs to promote alternative transportation modes
- Not enough handicapped parking
- Special event parking
- Employees should park in garages and free up valuable on-street spaces
- Wayfinding to parking is lacking
- Federal employees should park in the federal lot
- Parking enforcement is lacking

▪ **What solutions would you support to enhance parking in downtown Asheville?**



▪ **What additional solutions would you like to see considered?**

- Multi-modal solutions to reduce vehicle demand
- Better enforcement of loading zones
- Build new parking lots or garages
- Allow business owners to reserve spaces close to their businesses for customers
- Wayfinding to available parking
- Think green
- Better security
- Business permits for employees
- Make permit parking affordable

Conclusion

The goal of the public involvement phase of this study was to engage the downtown community and determine the perceived parking deficiencies in the study area. Public workshop #1 was intended to introduce the study to the community and identify issues with input from the actual parking user. The results of that workshop showed that there is a parking problem in the downtown. Most attendees admitted that they had difficulty finding parking at times, and that a visitor to the downtown may have harder times without the knowledge that a resident might have. Issues identified included lack of available free parking, wayfinding to available parking, and shared parking between uses. Potential solutions identified during public workshop #1 included coordinating private lots for more public parking, park and ride systems, new parking facilities, and amending City code to require developers to provide parking for new residences.

Public workshop #2 was intended to provide the results of the study and potential solutions to the downtown community, as well as receive feedback concerning the potential solutions. The attendees included business owners, politicians, residents, and employees who all use the downtown in various ways. Attendees identified on-street parking enforcement and hours of operation, off-street parking availability, multimodal transportation, and funding as problematic areas. Potential solutions identified included providing better security, loading zone enforcement, better management of special event parking, and improved wayfinding.

Overall, the input and ideas provided by the public during these sessions was used throughout this study to validate the analyses and develop potential recommendations. The lessons learned at these workshops provided the foundation for this study, and the strategies and solutions outlined in the report are intended to address the issues identified by the public.



Existing Conditions

Before determining the overall parking demand in downtown, it is important to understand the existing parking supply and how it operates. A thorough review of the existing parking supply was conducted based on data provided by the City of Asheville. Field data collection was conducted from August 22 to August 27, 2007. The data collected during this time period was used to identify parking occupancy, on-street parking turnover, and existing parking facility characteristics. The following sections document the existing conditions analysis.

Existing Parking Inventory

Overall, there are 11,889 public and private parking spaces available in downtown Asheville. **Table 1** provides a breakdown of parking by zone. Zone B, which contains the Grove Arcade, has the highest number of available parking spaces—partly because three of the six parking garages are located within the zone, accounting for 1,044 spaces. Zones E and I have the next highest total of parking spaces. These zones both primarily contain office and government office land uses, as well as numerous churches. All of these land uses require a large amount of parking for workers and patrons. Zones C and H also have a large number of available spaces, principally intended to provide for the retail, restaurant, and office land uses that dominate these zones. **Figure 2** shows the location and type of off-street and on-street parking within the study area.

Zone	Parking Garage	Surface Lot	On-Street Parking	Total
A	0	613	2	614
B	1,044	1,060	291	2,185
C	340	845	262	1,447
D	0	285	6	291
E	700	762	77	1,539
F	0	699	107	806
G	0	235	0	235
H	335	506	205	1,046
I	0	1,548	161	1,709
J	0	527	4	531
K	0	615	66	681
L	0	536	10	546
M	0	37	11	48
Total	2,419	8,268	1,202	11,889

The existing parking supply in Asheville consists of a mixture of on-street and off-street parking facilities. The on-street facilities include metered, non-metered, permit only, handicapped, and loading zone designated spaces. **Table 2** provides a breakdown of on-street parking spaces. The majority of spaces, approximately 62 percent of the total on-street supply, in downtown are metered. Permitted spaces make up approximately 17 percent of the total supply. Other spaces (which include un-metered spaces, city/county restricted spaces, and undefined spaces) account for 11 percent of the total

supply. Loading Zones account for six percent of the total supply, and Handicapped spaces account for the remaining four percent of the total supply.

Type	Spaces
Metered Parking	743
Permit	208
Other ¹	125
Loading Zone	74
Handicapped	52
Total	1,202

Off-street spaces are either surface lots or parking structures. There are a total of 10,687 off-street spaces within the study area. Surface lots, with 8,058 total spaces, make up 77 percent of that total. Surface lots are spread throughout the study area and serve a variety of purposes. Some lots are reserved for adjacent businesses and establishments, and parking is restricted to patrons only. Some lots are reserved predominantly for monthly parkers, with public parking strictly prohibited.

There are a handful of public lots located throughout the study area. These lots provide public parking to areas of high demand such as Biltmore Avenue, Lexington Avenue, and the Grove Arcade. Each lot is set up so that patrons can park for either an hourly fee or a flat rate. The following photos show the various pay-by-space technologies utilized throughout the study area.



A) Lexington Village Parking Lot, pay-by-space station, also attended by guard during weekends.



B) Lexington Station Parking Lot, credit card pay-by-space station that accepts cash and credit cards

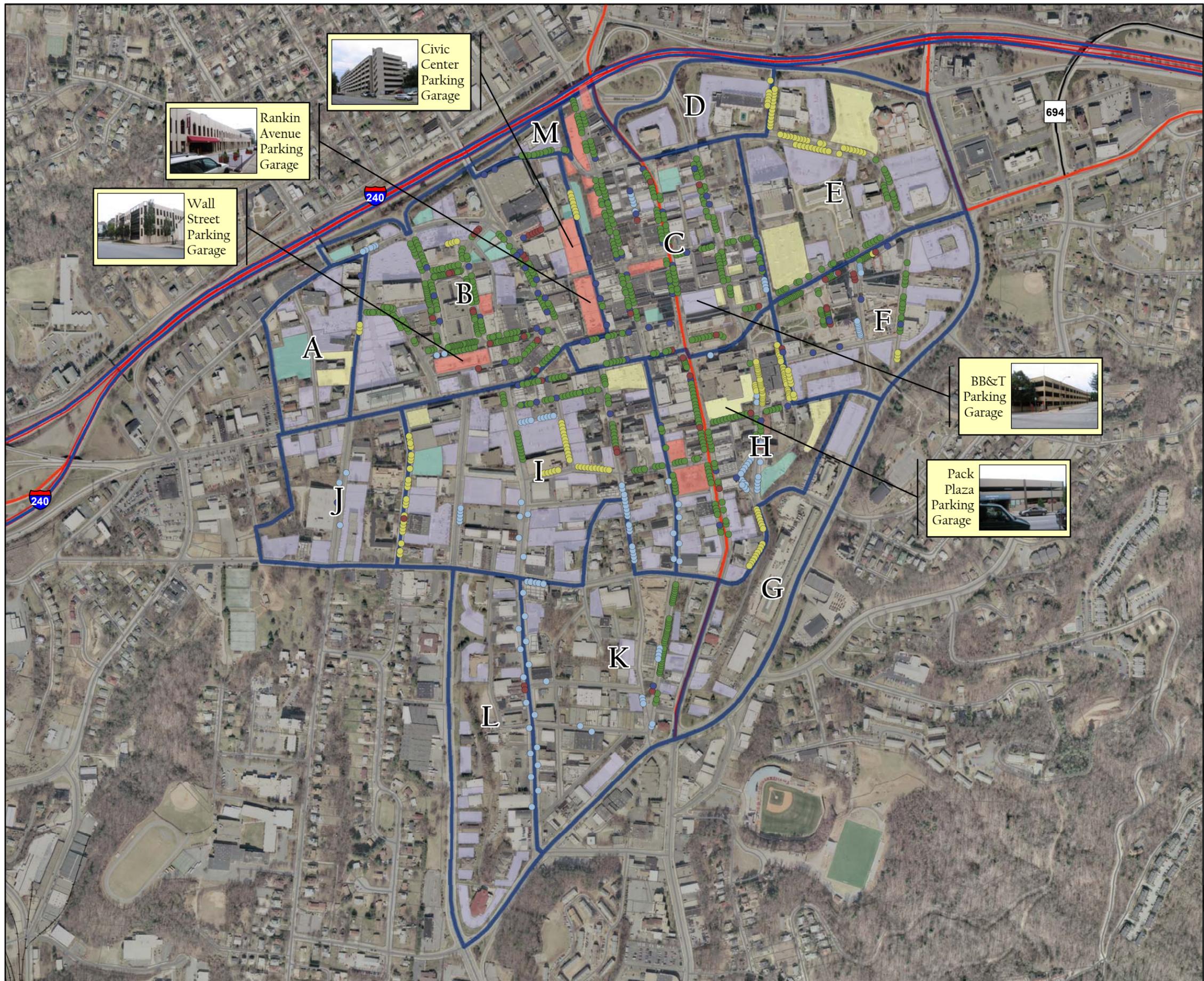


C) Cash only pay-by-space station

¹ Other on-street parking includes unmetered spaces, spaces reserved for city and county officials, bus loading, and undefined spaces.

City of Asheville Comprehensive Parking Study

Figure 2 - Existing Parking Facilities



Off-Street Parking

- Public
- Shared
- Monthly
- Private

On Street Parking

- Handicap
- Loading Zone
- Metered
- Permit
- Other

- Downtown Zones
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads



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In addition to the surface lots located throughout the city, there are several structured parking facilities that provide various types of parking. In total, there are 2,419 spaces in parking garages, making up 20 percent of the entire parking supply, and 23 percent of the off-street parking supply. Three of the parking garages are owned by the City, including the Civic Center parking garage, the Rankin Avenue parking garage, and the Wall Street parking garage. These facilities have 1,044 spaces that are available to monthly and hourly parkers. These facilities also are used for special events in downtown.

Table 3 provides a breakdown of structured parking facilities within the study area.

Name	Spaces	Use
Civic Center	550	Public parking - monthly and hourly spaces
Rankin Avenue	262	Public parking - monthly and hourly spaces
Wall Street	232	Public parking - monthly and hourly spaces
BB&T	340	Primarily reserved parking for BB&T Tower offices, some public spaces
Pack Place	335	Primarily reserved parking for Pack Plaza offices, some public spaces
College Street*	700	Under construction; primarily for courthouse use, some public spaces

*College Street parking garage is currently under construction, but was included in demand analysis for this study



A) Civic Center parking garage



B) Rankin Avenue parking garage



C) Wall Street parking garage

There are two additional parking garages in downtown Asheville that are made up mainly of reserved spaces. The BB&T garage is located on the corner of Broadway Street and College Street. This facility has 340 total spaces, most of which are reserved for tenants of the BB&T Tower, located across the street. The top floor of this facility, which has approximately 80 total spaces, is available to the public on a daily basis. On weekends, the garage is available to the public for a flat daily rate. The Pack Place garage is located south of Pack Place between Biltmore Avenue and South Market Street. This facility has 335 spaces, most of which are reserved for tenants of Pack Place. The lower floor of the facility, near the Biltmore Avenue entrance, is available to the public on a daily basis, with a total of approximately 50 spaces. On weekends, the entire garage is available to the public for a flat daily rate.

One additional structured parking facility is currently under construction, and was included in the existing conditions analysis. The College Street parking structure will be located across from the Buncombe County Courthouse along College Street. The facility is expected to have 700 parking spaces, with some portion of that total reserved for public parking. The remaining spaces will be

Approximately 24% of the total parking supply is available to the general public

reserved for employees and patrons of the Courthouse.

Of the 11,889 available parking spaces within the study area, only a small portion of those spaces are available to the public. In total, 24 percent of the total supply is available to the general public. The remaining spaces are considered either monthly or private. These spaces are generally available to businesses and downtown patrons for a monthly or annual rate. **Table 4** provides a breakdown of public and private off-street parking by zone.

Zone	Public Off Street	Monthly Off Street	Private Off Street	Total Off Street	Public On-Street	Restricted On-Street	Permit On-Street	Total On-Street
A	0	270	343	613	0	2	0	2
B	1,154	168	782	2,104	238	46	7	291
C	287	184	714	1,185	208	46	8	262
D	0	0	285	285	0	0	6	6
E	889	0	573	1,462	36	0	41	77
F	0	0	699	699	60	35	12	107
G	0	0	235	235	0	0	0	0
H	180	49	612	841	91	40	74	205
I	67	92	1,389	1,548	60	50	51	161
J	0	0	527	527	0	4	0	4
K	0	0	615	615	39	27	0	66
L	0	0	536	536	0	10	0	10
M	0	0	37	37	11	0	0	11
Total	2,576	763	7,348	10,687	743	260	199	1,202

Parking Facility Characteristics

The City of Asheville owns and maintains several parking facilities throughout the City, including the three parking garages mentioned previously. The City also owns three surface parking lots and a permitted two-story structure on Haywood Street. In addition, the City operates the on-street parking located throughout the study area. In total, the City has over 1,900 parking spaces available within the study area. The following sections describe the various parking facilities owned by the City.

Public Parking Garages

The City of Asheville currently owns and operates three parking garages, including the Civic Center garage, the Rankin Avenue garage, and the Wall Street garage. Parking is offered on an hourly and monthly basis for all three facilities. During business hours (Monday – Friday, 10 a.m. – 7 p.m.), the parking garages' entrances and exits are manned by City employees. During this time, rates vary by hour and location. At night and on weekends, payments are accepted through the use of automated payment machines, and fees are a flat rate depending upon location.

Payment is accepted in the form of cash or check. The City is currently in the process of updating the automatic payment machines, which will enable customers to pay with credit cards and cash. Monthly parking passes are available at all three facilities. The City maintains a waiting list for each facility, and passes are issued on a first-come, first-served basis.

During large events downtown, primarily at the Civic Center, each garage is available for special event parking. Special event rates are charged during these times, and are collected upon entry into the garage. The number of garages charging special event parking rates depends on the size and type of event.

Civic Center Parking Garage

The Civic Center parking garage is a 550 space parking structure located on Rankin Avenue, directly behind the Asheville Civic Center Complex. The facility was constructed in 1976 and is the oldest of the three city-owned parking structures downtown. The structure is eight stories tall and has a sloping ramp configuration with a cross-over ramp at the midpoint of each floor.

The facility is equipped to handle hourly transient parkers, monthly parkers, and special event parking. During large concerts and events at the Civic Center, the facility operates near capacity. Monthly rates are \$70 per space and special event rates are a \$7.00 flat rate. Hourly rates are:

- First hour is free
- \$0.50 for each additional hour (or fraction of an hour)
- \$4.00 daily maximum
- \$1.00 per exit (Monday-Friday, 7:00pm to 10:00am)
- \$1.00 per exit (weekends and holidays)

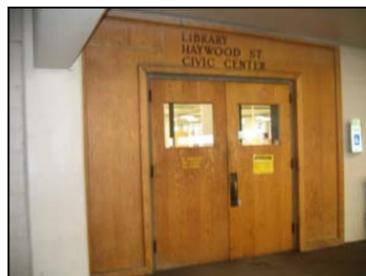
There are two entrance/exit points, along Rankin Avenue and off of Haywood Street between the Buncombe County Public Library and the Vanderbilt Apartments. The Rankin Avenue exit is the primary vehicular exit, while the Haywood Street exit is reserved for monthly parkers only. In addition, pedestrian exits are located on Rankin Avenue, Walnut Street, and Haywood Street through a direct connection with the library.



Civic Center parking garage entrance from Haywood Street



Automated Payment Machine



Entrance to Public Library inside parking garage

Rankin Avenue Parking Garage

The Rankin Avenue parking garage is a 262-space parking structure located on the corner of Rankin Avenue and College Street. The facility was constructed in 1988, at the same time as the Wall Street garage. The structure is three stories tall and features a clearway type opposed straight-ramp system. The floors are split-level and allow for one-way circulation.

This facility has the highest occupancy of the three facilities due to its proximity to both the Grove Arcade and the retail/restaurant attractions on Lexington Avenue and Broadway/Biltmore. Occasionally this facility reaches capacity, at which time parkers are directed to the Civic Center garage, which is located a block to the north.

The facility is equipped to handle hourly transient parkers, monthly parkers, and special event parking. Monthly rates are \$90 per space and special event rates are a \$6.00 flat rate. Hourly rates are:

- First hour is free
- \$0.75 for each additional hour (or fraction of an hour)
- \$6.00 daily maximum
- \$1.00 per exit (Monday-Friday, 7:00pm to 10:00am)
- \$1.00 per exit (Weekends and holidays)

There are two entrance/exit points, along Rankin Avenue and off of Walnut Street. The Rankin Avenue exit is the primary vehicular exit, while the Walnut Street exit is reserved for monthly parkers only. Pedestrian exits are located on Rankin Avenue, Walnut Street, and Haywood Street through a direct connection with the Haywood Street Arcade. Several residences and business have direct connections from the top floor of the garage.



Rankin Avenue parking garage entrance on Walnut Street



Top floor of parking garage



Residential connections on top floor of structure

Wall Street Parking Garage

The Wall Street parking garage is a 232-space parking structure located adjacent to the Grove Arcade, between Wall Street and Battery Park Avenue. The facility was constructed in 1988, at the same time as the Rankin Avenue garage. The structure is four stories tall and has a sloping ramp configuration with a cross-over ramp at the midpoint of each floor. This facility has the second highest occupancy of the three facilities due to its proximity to the Grove Arcade. The facility has a very high occupancy during night and weekend periods.

The facility is equipped to handle hourly transient parkers, monthly parkers, and special event parking. Monthly rates are \$100 per space and special event rates are a \$6.00 flat rate. Hourly rates are:

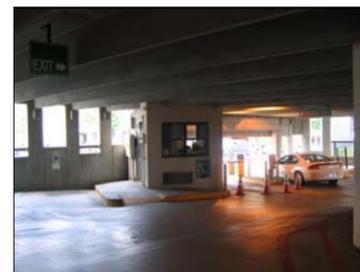
- First hour is free
- \$0.75 for each additional hour (or fraction of an hour)

- \$6.00 daily maximum
- \$2.00 per exit (Monday-Friday, 7:00pm to 10:00am)
- \$2.00 per exit (Weekends and holidays)

There is one entrance point along Otis Street and one exit point at the corner of Battery Park Avenue and Otis Street. Pedestrian exits are located on Otis Street, Wall Street, and Battery Park Avenue.



Interior sloping ramp configuration



Battery Park Avenue exit

Public On-Street Parking

The City of Asheville operates more than 700 metered spaces, as well as permitted on-street parking, and over 100 handicapped and loading zone spaces. All metered parking is intended for short-term parking (typically two hours or less) and costs \$1 per hour. Currently, metered parking in downtown Asheville is available with coin purchase only. **Figure 2** shows the location of metered parking in the study area. In general, the on-street parking is clustered in the vicinity of the Grove Arcade, Lexington Avenue, Biltmore Avenue, Market Street, and College Street in the vicinity of the Courthouse.

Along with metered parking, the City also operates permit parking throughout the study area. The permitted on-street spaces are available on a monthly basis for \$30-\$45 per space, depending on the location. Much like monthly parking permits in the parking garages, the City maintains a waiting list for the permitted on-street spaces. Permits are sold on a first-come, first-served basis based on this waiting list.

The City also operates non-metered spaces, handicapped spaces, and loading zones throughout the study area. The non-metered spaces are time-constrained but do not require payment. Loading zone spaces are restricted to 30 minute use for loading and unloading only. Failure to use loading zone spaces properly results in a citation and \$10.00 fine.

Off-Street Permit Parking

The City of Asheville also owns four off-street permit lots and one small parking garage. These facilities are found on Rankin Avenue and Haywood Street. The two lots on Rankin Avenue, immediately behind the Civic Center, are owned and operated by the City, and spaces are available for \$55 per month. Spaces are available on a first-come, first-served basis.

The City owns, but does not operate, the two lots and small garage on Haywood Street. These lots are commonly known as the "Handi-Park" lots and the operation of these facilities is handled by a private contractor. The use of these lots is considered temporary and is sold on a month to month basis. The rates are \$55 per month for outdoor parking and \$65 per

month for indoor parking. In addition, the lots are used for special event parking, specifically for events at the adjacent Civic Center.



Rankin Avenue permit parking



Haywood Street outdoor permit parking



Haywood Street indoor permit parking

Data Collection

When analyzing existing parking conditions, it is important to understand the nature of the actual parking demands in the community. Parking occupancy and turnover data were collected between August 22 and August 27, 2007. Parking occupancy counts can help determine the peak usage periods, trends for usage, and hot spots that are utilized more than others. Parking turnover counts help determine the actual effectiveness and usage of the short-term parking supply. The following sections describe the data collection efforts for this project.

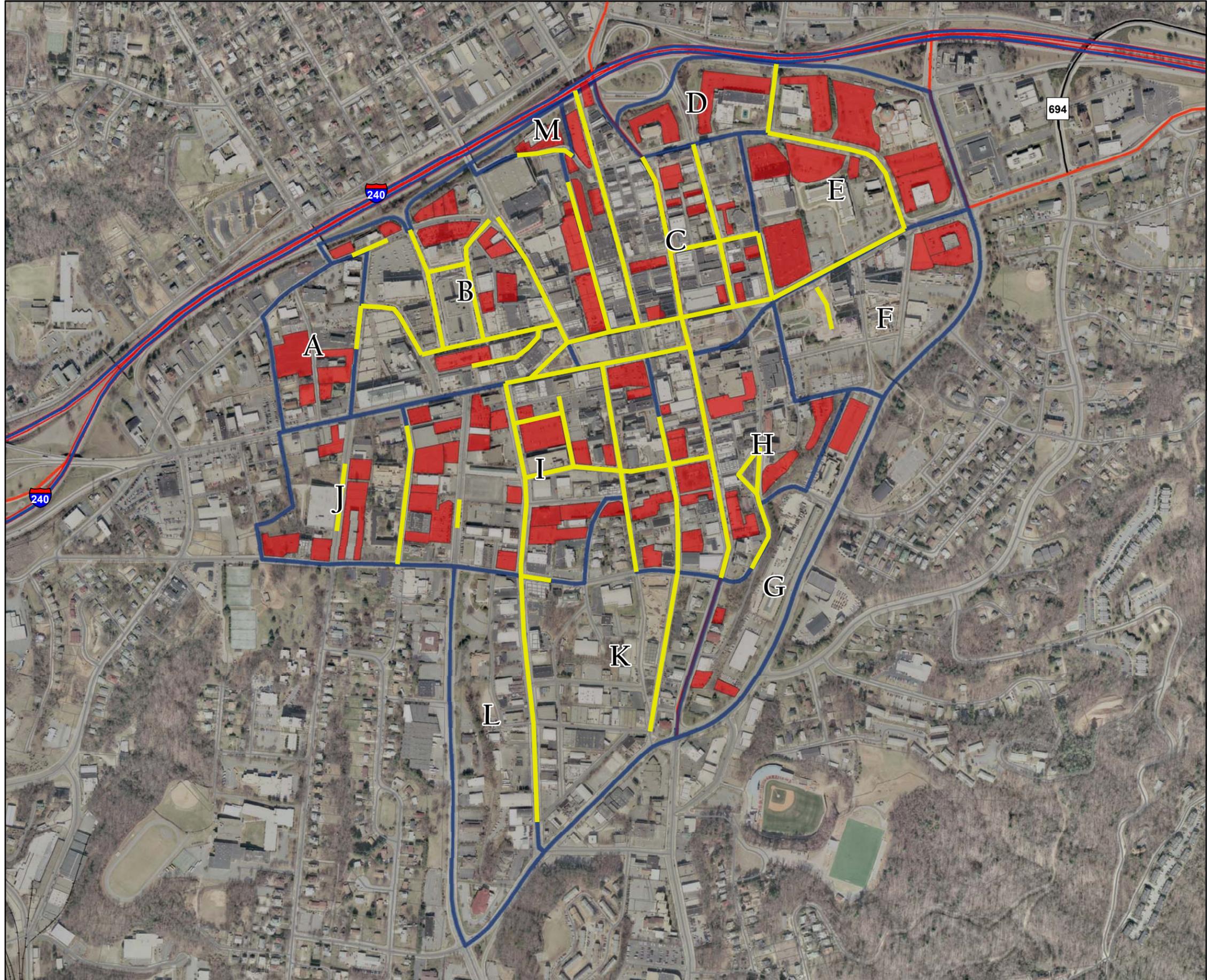
Occupancy

Parking occupancy counts were conducted throughout the study area from August 22 to August 27, 2007. Occupied spaces were counted every two hours on Wednesday, Thursday, Friday, Saturday, and Sunday. Counts were performed from 7 am to 6 pm on weekdays. Counts were performed from 9 am to 11 pm on weekends. Special event parking ("Goombay Festival") also was observed in the vicinity of Biltmore Avenue, Eagle Street, and Market Street behind Pack Place.

For the purposes of this analysis, not all 11,889 spaces were analyzed. The occupancy counts focused on those locations with a larger number of attractions and destinations, such as the Grove Arcade, Lexington Avenue, and Biltmore Avenue. Data was collected at lots that were available for public parking, as well as lots that are not currently public but could be utilized as public lots. **Figure 3** shows the analyzed lots and on-street locations. Approximately 60 percent of the total spaces were analyzed.

City of Asheville Comprehensive Parking Study

Figure 3 - Occupancy Count Locations



-  Lots and Decks
-  On-Street Parking
-  Downtown Zones
-  Parcels
-  Interstates
-  US Highways
-  State Highways
-  Local Streets
-  Railroads



 Kimley-Horn and Associates, Inc.





A parking facility will be perceived as full at somewhat less than its actual capacity, generally in the range of 85-95 percent. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. It further provides for operational fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking.

Urban Land Institute, *Shared Parking*, Second Edition

Figures 4-7 show the maximum occupancy rates for various analysis scenarios, including Weekday AM (7am – 12pm), Weekday PM (12pm – 6pm), Weekend Day (9am – 5pm), and Weekend Evening (5pm – 11pm). The occupancy rates in these figures are expressed in ranges of percent occupied. With less than 50 percent of a facility occupied, the facility can be considered to be well under capacity. In the range of 50 to 70 percent, the facility is being utilized but still has room for more vehicles. Between 70 and 85 percent, the facility is beginning to approach the perceived capacity. Over 85 percent, the facility is perceived to be over capacity.

During the Weekday AM analysis period, capacity problems are spread throughout the study area, usually clustering around large office developments, such as the County Courthouse Complex, Federal Building, and the Buncombe County Human Services Building. During the Weekday PM analysis period, capacity issues increase and began to localize around both office complexes and retail/restaurant destinations. On-street parking is either approaching capacity or over capacity along Lexington Avenue, Biltmore Avenue, Broadway Street, and the Grove Arcade. Off-street parking in zones B, C, D, H, and I begin to approach and/or exceed capacity in this analysis period. All three public parking garages begin to approach capacity in this analysis period. The Weekday PM analysis period is by far the highest occupied period.

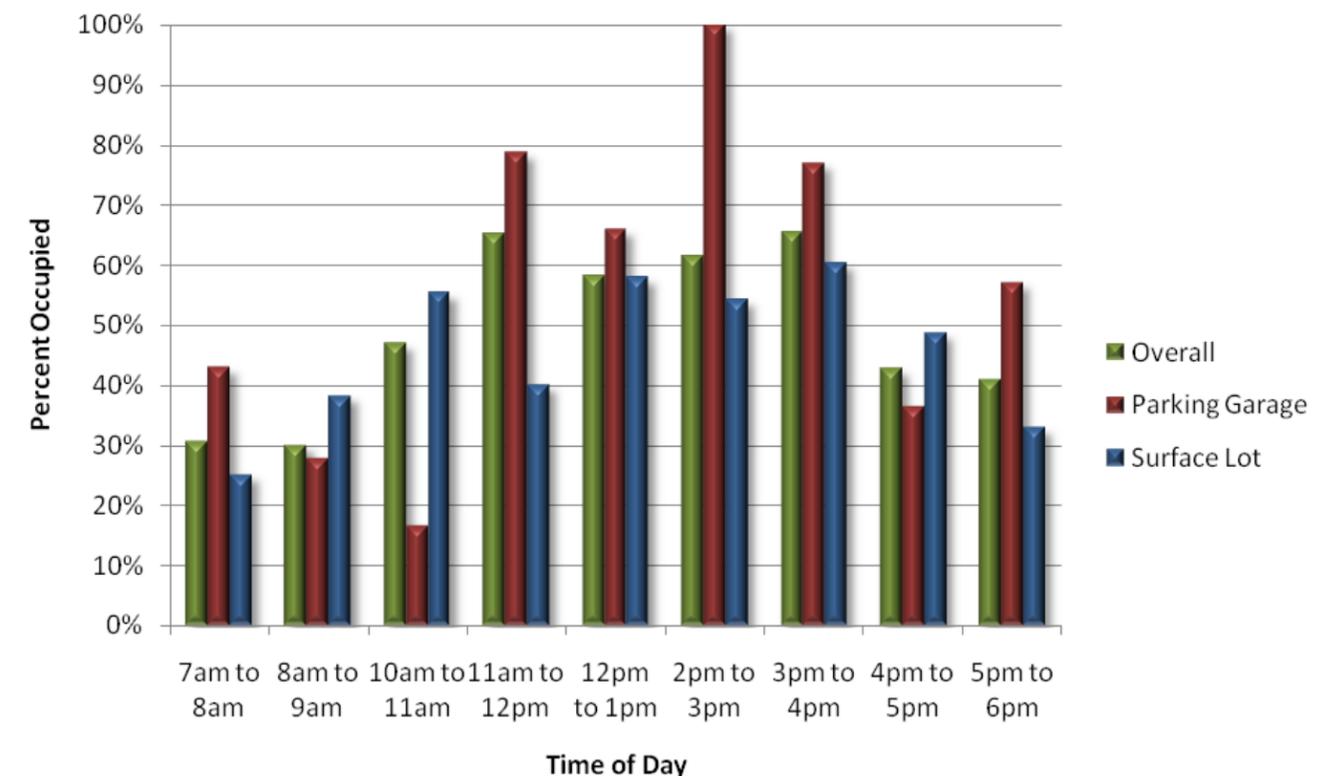
During the Weekend Day analysis period, capacity problems are centralized around the major destinations in Downtown, such as the Grove Arcade, Biltmore Avenue, and Lexington Avenue. On-street parking is approaching or exceeding capacity in all of these areas, which is due to the proximity of on-street parking to destinations and the availability of free on-street parking on Sunday. The trends observed during the Weekend Day period remained constant in the Weekend Evening period. On-street parking continued to operate over capacity throughout the study area, while the off-street capacity issues were localized to the major destinations.

Weekday Off-Street Parking

A further analysis of off-street parking helps to understand the peaks associated with parking within the study area. Figure 8 provides a breakdown of weekday off-street parking. These values are an average of the data collected throughout the weekday analysis period, and should not be confused with the values shown on Figures 4-7, which were maximum occupancies observed during field data collection. As would be expected, demand is highest between 9am and 4pm, which would correspond to typical business hours. During this peak, occupancy was higher than 50 percent the majority of the time.

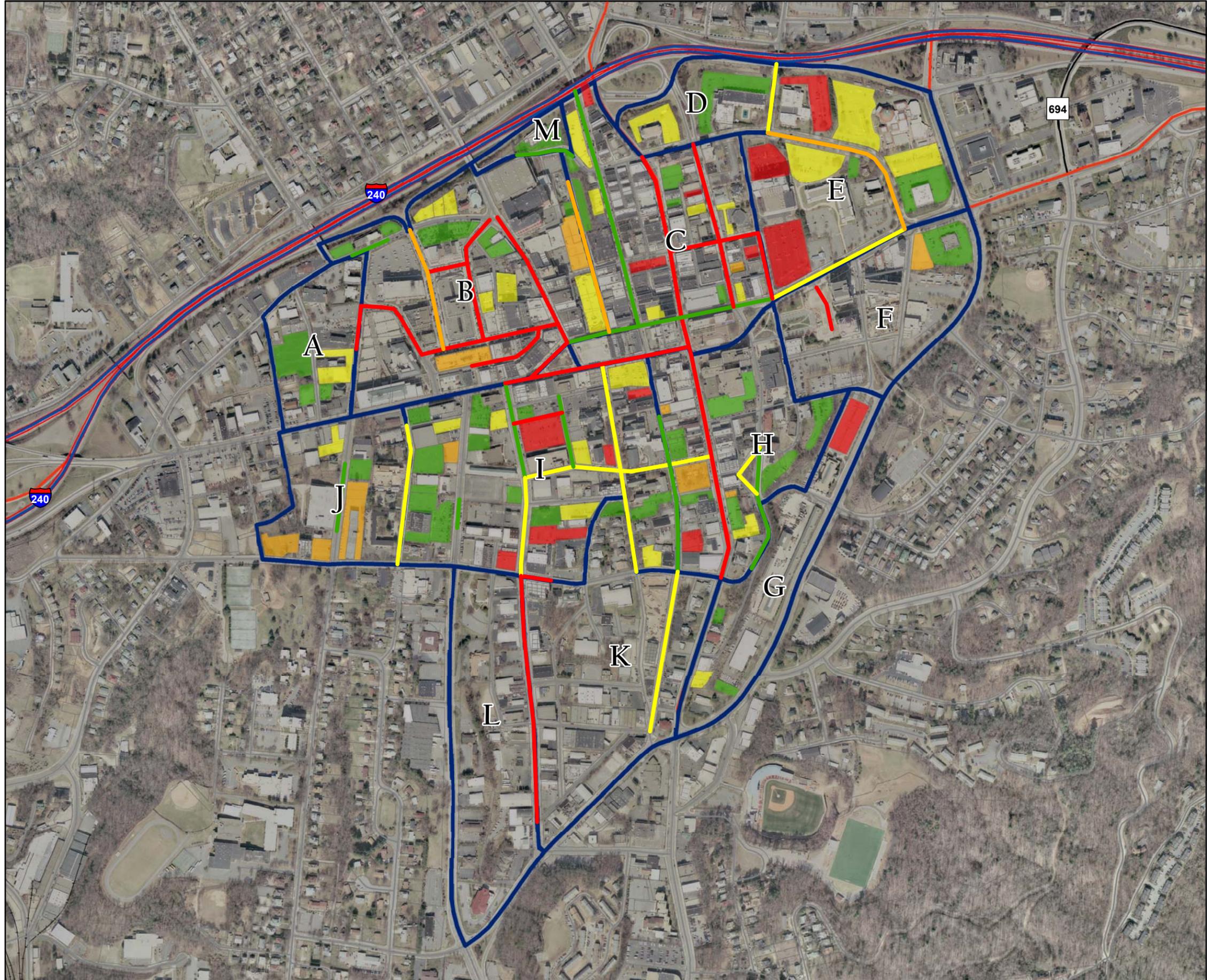
The occupancy trends in the parking garages are similar, in that they peak in the mid-day and afternoon periods. The occupancy of the garages exceeds 60 percent for most of the afternoon period, and is approaching or exceeding the 85 percent capacity threshold for most of the day. The occupancy trends for the surface parking lots mirror those of the entire off-street system. The peak surface lot usage occurs between 9am and 4pm, concurrent with the normal business day. Unlike the garages, which are mainly used by downtown visitors, the surface lots tend to be restricted to employee and business guest parking, which leads to the trends seen. Based on the field data collected, the publicly available surface lot system is slightly underutilized, with peak conditions hovering around 50 to 60 percent occupied.

Figure 8 – Weekday Off-Street Parking Occupancy



City of Asheville Comprehensive Parking Study

Figure 4 - Weekday AM Maximum Occupancy



- Off-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- On-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- Downtown Zones
- Parcels
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads

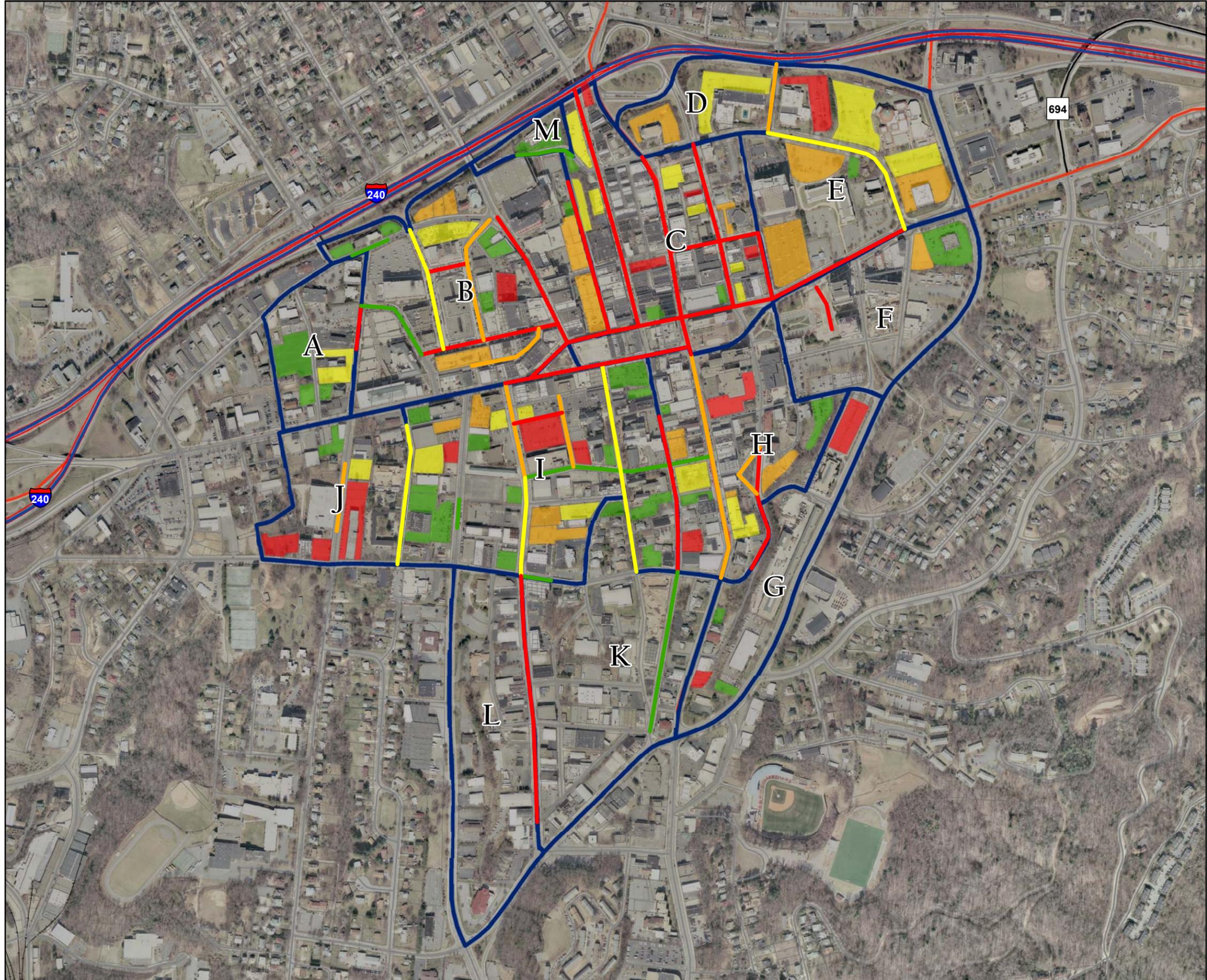


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Figure 5 - Weekday PM Maximum Occupancy



- Off-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- On-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- Downtown Zones
- Parcels
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads

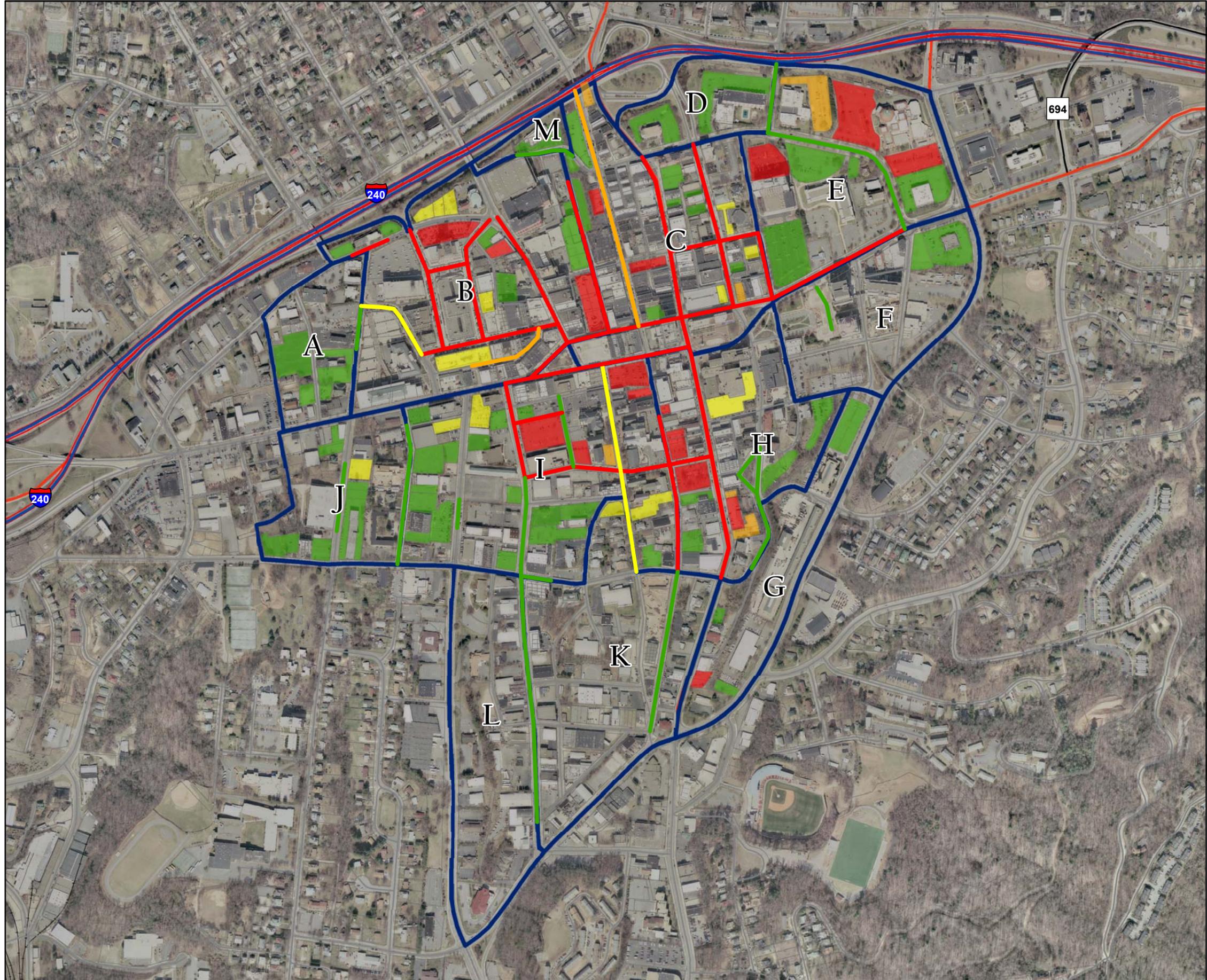


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Figure 6 - Weekend Day Maximum Occupancy



- Off-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- On-Street Occupancy
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- Downtown Zones
- Parcels
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads

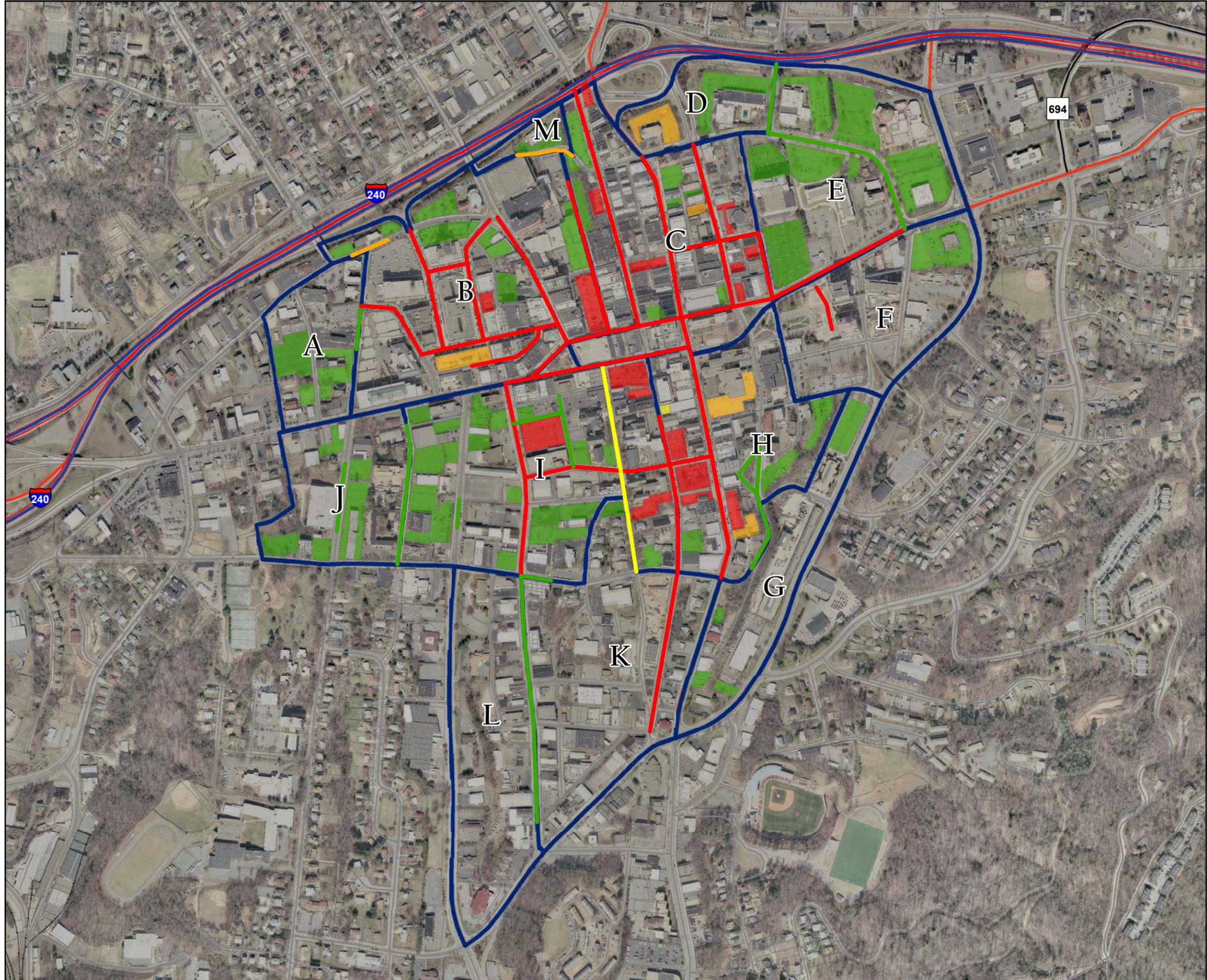


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City of Asheville Comprehensive Parking Study

Figure 7 - Weekend Evening Maximum Occupancy



- Off-Street Parking**
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- On-Street Occupancy**
 - Less than 50% occupied
 - 50 - 70% occupied
 - 70 - 85% occupied
 - Greater than 85% occupied
- Downtown Zones
- Parcels
- Interstates
- US Highways
- State Highways
- Local Streets
- Railroads



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Weekend Off-Street Parking

Figure 9 provides a breakdown of weekend off-street parking. Occupancy is highest in the evening peak period, corresponding to the highest demand for downtown restaurants and nightlife. At no point does the occupancy exceed 75 percent, which suggests that there is available parking for normal weekend activity.

The occupancy trends in the parking garages are higher than the surface lots throughout the day, exceeding 60 percent in the evening periods. This is expected as most of the surface lots in the study area are restricted to reserved parking. There is a spike in surface lot usage in the evening, which is caused by the shared nature of some lots. For example, along Market Street, two lots reserved for a private law firm and its employees become available for patrons of a restaurant.

Weekday On-Street Parking

Figure 10 provides a breakdown of weekday on-street parking. On-street occupancy follows a trend similar to off-street facilities, in that it peaks in the afternoon period. From about mid-day to the end of the work day, on-street parking ranged from 60 to 80 percent occupancy, approaching the capacity of the on-street system. It should be noted that on-street parking in the vicinity of major destinations, such as the Grove Arcade, Lexington Avenue, and Biltmore Avenue, exceeded capacity throughout most of the day. The average values shown below represent the entire system, which has lower occupancy due to locations such as Coxe Avenue and Asheland Avenue, which tend to be underutilized in the early morning and late afternoon peaks.

Figure 9 – Weekend Off-Street Parking Occupancy

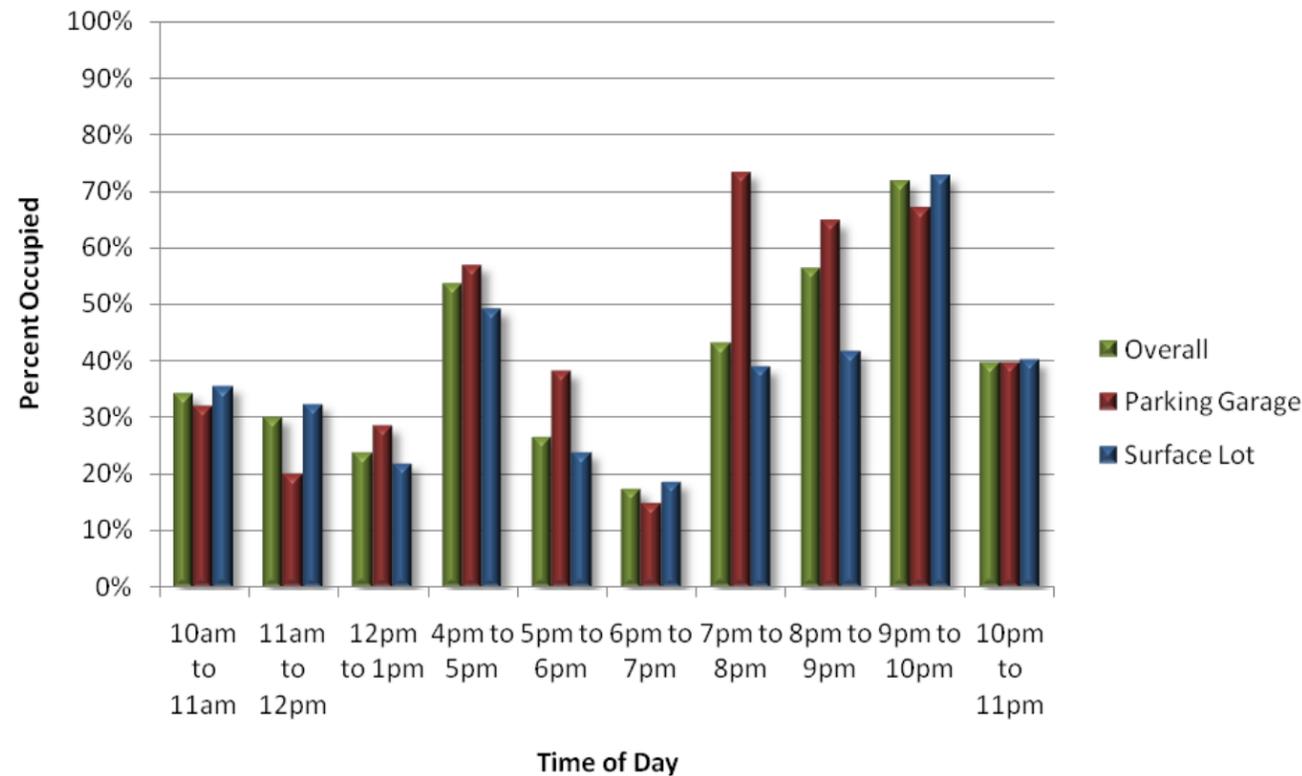
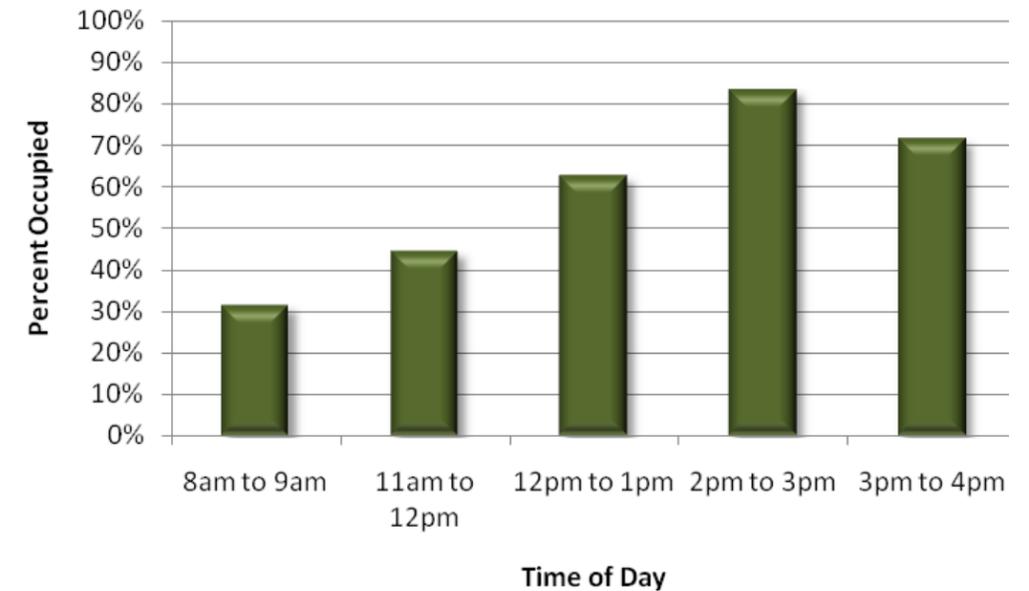


Figure 10 – Weekday On-Street Parking Occupancy



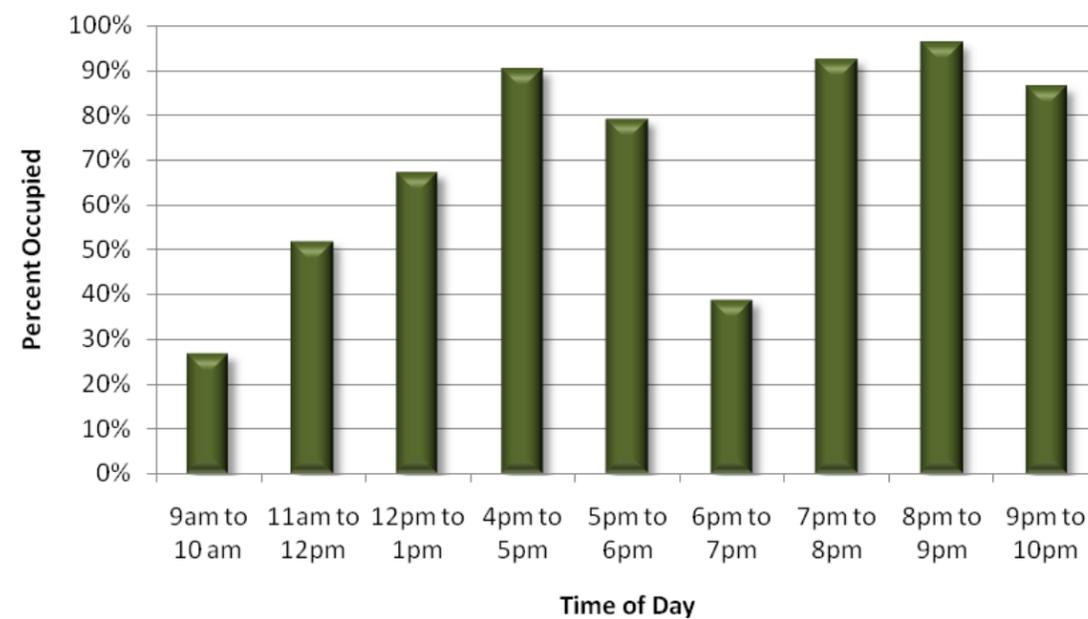
Weekend On-Street Parking

Figure 11 provides a breakdown of weekend on-street parking. Much like off-street parking, the on-street parking system peaks in the evening period, relative to the increased attraction to restaurants and nightlife. On-street parking operates near or over capacity for both the mid-day and evening periods. This can be attributed to the fact that on-street parking is free on Sundays and is typically the closest parking to most destinations. The on-street parking in the vicinity of the Grove Arcade, Lexington Avenue, and Biltmore Avenue was operating over capacity for the majority of the day.

Work trips have parking durations of 6 to 8 hours in large cities, while non-work related trips average about 2 hours.

-Parking, Weant & Levinson

Figure 11 – Weekend On-Street Parking Occupancy



There were several objectives to the turnover data collection.

- Determine the proportion of users who are abusing the short-term parking system by utilizing it for more than the intended time, which is typically two hours.
- Determine the turnover rate for the study area, as well as the specific parking analysis zones, to determine the efficiency of the system.
- Identify locations where short-term parking abuse is heaviest.

The following sections briefly describe each objective and the results of the turnover data collection.

Short-Term Parking Abuse

Table 5 provides a breakdown of long-term parkers by zone. The vehicles noted in this table were observed to pass the two hour threshold, into the four and six hour observation periods. The turnover counts began at 9am and continued until 3pm. Based on the on-street occupancy data, this time period was observed to represent peak conditions.

The numbers in this table represent the total count of long-term parkers observed over the six hour period. For example, the 203 parkers observed to cross the two hour threshold includes 102 observations between 9am and 11am, 76 observations between 11am and 1pm, and 26 observations from 1pm to 3pm.

Greater than two hours - 203 parkers occupied spaces for longer than two hours. The first two hours (9am to 11am) had the highest number of occurrences with 102. Zones B and C had the largest occurrences of vehicles parking longer than two hours, with 72 and 64 respectively.

Greater than four hours - 91 parkers occupied spaces for longer than four hours. The first four hours (9am to 1pm) had the highest number of occurrences with 65. Again, zones B and C had the largest occurrences of vehicles parking longer than four hours.

Zone	> 2 hours	> 4 hours	> 6 hours
A	2	2	1
B	72	35	11
C	64	26	11
D	-	-	-
E	28	17	4
F	12	2	-
G	-	-	-
H	16	3	2
I	9	6	-
J	-	-	-
K	-	-	-
L	-	-	-
M	-	-	-
Total	203	91	29

Turnover

While occupancy counts provide an estimate of peak usage and can determine trends for parking demand, turnover counts provide an estimate of the efficiency of the short-term parking system. Parking turnover is typically defined as the number of different vehicles that use a parking space during a given time.

Turnover data collection was conducted on Friday, August 24, 2007. The primary target of the turnover data collection was the on-street parking system, which is the best representation of short-term parking in the study area. Each space was observed every two hours, and vehicles that remained from the previous observation were noted. This methodology provided a breakdown of vehicles that occupied a space for two hours, four hours, and six hours.



Greater than six hours - 29 parkers occupied spaces for longer than six hours. Zones B and C again had the largest occurrence of vehicles parked in excess of six hours.

It should be noted that some of the long-term parkers represented in **Table 5** were parked in permit parking spots, which do not have time restrictions. **Table 6** provides the same breakdown of long-term parkers, only by type of on-street parking.

Type	> 2 hours	> 4 hours	> 6 hours
Metered	137	54	24
Permit Only	43	27	5
Handicapped	7	1	0
Loading Zone	4	0	0
Other	12	9	0
Total	203	91	29

Metered parking spaces had 137 parkers occupying spaces for longer than two hours, 54 parkers longer than four hours, and 24 parkers greater than six hours. Permit parking spaces had 43 parkers occupying spaces for longer than two hours, 27 parkers for longer than four hours, and 5 parkers longer than six hours. In loading zones, four vehicles were observed at longer than two hours, which is much longer than the 30 minute time restriction associated with this type of parking. Other parking, which includes non-metered time restricted parking, had 12 occurrences of vehicles parking longer than the two hour time limit. There were also seven occurrences of vehicles parked longer than two hours in handicapped spaces. None of these types of on-street parking had large occurrences of vehicles parked beyond the four hour threshold.

Turnover Rate

The turnover rate, usually expressed in vehicles per space per day, is a measure of the effectiveness of the short-term parking system. Turnover rate is expressed as vehicles per space per day. Higher turnover rates mean a higher number of people are successfully able to park at their destination. Lower turnover rates suggest that short-term parking is being abused and is not providing the level of service expected.

Turnover rates typically range from 1.25 to 1.5 vehicles per space per day in urban areas². This is a representation of the total parking supply, which includes parking garages and surface lots, which might not operate at the same efficiency of the on-street parking system. Turnover rates for on-street parking can be as much as three to four times higher than off-street parking.

The turnover analysis for this study focused on the on-street parking system for downtown Asheville. The assumption is that most long-term parkers familiar with the study area will utilize the off-street public parking because its rates are lower than the on-street system.

² Parking, Weant and Levinson.

Based on data collected for both the occupancy and turnover measurements, the weekday average on-street turnover is approximately three vehicles per space per day in the study area. This value is an average over all parking analysis zones, based on observed long-term parkers and average weekday occupancies for the overall study area. Because this value is a daily average, this value will have time-of-day fluctuations. Based on the data collected for this analysis, the afternoon period experienced higher turnover than the morning peak.

The weekday average on-street turnover is approximately 3 vehicles per space per day in the study area.

The turnover rate will also fluctuate between zones. For example, the parking around Biltmore Avenue turns over quicker than the parking around the County office buildings. This is due to the primary nature of the land uses in the vicinity of the parking. Parking near retail and restaurant land uses should be expected to turn over at a higher rate than parking in the vicinity of an office. Zone H experienced fairly high turnover, while Zones C and B experienced turnover similar to the study area as a whole. Zones A and E experienced a lower turnover, but that can be attributed to the high occurrence of permit parking in that zone.

Heavily Abused Locations

Certain locations throughout the study area experienced larger occurrences of short-term parking abuse than others. **Table 7** provides seven locations that experienced higher turnover based on observations during data collection and the amount of available parking.

Location	> 2 hours	> 4 hours	> 6 hours
Grove Arcade	42	17	9
Market Street	22	11	7
Oak Avenue	19	10	3
Lexington Avenue	16	4	2
Otis Street (near Federal Building)	12	8	1
Courthouse Parking	12	2	0
Rankin Avenue	9	5	0

The Grove Arcade experienced the highest number of long-term parkers during the analysis period, with 42 parkers occupying spaces for longer than two hours, 17 parkers occupying spaces for longer than four hours, and 9 parkers occupying spaces for longer than six hours. During the first two hours (9am to 11am), 23 parkers occupied spaces longer than two hours. In total, the Grove Arcade has approximately 150 on-street spaces adjacent to the site. The high two-hour total accounts for approximately 15 percent of the total supply. The highest four-hour total occurred between 9am and 1pm, with 12 occurrences, accounting for approximately eight percent of the total supply. The six-hour total was nine occurrences, accounting for approximately six percent of the total supply.

Market Street experienced the next highest number of long-term parkers during the analysis period, with 22 parkers occupying spaces for longer than two hours, 11 parkers occupying spaces for longer than four hours, and 7 parkers occupying spaces for longer than six hours. During the first two hours (9am to 11am), 13 parkers occupied spaces longer

than two hours. Market Street has approximately 45 on-street spaces. The high two-hour total accounts for approximately 29 percent of the total supply. The highest four-hour total occurred between 9am and 1pm, with eight occurrences, accounting for approximately 18 percent of the total supply. The six hour total was seven occurrences, accounting for approximately 16 percent of the total supply.

Table 8 provides the same hour-by-hour breakdown for all seven locations listed in **Table 7**. Oak Avenue, Otis Street, Rankin Avenue, and parking at the Courthouse have a large percentage of parkers staying longer than two hours. Past the four-hour threshold, there are large occurrences on Oak Avenue, Otis Street, and Rankin Avenue.

Table 8 - Locations with Largest Occurrences of Long-Term Parking							
Location	Total Supply	Highest 2 Hour	Percent of Total	Highest 4 Hour	Percent of Total	6 Hour	Percent of Total
Grove Arcade	150	23	15%	12	8%	9	6%
Market Street	45	13	29%	8	18%	7	16%
Oak Avenue	45	15	33%	9	20%	3	7%
Lexington Avenue	146	8	5%	3	2%	2	1%
Otis Street (near Federal Building)	24	7	29%	5	21%	1	4%
Courthouse Parking	22	8	36%	2	9%	0	0%
Rankin Avenue	14	5	36%	3	21%	0	0%

Rankin Avenue and Oak Avenue have permit parking available, which accounts for the large percentage of long-term parkers. Market Street and Otis Street both have metered spaces, which indicates that users are parking all day at these locations and continuously putting money into the parking meters. The parking at the Courthouse is time restricted, indicating abuse at the two-hour threshold.

Summary

Based on the existing parking inventory, the City of Asheville has approximately 11,889 parking spaces available in its downtown. Of these 11,889 spaces, there are 2,419 spaces in parking garages, 8,268 spaces in surface lots, and 1,202 on-street parking spaces. These spaces vary between public and private use. Based on the assumed public vs. private breakdown, only 24 percent of the spaces downtown are available to the general public.

The City of Asheville owns and operates the majority of the publicly available spaces in downtown, mostly in three parking garages. The Civic Center parking garage is located on Rankin Avenue directly behind the Asheville Civic Center, and has 550 available parking spaces for both monthly and hourly parkers. The facility is also used for special events at the Civic Center. The Rankin Avenue parking garage is located on the corner of Rankin Avenue and College Street adjacent to the Civic Center parking garage. The facility has 262 spaces available to monthly and hourly parkers. The Wall Street parking garage is located on Wall Street adjacent to the Grove Arcade. The facility has 232 spaces available to monthly and hourly parkers.

The City also owns and operates more than 700 metered on-street spaces, as well as permit parking and specifically dedicated parking such as handicapped and loading zone. The City also owns several lots throughout the study area - some maintained and operated by the City and some maintained and operated by private contractors.

Data was collected to determine occupancy and on-street parking turnover trends. The data was collected from August 22 to August 27, 2007. The occupancy data revealed that the major peaks for off-street parking were in the mid-day to afternoon periods for weekdays and the evening period for weekends. Parking garages had higher occupancy rates than surface lots during these peak periods. On-street parking followed a similar trend, peaking during the afternoon period on weekdays and in the evening on weekends. On-street occupancy was highest near the Grove Arcade, Lexington Avenue, and Biltmore Avenue. **Figures 4-7** show maximum occupancy trends for several facilities throughout the study area for Weekday AM, Weekday PM, Weekend Day, and Weekend Night peak periods.

Turnover data revealed that there were a moderate number of parkers that stayed in on-street spaces longer than two hours. Zones B and Zones C had the highest occurrences of long-term parkers, which is not surprising given the number of on-street spaces and the types of destinations in those zones. Particularly, the Grove Arcade, Market Street, Oak Avenue, Otis Avenue, Rankin Avenue, and parking at the Courthouse experienced the highest number of long-term parkers during the analysis period. Based on data collected for both the occupancy and turnover measurements, the weekday average on-street turnover is approximately three vehicles per space per day in the study area. This value is an average over all parking analysis zones, based on observed long-term parkers and average weekday occupancies for the overall study area.



Parking Demand

While the occupancy and turnover data can reveal parking trends based on a snapshot in time, a parking demand analysis will help to predict the actual parking conditions in the study area. The parking demand analysis is based on the existing land use intensities and the parking generation rates unique to each development within the study area. The results of the parking demand analysis can be used to determine if the parking supply is adequate to serve the existing parking needs, and to determine the necessary size of the future parking supply to accommodate future growth in the downtown.

The parking demand analysis is based on principles of parking accumulation and generation outlined in the Urban Land Institute's (ULI) *Shared Parking*, Second Edition and the Institute of Transportation Engineer's *Parking Generation*, Third Edition. The ULI guide presents methodology to determine parking demand based on shared-use principles, which assume that parking designated for one land use is available to share with an adjacent land use. This principle is based on two assumptions:

- There are variations in parking accumulation at the individual land uses
- There are relationships among the land uses that result in visiting multiple destinations in one trip.

Shared parking is the use of a parking space by two or more individual land uses without conflict or encroachment.

-Urban Land Institute, *Shared Parking*, Second Edition

The parking demand analysis performed for this study assumes that shared parking is present between the land uses in downtown Asheville. Given the dense nature and multiple land uses in the study area, the assumptions above are most likely true for this analysis. The following sections describe the parking demand analysis, including the development of a parking demand model unique to the Downtown Asheville Study area.

Parking Demand Model

The Downtown Asheville Parking Demand Model was developed in conjunction with this project to evaluate existing and future parking demand. The model was used to identify locations where future parking inventory investments would be most effective. The model is an interactive tool that the City can use in the future to analyze how changes in land use or development intensity affect parking demands. An example of this model can be found inside the cover of this report.

The overall output of the tool is the parking demand localized to each parking analysis zone, as well as the overall parking demand for the entire study area, based on shared parking relationships across zonal boundaries. The model also accounts for multi-modal transportation relationships and shared parking methodologies as outlined by ULI. The major components that drive the parking demand model are land use, parking supply, and parking generation rates unique to each land use type. The following sections describe each of the components of the model and the values used in the parking demand analysis for this study.

Land Use

The first component in determining the parking demand is the existing and future land use within the study area. Each land use generates a certain number of trips, which require parking upon arrival. As such, the land use component of the model

is the main driver of parking demand. The land uses included in this study are representative of those found in downtown Asheville and include the following types of uses.

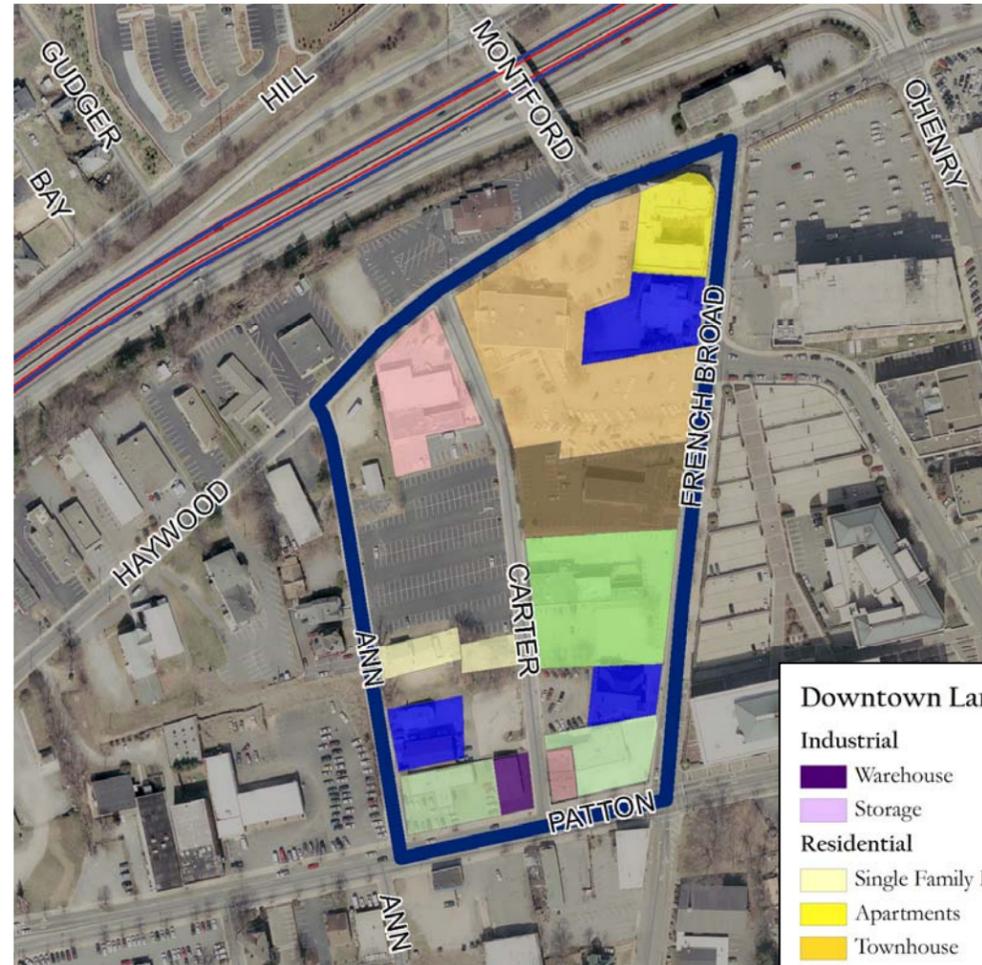
- | | | |
|----------------------------|---------------------|-------------------------|
| ▪ Warehouse | ▪ Arena | ▪ Retail |
| ▪ Storage facility | ▪ Civic Center | ▪ Grove Arcade retail |
| ▪ Single family home | ▪ Athletic club | ▪ Convenience market |
| ▪ Apartment | ▪ Community Center | ▪ Bank |
| ▪ Townhouse | ▪ Church | ▪ Restaurant |
| ▪ Condominium | ▪ Museum | ▪ Lounge |
| ▪ Assisted living facility | ▪ Library | ▪ Auto service facility |
| ▪ Hotel | ▪ Veterinary | ▪ Cleaners |
| ▪ City park | ▪ General office | ▪ Convention Center |
| ▪ Performing arts theater | ▪ Medical office | |
| ▪ Movie theater | ▪ Government office | |

Existing land uses were obtained through an analysis of GIS mapping provided by Buncombe County and field verification of the land uses. Land use intensities were taken directly from the Buncombe County data and cross-checked through discussions with City of Asheville staff. Existing land uses were also presented during Public Workshop #1 for public comment.

Future changes to land use intensities were obtained through discussions with the City of Asheville Office of Economic Development. The new developments include hotel construction and redevelopment, new residential development, retail development and redevelopment, a new performing arts center, and additional office development. In addition, future land uses were presented by the general public during Public Workshop #1.

The following pages include a breakdown of land use by parking analysis zone. This information is presented in tabular form, as well as graphically. The tables include the existing land use, the future land use, and the growth by land use. The associated graphics include the existing land uses found in each parking analysis zone.

Zone A



Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 9 - Existing and Future Land Use - Zone A

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	2,196	2,196	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	2	2	-	d.u.
Apartments	221	27	27	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	3,000	3,000	-	s.f.
Community Center	495	10,000	10,000	-	s.f.
Church	560	16,994	16,994	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	16,288	16,288	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	21,488	21,488	-	s.f.
General Retail	820	-	-	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	14,653	14,653	-	s.f.
Auto Service	942	3,488	3,488	-	s.f.
Cleaners	960	3,999	3,999	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone B

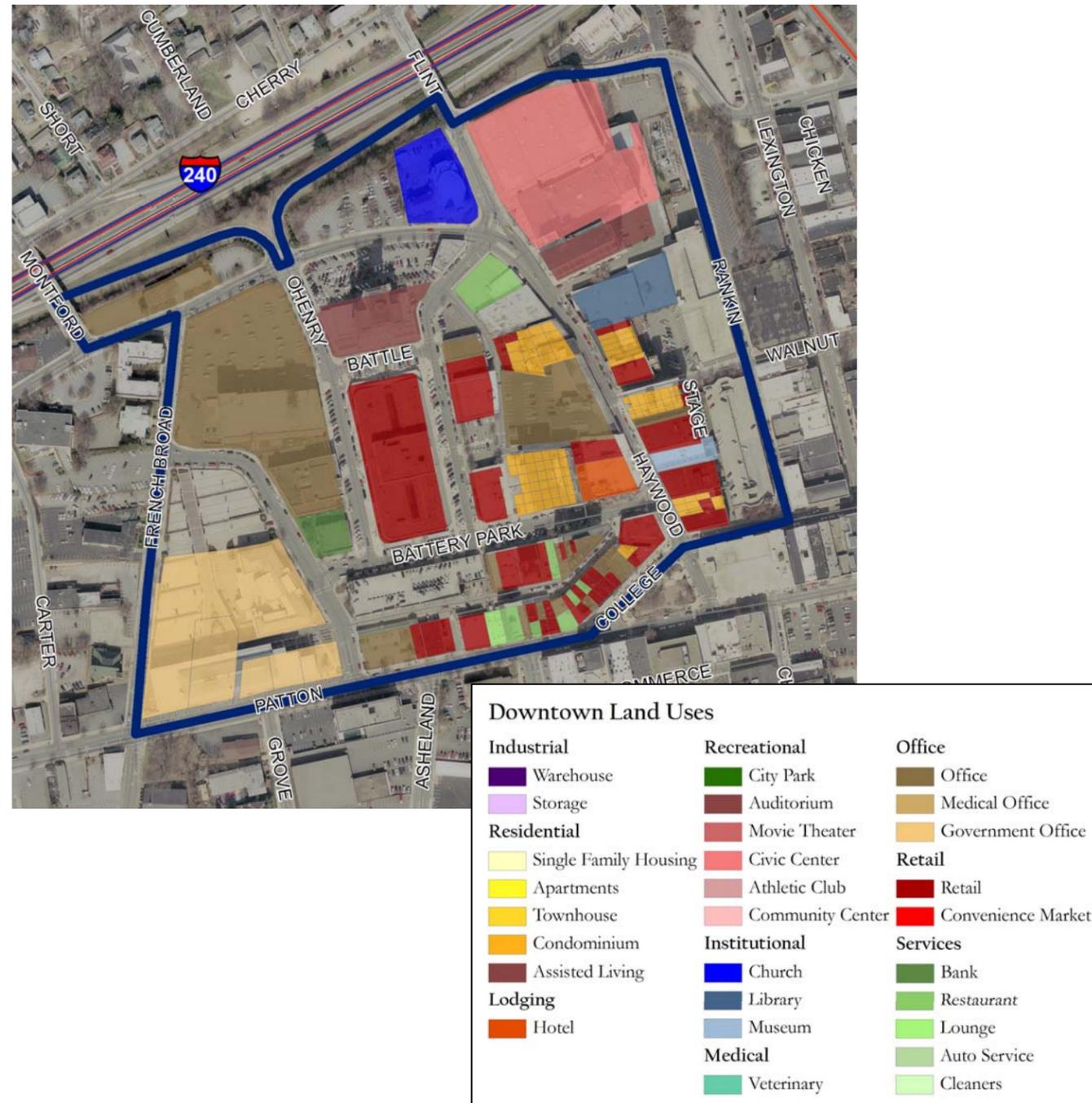
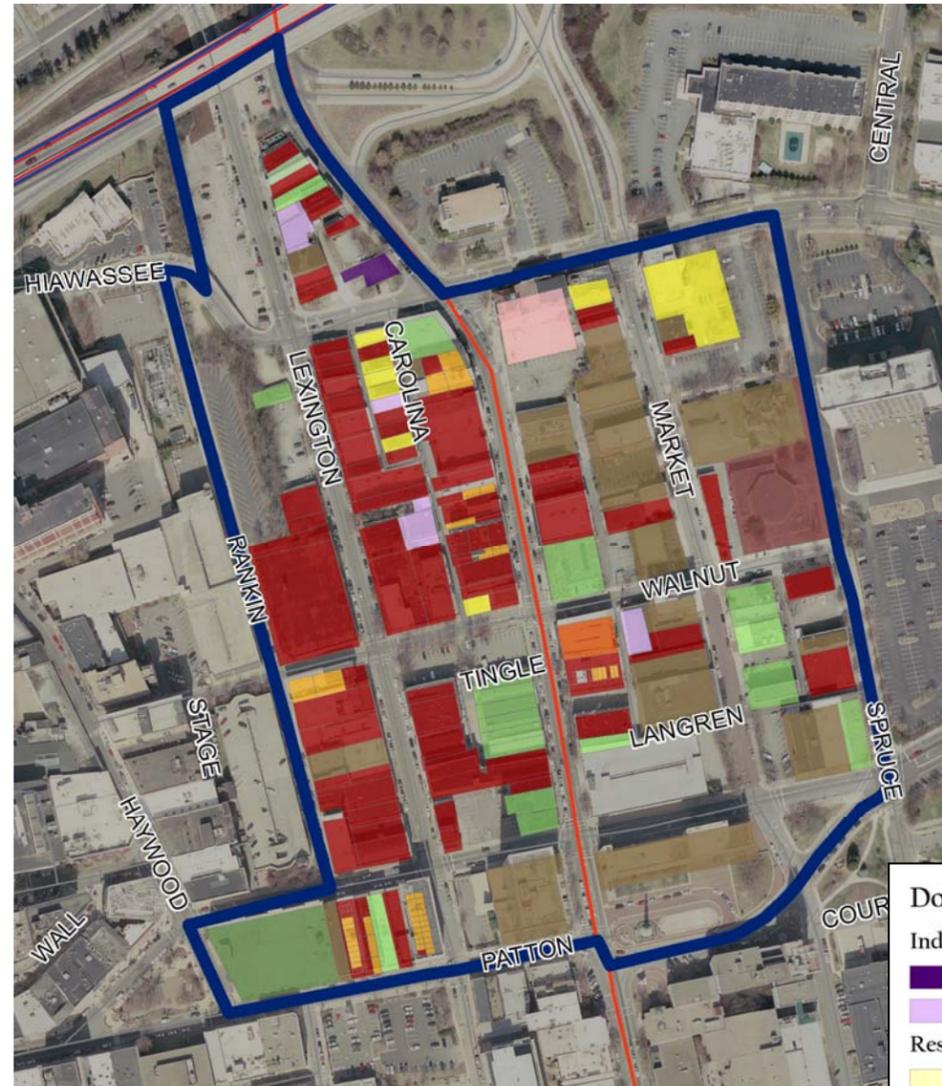


Table 10 - Existing and Future Land Use - Zone B

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	42	42	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	94	231	137	d.u.
Assisted Living	252	343	343	-	d.u.
Hotel	310	40	140	100	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	7,654	7,654	-	seats
Civic Center	595	75,307	75,307	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	30,000	30,000	s.f.
Church	560	16,000	16,000	-	s.f.
Museum	580	6,550	6,550	-	s.f.
Library	590	63,540	63,540	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	404,763	429,763	25,000	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	118,183	118,183	-	s.f.
General Retail	820	115,057	225,057	110,000	s.f.
Grove Retail	820	100,000	100,000	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	15,144	15,144	-	s.f.
Restaurant	931	52,157	52,157	-	s.f.
Lounge	936	6,847	6,847	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone C



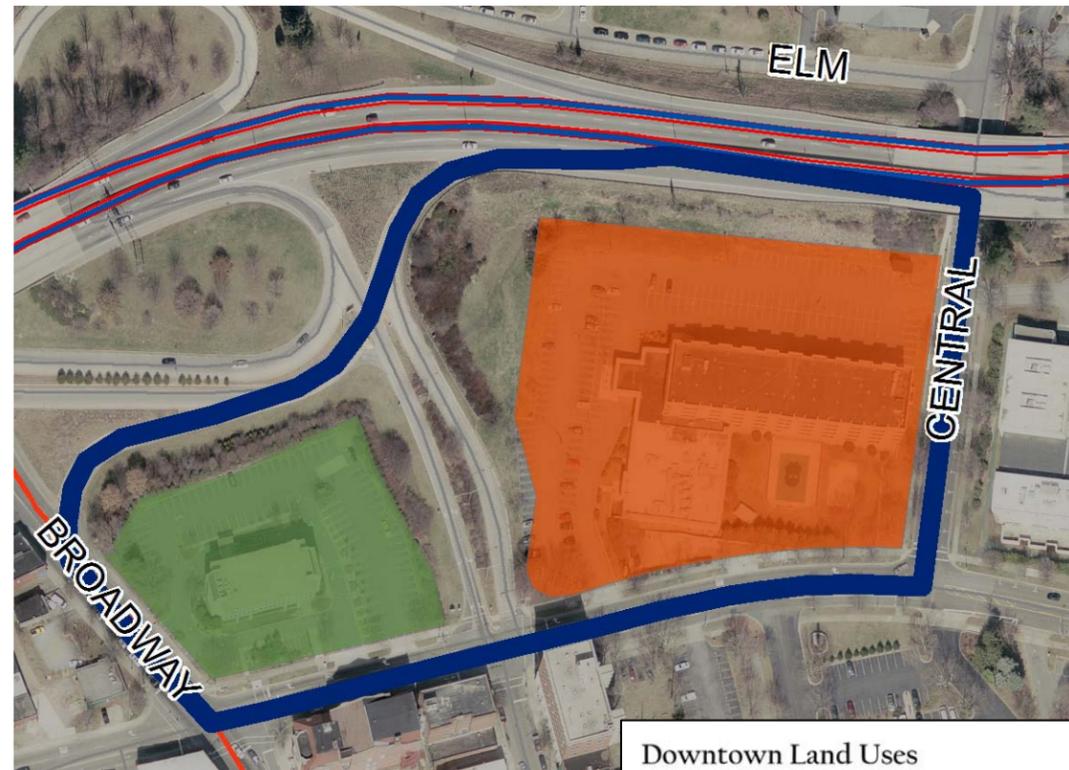
Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table II - Existing and Future Land Use - Zone C

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	1,788	1,788	-	s.f.
Storage	151	18,129	18,129	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	42	42	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	51	91	40	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	60	98	38	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	400	400	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	14,216	14,216	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	619,526	619,526	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	284,613	314,613	30,000	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	126,187	126,187	-	s.f.
Restaurant	931	68,570	68,570	-	s.f.
Lounge	936	21,745	21,745	-	s.f.
Auto Service	942	3,850	3,850	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone D



Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 12 - Existing and Future Land Use - Zone D

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	150	150	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	-	-	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	-	-	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	17,780	17,780	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.



Zone E

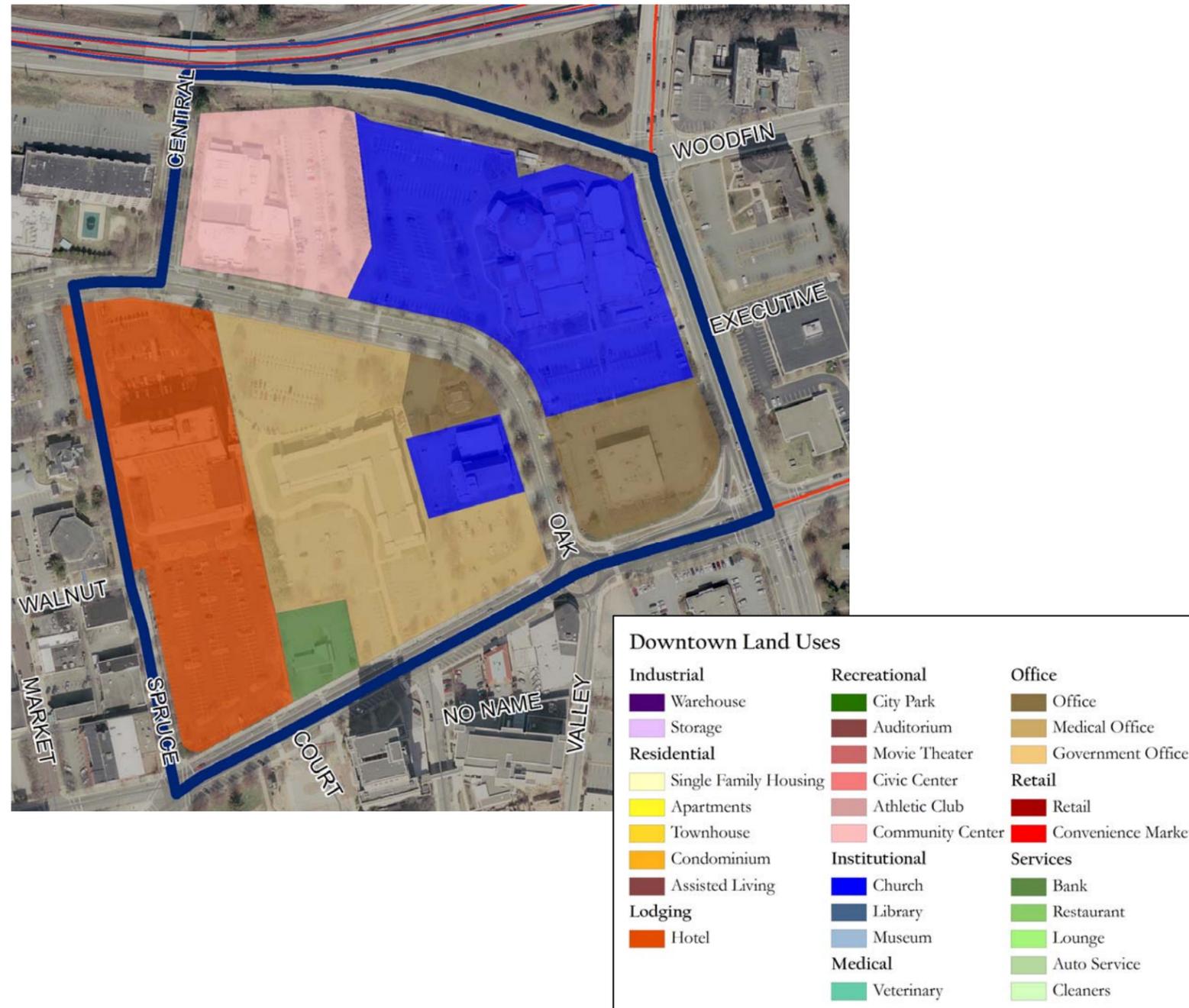


Table 13 - Existing and Future Land Use - Zone E

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	275	275	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	55,000	55,000	-	s.f.
Church	560	144,938	144,938	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	90,385	90,385	-	s.f.
Medical Office	720	96,480	96,480	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	-	-	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	1,568	1,568	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	11,722	11,722	-	s.f.

Zone F



Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 14 - Existing and Future Land Use - Zone F

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	150	150	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	3	3	-	acres
Performing Arts Theater	441	-	2,000	2,000	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	28,122	28,122	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	312,780	312,780	-	s.f.
General Retail	820	-	25,000	25,000	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	8,200	8,200	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone G

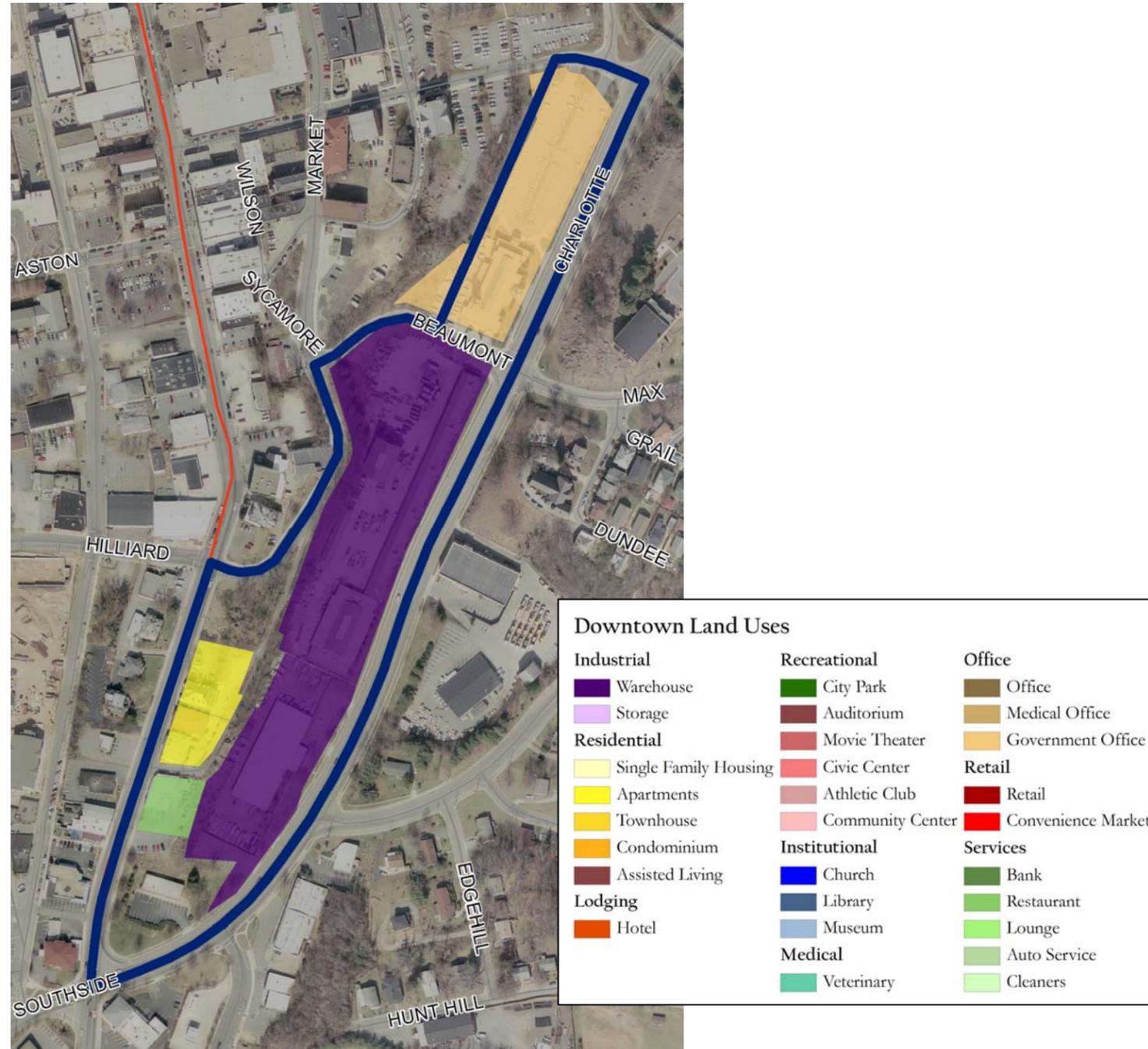


Table 15 - Existing and Future Land Use - Zone G

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	217,591	217,591	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	6	6	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	-	-	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	32,000	32,000	-	s.f.
General Retail	820	-	-	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	10,180	10,180	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone H

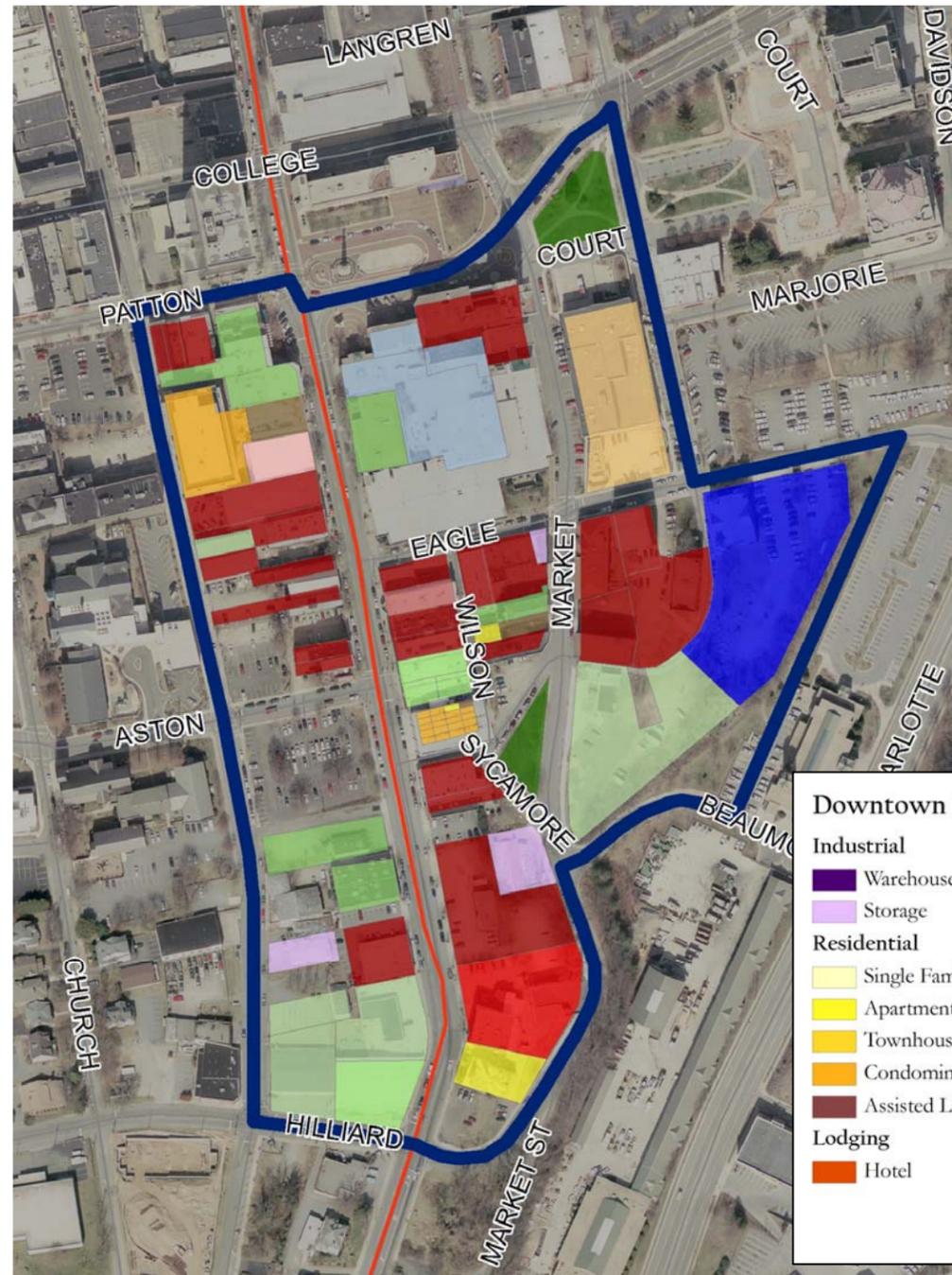
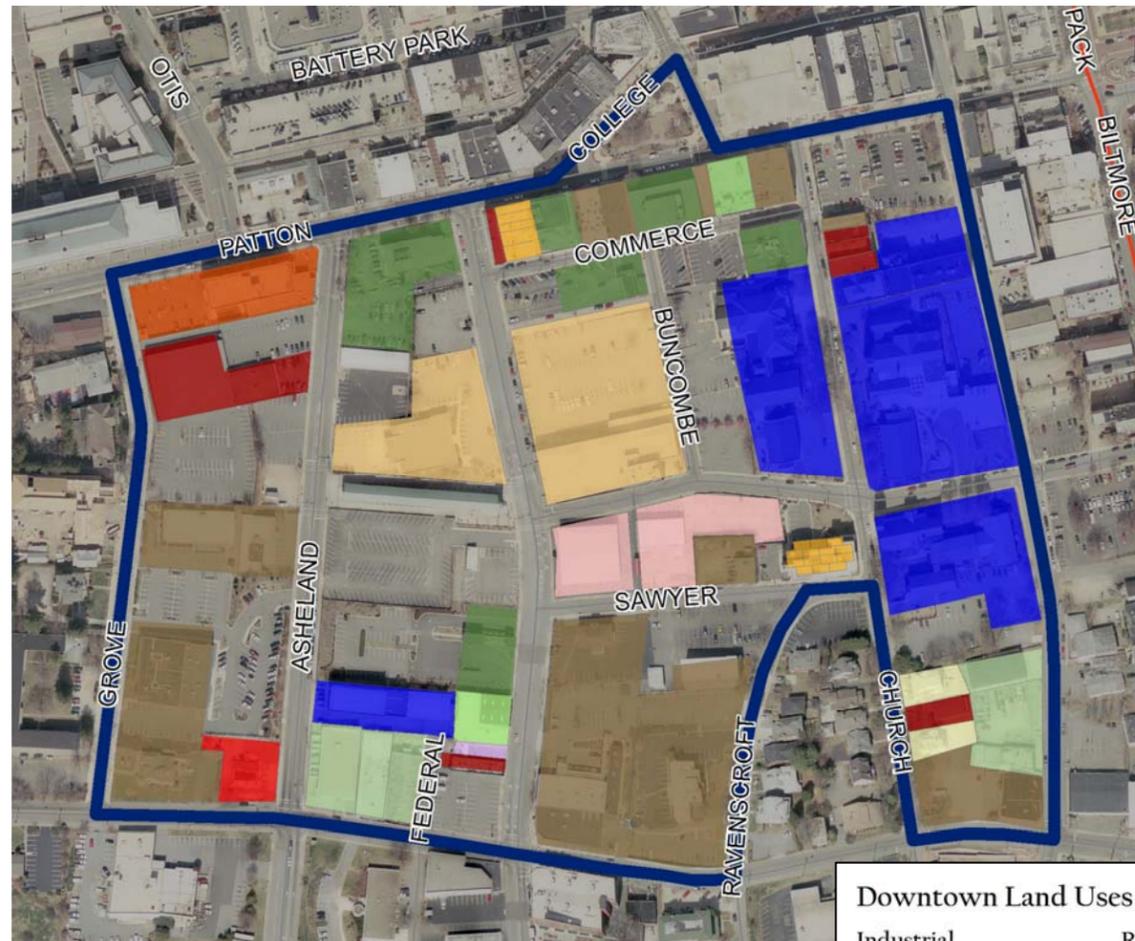


Table 16 - Existing and Future Land Use - Zone H

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	15,355	15,355	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	15	15	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	68	140	72	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	265	265	rooms
City Park	411	4	4	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	250	250	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	23,791	23,791	-	s.f.
Church	560	16,824	16,824	-	s.f.
Museum	580	90,000	90,000	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	9,200	9,200	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	80,400	80,400	-	s.f.
General Retail	820	231,059	219,810	-11,249	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	15,916	15,916	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	85,127	85,127	-	s.f.
Lounge	936	43,144	43,144	-	s.f.
Auto Service	942	35,348	35,348	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone I



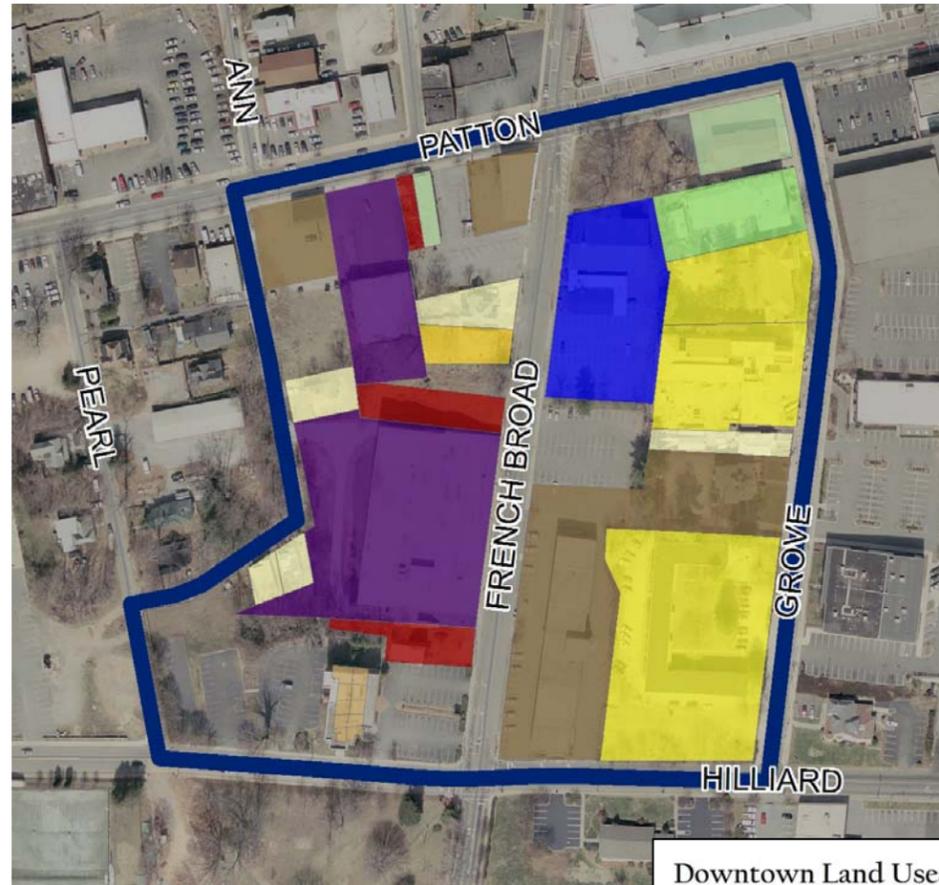
Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 17 - Existing and Future Land Use - Zone I

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	2,575	2,575	-	s.f.
Single Family Home	210	2	2	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	19	19	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	92	92	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	14,000	14,000	-	s.f.
Church	560	68,760	118,760	50,000	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	161,112	161,112	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	88,004	88,004	-	s.f.
General Retail	820	43,527	43,527	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	1,648	1,648	-	s.f.
Bank	911	133,913	133,913	-	s.f.
Restaurant	931	13,632	13,632	-	s.f.
Lounge	936	6,036	6,036	-	s.f.
Auto Service	942	32,724	32,724	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone J



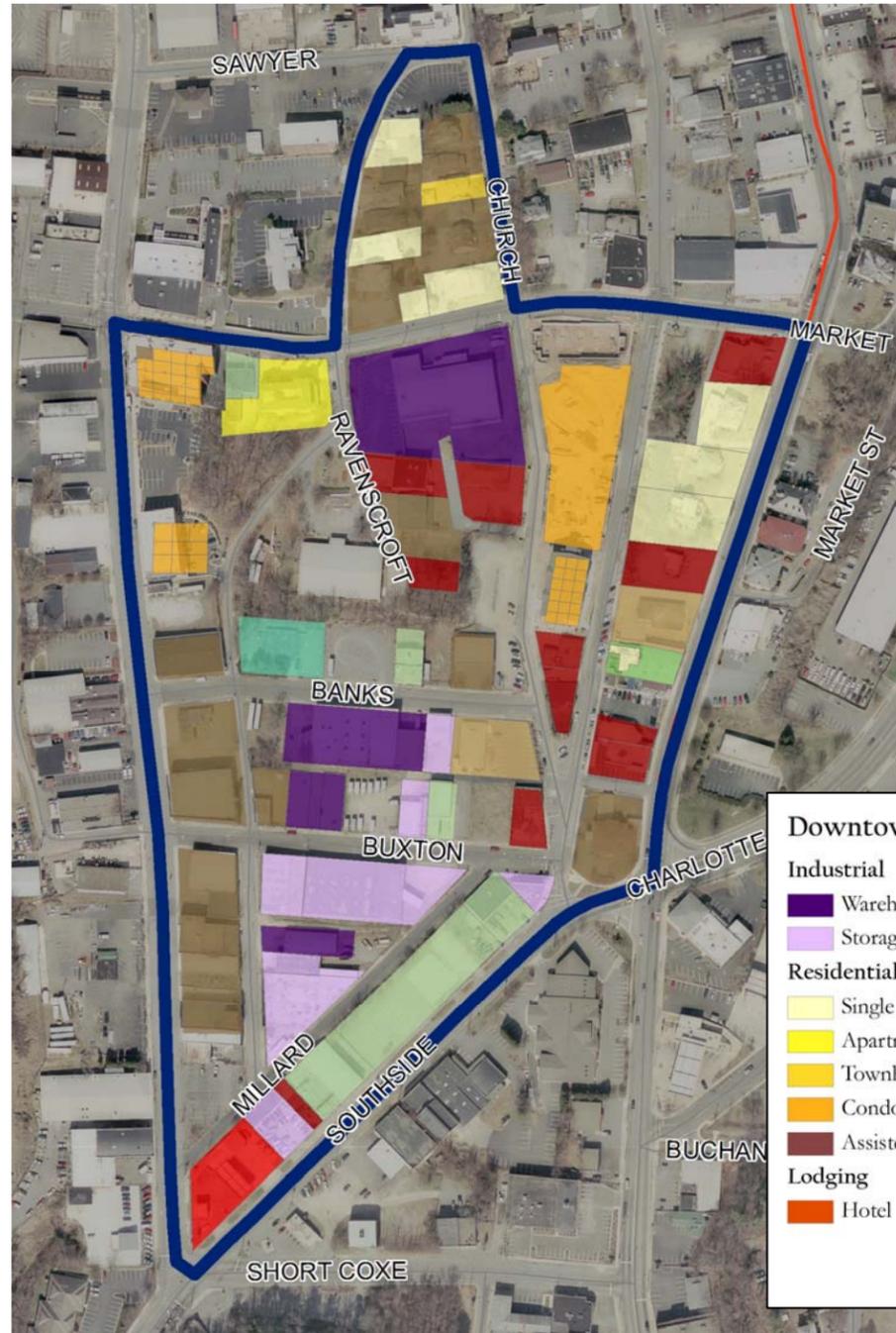
Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 18 - Existing and Future Land Use - Zone J

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	63,085	63,085	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	5	5	-	d.u.
Apartments	221	120	120	-	d.u.
Townhouse	224	2	2	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	10,000	10,000	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	29,052	29,052	-	s.f.
Medical Office	720	27,513	27,513	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	5,704	5,704	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	22,972	22,972	-	s.f.
Auto Service	942	3,648	3,648	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone K



Downtown Land Uses

Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Table 19 - Existing and Future Land Use - Zone K

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	69,370	69,370	-	s.f.
Storage	151	31,564	31,564	-	s.f.
Single Family Home	210	8	8	-	d.u.
Apartments	221	23	23	-	d.u.
Townhouse	224	2	2	-	d.u.
Condominiums	230	95	365	270	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	2,610	2,610	-	s.f.
General Office	701	131,809	131,809	-	s.f.
Medical Office	720	6,422	6,422	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	44,386	44,386	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	2,022	2,022	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	7,396	7,396	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	26,932	26,932	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.

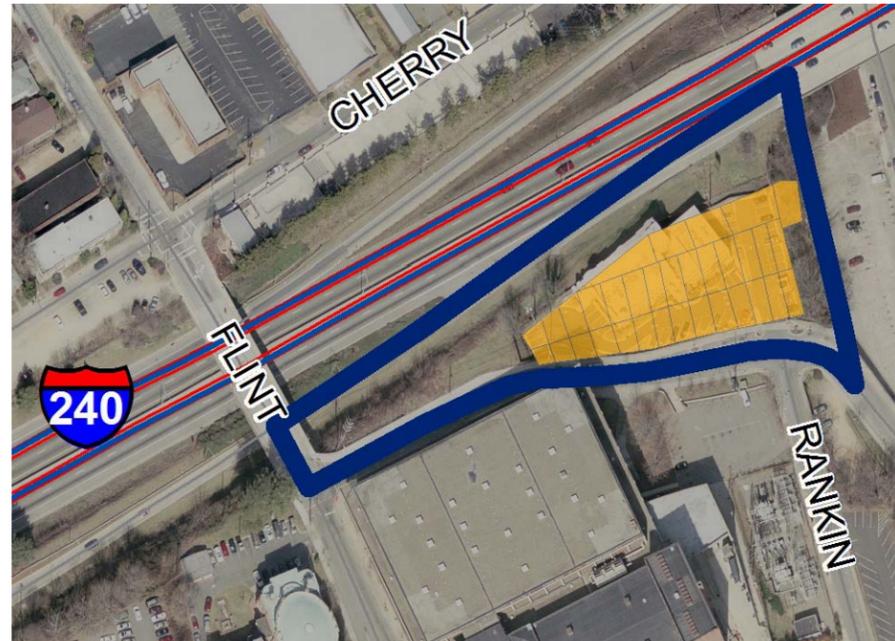
Zone L



Downtown Land Uses		
Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	30,242	30,242	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	-	-	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	52,068	52,068	-	s.f.
Medical Office	720	58,900	58,900	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	25,311	25,311	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	22,560	22,560	-	s.f.
Cleaners	960	6,908	6,908	-	s.f.
Convention Center	595	-	-	-	s.f.

Zone M



Downtown Land Uses		
Industrial	Recreational	Office
Warehouse	City Park	Office
Storage	Auditorium	Medical Office
Residential	Movie Theater	Government Office
Single Family Housing	Civic Center	Retail
Apartments	Athletic Club	Retail
Townhouse	Community Center	Convenience Market
Condominium	Institutional	Services
Assisted Living	Church	Bank
Lodging	Library	Restaurant
Hotel	Museum	Lounge
	Medical	Auto Service
	Veterinary	Cleaners

Description	ITE Code	Existing Intensity	Future Intensity	Growth	Units
Warehouse	150	-	-	-	s.f.
Storage	151	-	-	-	s.f.
Single Family Home	210	-	-	-	d.u.
Apartments	221	-	-	-	d.u.
Townhouse	224	-	-	-	d.u.
Condominiums	230	32	32	-	d.u.
Assisted Living	252	-	-	-	d.u.
Hotel	310	-	-	-	rooms
City Park	411	-	-	-	acres
Performing Arts Theater	441	-	-	-	seats
Movie Theater	444	-	-	-	seats
Arena	460	-	-	-	seats
Civic Center	595	-	-	-	s.f.
Athletic Club	493	-	-	-	s.f.
Community Center	495	-	-	-	s.f.
Church	560	-	-	-	s.f.
Museum	580	-	-	-	s.f.
Library	590	-	-	-	s.f.
Veterinary	640	-	-	-	s.f.
General Office	701	-	-	-	s.f.
Medical Office	720	-	-	-	s.f.
Government Office	730	-	-	-	s.f.
General Retail	820	-	-	-	s.f.
Grove Retail	820	-	-	-	s.f.
Convenience Market	851	-	-	-	s.f.
Bank	911	-	-	-	s.f.
Restaurant	931	-	-	-	s.f.
Lounge	936	-	-	-	s.f.
Auto Service	942	-	-	-	s.f.
Cleaners	960	-	-	-	s.f.
Convention Center	595	-	-	-	s.f.



Existing and Future Parking Supply

The second component when analyzing the parking demand is the available parking supply. **Table 22** provides the breakdown of existing and future parking used in the parking demand analysis. The totals for existing parking supply differ slightly from the actual parking supply found in **Table 1**. Based on conversations with City staff, the following assumptions were made regarding the existing parking supply:

- The total parking supply at the Federal Building was cut in half, from 210 total spaces to 105 total spaces, to account for the low occupancy experienced on site. The low occupancy on the site is due to parking restrictions that require high level clearance for admittance, typically leaving the lot less than half full.
- The total parking supply at the AT&T Building was cut in half, from 210 total spaces to 105 total spaces, to account for the low occupancy experienced on the site. The low occupancy on the site is due to the restriction of use to AT&T service vehicles only, which typically only use half of the capacity.

Zone	Existing Parking Garage	Existing Surface Parking	Existing On-Street	Existing Parking Total	Future Parking Garage	Future Surface Parking	Future On-Street	Future Parking Total	Change (Total Spaces)
A	0	613	2	614	0	613	2	614	0
B	1,044	850	291	2,185	1,044	700	291	2,035	-150
C	340	845	262	1,447	1,040	845	262	2,147	700
D	0	285	6	291	0	285	6	291	0
E	700	762	77	1,539	700	762	77	1,539	0
F	0	699	107	806	0	699	107	806	0
G	0	235	0	235	0	235	0	235	0
H	335	506	205	1,046	835	341	205	1,381	335
I	0	1,548	161	1,709	850	1,380	161	2,391	682
J	0	527	4	531	0	527	4	531	0
K	0	615	66	681	250	615	66	931	250
L	0	536	10	546	0	536	10	546	0
M	0	37	11	48	0	37	11	48	0
Total	2,419	8,058	1,202	11,678	4,719	7,575	1,202	13,495	1,817

The projected future parking supply was obtained through discussion with City staff and the Office of Economic Development. Based on this data, the future parking supply is expected to grow by approximately 1,800 parking spaces. The following changes were included in the projected future parking supply:

- Proposed parking garage on Rankin Avenue – 700 spaces (Zone C)
- Biltmore Avenue parking garage – 500 new spaces, remove 165 existing spaces (Zone H)
- Coxe Avenue parking garage – 850 new spaces, remove 168 existing spaces (Zone I)
- Removal of spaces for Haywood Street development – 150 spaces (Zone B)
- Underground parking garage for new development near Ravenscroft Drive – 250 spaces (Zone K)

Parking Generation Rates

The third major component driving the parking demand analysis is the parking generation rates for each type of land use. **Table 23** provides the parking generation rates used in this analysis. The rates were derived from national averages published by ULI or ITE. The rates used in this analysis were found to generate a parking demand closest to the actual conditions observed during field data collection.

Description	Source	Weekday		Weekend		Units
		Patron	Employee	Patron	Employee	
Warehouse	ITE	0.67		0.67		per 1,000 GFA
Storage	ITE	0.20		0.20		per 1,000 GFA
Single Family Home	ITE	2.14		2.14		per dwelling unit
Apartments	ITE	1.17		1.17		per dwelling unit
Townhouse	ITE	1.78		1.78		per dwelling unit
Condominiums	ITE	1.68		1.68		per dwelling unit
Assisted Living	ITE	0.33		0.34		per dwelling unit
Hotel	ULI	0.90	0.25	1.00	0.18	per room
City Park	ITE	2.10		5.10		per acre
Performing Arts Theater	ULI	0.30	0.07	0.33	0.07	per seat
Movie Theater	ULI	0.19	0.01	0.26	0.01	per seat
Arena	ULI	0.27	0.03	0.30	0.03	per seat
Civic Center	ULI	5.50	0.50	5.50	0.50	per 1,000 GFA
Athletic Club	ULI	6.60	0.50	5.50	0.25	per 1,000 GFA
Community Center	ITE	1.15		4.00		per 1,000 GFA
Church	ITE	1.17		13.79		per 1,000 GFA
Museum	ITE	0.90		2.10		per 1,000 GFA
Library	ITE	0.42		0.37		per 1,000 GFA
Veterinary	ITE	1.60		1.60		per 1,000 GFA
General Office	ULI	0.20	2.60	0.02	0.26	per 1,000 GFA
Medical Office	ULI	3.00	1.50	3.00	1.50	per 1,000 GFA
Government Office	ITE	6.13		0.61		per 1,000 GFA
General Retail	ITE	1.13		2.13		per 1,000 GFA
Grove Retail	ITE	5.06		5.92		per 1,000 GFA
Convenience Market	ITE	3.77		4.00		per 1,000 GFA
Bank	ITE	2.64		2.64		per 1,000 GFA
Restaurant	ULI	15.25	2.75	17.00	3.00	per 1,000 GFA
Lounge	ULI	15.25	1.25	17.50	1.50	per 1,000 GFA
Auto Service	ITE	4.17		4.17		per 1,000 GFA
Cleaners	ITE	2.44		2.44		per 1,000 GFA
Convention Center	ULI	5.50	0.50	5.50	0.50	per 1,000 GFA



Rates taken from ULI are separated into employee and patron rates, while the rates taken from ITE have employee and patron rates factored into the total rate. ULI separates the employee and patron rates for a variety of reasons, including the difference in parking duration and mode split, as well as to accurately plan for the parking supply provided for both employees and guests. ITE's rates combine the two, and present an overall demand rate for both types of users. The rates published by ITE are comparable to a combination of the employee and guest rate outlined in ULI.

Parking generation rates for weekends and weekdays also were used to analyze the different peak conditions. Parking accumulation for each peak is different, as the attractions during each peak vary greatly. For example, offices require more parking during the weekday peak than on the weekend, while a performing arts theater typically will require more parking on a weekend than a weekday. Weekdays are defined as Monday through Friday, while the weekend is typically defined as Saturday and Sunday. However, the nature of Asheville's downtown and its activity patterns suggest that Friday night should be included in the weekend peak.

Multimodal Trip Reduction

The demand generated by each land use will not always be accommodated by vehicular trips. Energy concerns and rising gas prices have shifted the nation's focus to alternative means of transportation, which reduces the overall demand for vehicle parking spaces. Several alternative methods have seen increased popularity in the past few years, including public transportation, bicycling, and walking. The parking demand model takes these alternative methods of transportation into account when analyzing the peak parking demand. **Table 24** provides the rates used in this analysis.

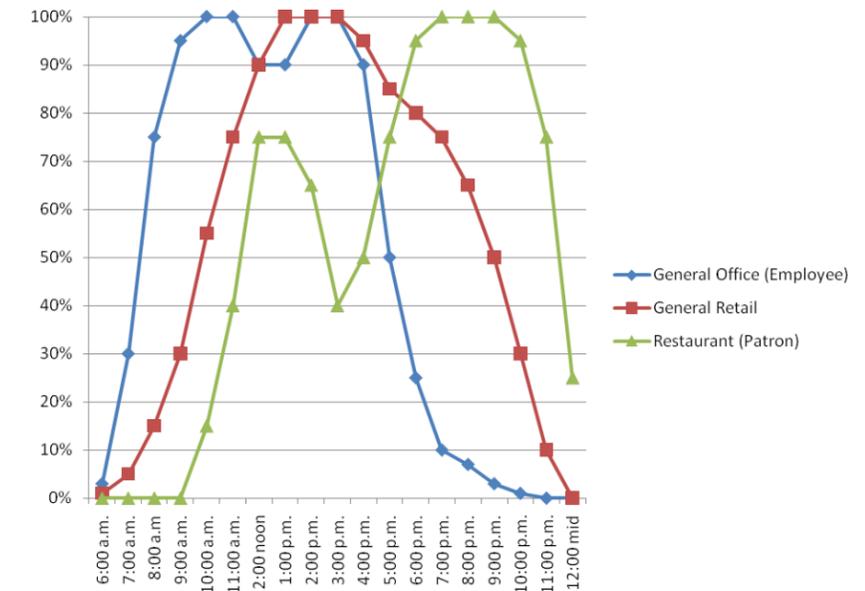
Type of Alternative Transportation Mode	U.S. Census, 2000	Rate Used
Public Transportation	2.2%	14.0%
Bicycling	1.2%	1.2%
Walking	3.3%	15.0%

Typically, U.S. Census data is used to estimate the proportion of public transit ridership, bicyclers, and walkers to be removed from the vehicular population. However, the latest census data published in 2000 showed fairly low levels of multimodal trips. Based on discussions with City staff and the public during the projects workshops, it was determined that today's rates were higher than those projected from the 2000 census data. Based on research into alternative modes in Asheville and a review of projected census data that occurs between major census updates (which occur every ten years), the higher rates shown in **Table 24** were developed.

Shared Parking Assumptions

The shared parking methodologies outlined in ULI *Shared Parking* were utilized to evaluate the potential shared parking relationships between the various land uses downtown. As stated previously, shared parking is the use of a parking space by two or more individual land uses without conflict or encroachment. Shared parking analysis is driven by time-of-day demand factors provided by ULI. These factors reduce the overall parking demand for a given time period to reflect actual parking accumulation patterns. **Figure 12** provides an example of time-of-day parking distributions for several land uses found in downtown Asheville.

Figure 12 – Example Time-of-Day Parking Distribution



Using shared-use methodologies will provide a much lower overall parking demand than using single-use methodology, which assumes that each land use has its own set of reserved parking spaces to accommodate its demand. **Table 25** provides a comparison of results based on single-use and shared-use methodologies (based on analysis of existing weekday conditions). The difference in methodologies represents approximately 2,742 spaces.

Zone	Single-Use Methodology	Shared-Use Methodology	Difference
A	384	209	175
B	2,898	2,602	296
C	3,102	2,470	632
D	154	126	28
E	918	855	63
F	1,505	1,471	34
G	375	233	142
H	2,527	1,668	859
I	1,493	1,351	142
J	618	325	293
K	738	674	64
L	400	386	14
M	54	54	0
Total	15,166	12,424	2,742



Proximity Parking Relationships

The parking demands calculated using the shared-use methodology are localized to each individual parking analysis zone. Using this assumption, a user that is parking in Zone A will continue to circulate that zone until a parking space becomes available. This assumption is not accurate and can produce a false deficiency in a parking analysis zone. The parking demand model accounts for this by creating shared use relationships in each zone called proximity parking relationships. These relationships are based on assumed user walking tolerance between zones. For example, the same user who is looking for a spot in Zone A will more than likely park in Zones B or J and walk to the preferred destination.

The proximity parking relationships for this analysis were developed based on a 600-foot walking tolerance, which is a standard urban design threshold. Some situations call for a higher walking tolerance, such as a quarter mile, but given Asheville’s topography, this distance seems to be unrealistic. **Table 26** provides the proximity parking relationships used in this analysis. The columns represent the amount that is donated by a particular zone to another zone, while the rows represent the amount of parking received by a zone from a zone with available parking. For example, Zone A would donate approximately 57 percent of its available parking supply to Zone B if necessary. These relationships are based on the aforementioned walking tolerance and the proximity of the zonal boundaries.

The result of the proximity parking analysis is a balancing of the overall deficit across the study area. The proximity parking analysis does not reduce the overall deficit experienced in downtown; it simply provides additional parking for those zones that are deficient. Some zones with small deficiencies will show a final surplus/deficit of zero, while some zones with surpluses will see a reduction in surplus to help meet the demands of other zones.

Results

The results of the parking demand analysis can be found on **Figures 13-16**, on the following pages. These results depict parking demand for normal conditions on both weekday and weekend peaks. Results for both the existing and future land use scenarios are included.

Several additional scenarios were evaluated to determine the parking accumulation for various special event conditions. These scenarios were analyzed for both existing and future development intensities, as well as weekday and weekend peaking patterns. The following special event parking scenarios were evaluated for this analysis.

- Concert at the Civic Center
- Craft Show at the Civic Center
- Event at Pack Square
- Concert at the Civic Center and event at Pack Square
- Craft Show at the Civic Center and event at Pack Square

Table 27 provides the results for the special event analysis scenarios for the existing and future land use intensities.

Table 26 - Proximity Parking Relationships													
Receiving Zone	Donating Zone												
	A	B	C	D	E	F	G	H	I	J	K	L	M
A	-	17.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	20.8%	0.0%	0.0%	0.0%
B	57.2%	-	24.7%	4.9%	0.0%	0.0%	0.0%	2.8%	22.7%	29.2%	0.0%	0.0%	55.3%
C	0.0%	32.7%	-	50.8%	41.4%	19.4%	0.0%	20.9%	11.3%	0.0%	0.0%	0.0%	37.0%
D	0.0%	0.0%	11.5%	-	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%
E	0.0%	0.0%	19.6%	39.8%	-	40.1%	0.0%	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%
F	0.0%	0.0%	9.8%	0.0%	45.4%	-	22.6%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%
G	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	-	18.2%	4.8%	0.0%	16.9%	0.0%	0.0%
H	0.0%	0.0%	15.4%	0.0%	11.0%	32.6%	38.1%	-	19.2%	0.0%	13.4%	0.0%	0.0%
I	8.2%	31.5%	16.1%	0.0%	0.0%	0.0%	5.1%	20.3%	-	44.1%	36.2%	40.0%	0.0%
J	34.6%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.1%	-	0.0%	5.7%	0.0%
K	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.1%	14.7%	19.0%	0.0%	-	54.2%	0.0%
L	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	33.5%	-	0.0%
M	0.0%	3.6%	2.9%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	0.0%	-

Figure 13 – Existing Land Use, Weekday

Projected number of parking spaces needed = 700

Parking Demand Model - Data Output Sheet (Weekday Analysis)

Scenario	Period	Peak Analysis		Event			
Existing	Weekday	Overall		Normal			
Zone	Shared Parking? ^A	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	Yes	209	614	405	0	382	173
Zone B	Yes	2,602	2,185	-417	381	2,566	-36
Zone C	Yes	2,470	1,447	-1,023	407	1,854	-616
Zone D	Yes	126	291	165	0	197	71
Zone E	Yes	855	1,539	684	0	870	15
Zone F	Yes	1,471	806	-665	311	1,117	-354
Zone G	Yes	233	235	2	0	234	1
Zone H	Yes	1,668	1,046	-622	146	1,192	-476
Zone I	Yes	1,351	1,709	358	0	1,519	168
Zone J	Yes	325	531	206	0	467	142
Zone K	Yes	674	681	7	0	680	6
Zone L	Yes	386	546	160	0	546	160
Zone M	Yes	54	48	-6	6	54	0
Totals		12,424	11,678	-746	1,251	11,678	-746

Projected Number of Parking Spaces Needed: 700

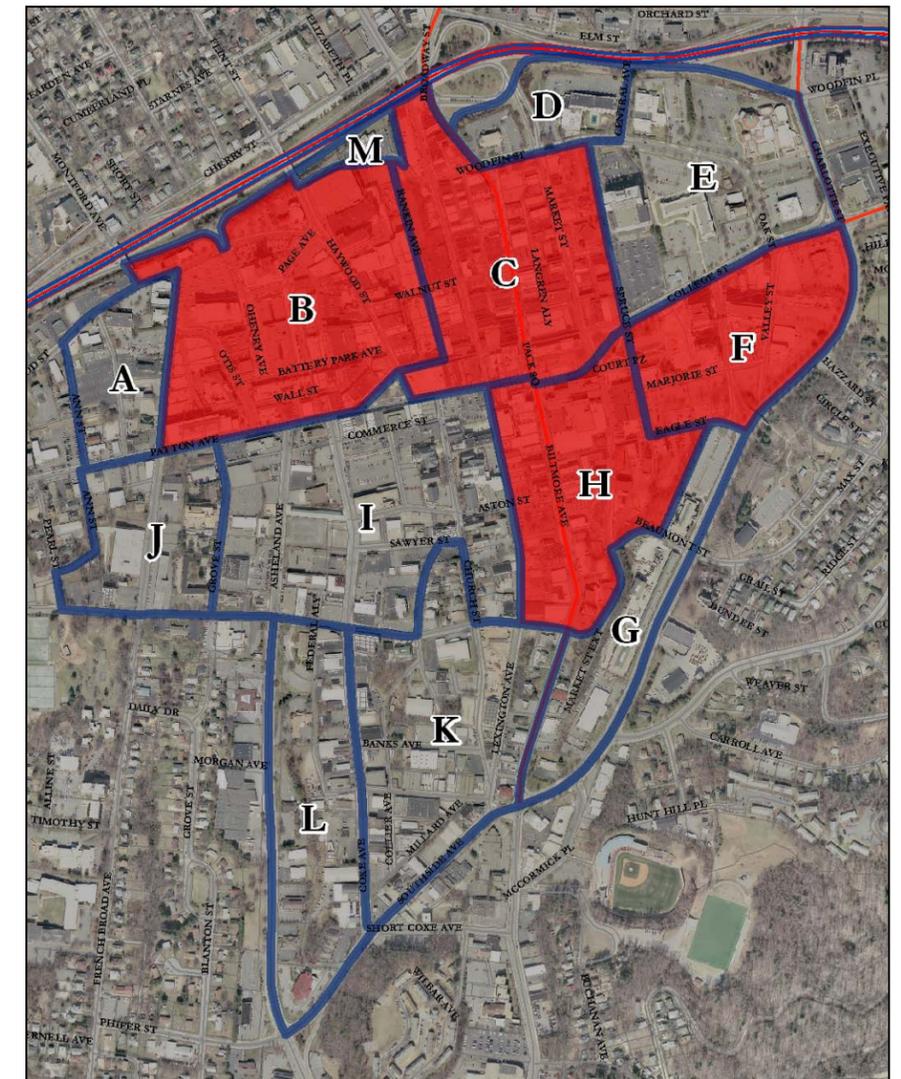
Peak Period: 2:00 PM

Scenario: Base year analysis period (2007) including College Street Deck and associated office building

Event: Assumes maximum occupancy at all businesses

Notes:

- A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.
- B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.
- C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.
- D = Parking supply minus peak parking demand.
- E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.
- F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).
- G = Adjusted parking supply minus peak parking demand.



Deficient zones, corresponding to net parking surplus/deficit result

Figure 14 – Existing Land Use, Weekend

Projected number of parking spaces needed = 0

Parking Demand Model - Data Output Sheet (Weekend Analysis)

Scenario	Period	Peak Analysis	Event				
Existing	Weekend	Overall	Normal				
Zone	Shared Parking? ^A	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	Yes	324	614	290	0	614	290
Zone B	Yes	1,705	2,185	480	0	2,090	385
Zone C	Yes	1,720	1,447	-273	273	1,720	0
Zone D	Yes	99	291	192	0	217	118
Zone E	Yes	1,609	1,539	-70	70	1,609	0
Zone F	Yes	121	806	685	0	450	329
Zone G	Yes	143	235	92	0	200	57
Zone H	Yes	2,269	1,046	-1,223	435	1,481	-788
Zone I	Yes	1,012	1,709	697	0	1,529	517
Zone J	Yes	414	531	117	0	530	116
Zone K	Yes	364	681	317	0	639	275
Zone L	Yes	29	546	517	0	546	517
Zone M	Yes	54	48	-6	6	54	0
Totals		9,863	11,678	1,815	784	11,678	1,815

Projected Number of Parking Spaces Needed: 0

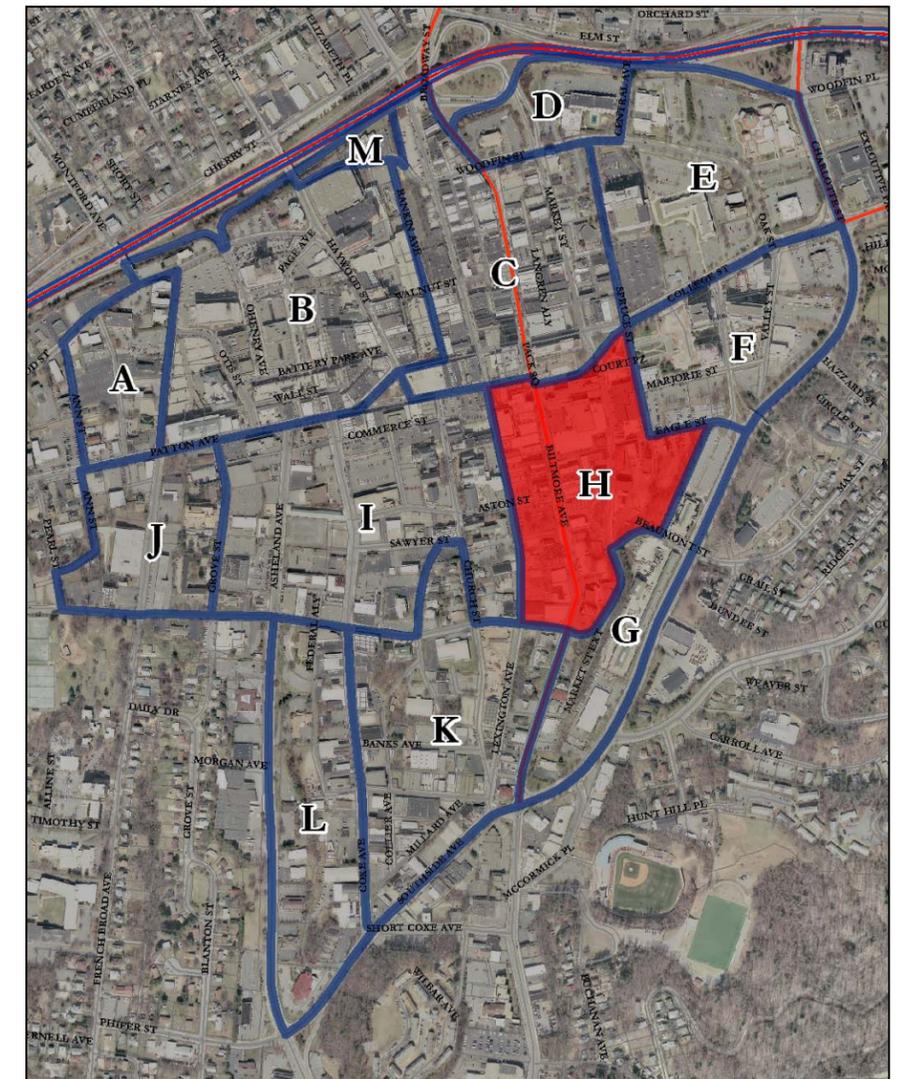
Peak Period: 7:00 PM

Scenario: Base year analysis period (2007) including College Street Deck and associated office building

Event: Assumes maximum occupancy at all businesses

Notes:

- A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.
- B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.
- C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.
- D = Parking supply minus peak parking demand.
- E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.
- F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).
- G = Adjusted parking supply minus peak parking demand.



Deficient zones, corresponding to net parking surplus/deficit result

Figure 15 – Future Land Use, Weekday

Projected number of parking spaces needed = 600

Parking Demand Model - Data Output Sheet (Weekday Analysis)

Scenario	Period	Peak Analysis			Event		
Future	Weekday	Overall			Normal		
Zone	Shared Parking? ^A	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	Yes	209	614	405	0	382	173
Zone B	Yes	3,047	2,035	-1,012	527	2,562	-485
Zone C	Yes	2,583	2,147	-436	436	2,583	0
Zone D	Yes	126	291	165	0	205	79
Zone E	Yes	855	1,539	684	0	896	41
Zone F	Yes	1,776	806	-970	311	1,117	-659
Zone G	Yes	233	235	2	0	233	0
Zone H	Yes	1,943	1,381	-562	268	1,649	-294
Zone I	Yes	1,392	2,391	999	0	1,736	344
Zone J	Yes	325	531	206	0	467	142
Zone K	Yes	1,127	931	-196	196	1,127	0
Zone L	Yes	386	546	160	0	485	99
Zone M	Yes	54	48	-6	6	54	0
Totals		14,056	13,495	-561	1,743	13,495	-561
Projected Number of Parking Spaces Needed:							600

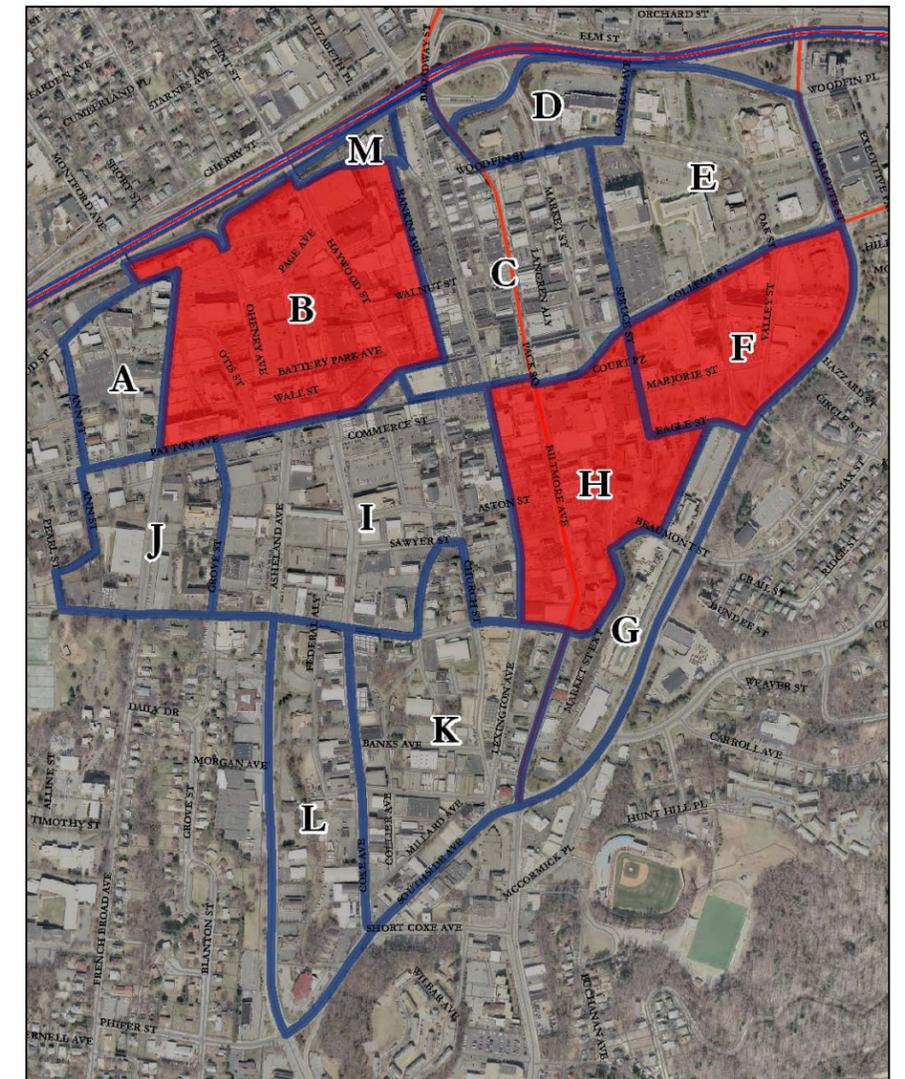
Peak Period: 2:00 PM

Scenario: Future year analysis (includes proposed and committed projects provided by City of Asheville Economic Development)

Event: Assumes maximum occupancy at all businesses

Notes:

- A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.
- B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.
- C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.
- D = Parking supply minus peak parking demand.
- E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.
- F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).
- G = Adjusted parking supply minus peak parking demand.



Deficient zones, corresponding to net parking surplus/deficit result

Figure 16 – Future Land Use, Weekend

Projected number of parking spaces needed = 0

Parking Demand Model - Data Output Sheet (Weekend Analysis)

Scenario	Period	Peak Analysis			Event		
Future	Weekend	Overall			Normal		
Zone	Shared Parking? ^A	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	Yes	324	614	290	0	557	233
Zone B	Yes	2,206	2,035	-171	171	2,206	0
Zone C	Yes	1,847	2,147	300	0	2,013	166
Zone D	Yes	99	291	192	0	246	147
Zone E	Yes	1,609	1,539	-70	70	1,609	0
Zone F	Yes	961	806	-155	50	856	-105
Zone G	Yes	143	235	92	0	179	36
Zone H	Yes	2,553	1,381	-1,172	278	1,659	-894
Zone I	Yes	1,445	2,391	946	0	2,136	691
Zone J	Yes	414	531	117	0	518	104
Zone K	Yes	817	931	114	0	916	99
Zone L	Yes	29	546	517	0	546	517
Zone M	Yes	54	48	-6	6	54	0
Totals		12,501	13,495	994	575	13,495	994

Projected Number of Parking Spaces Needed: 0

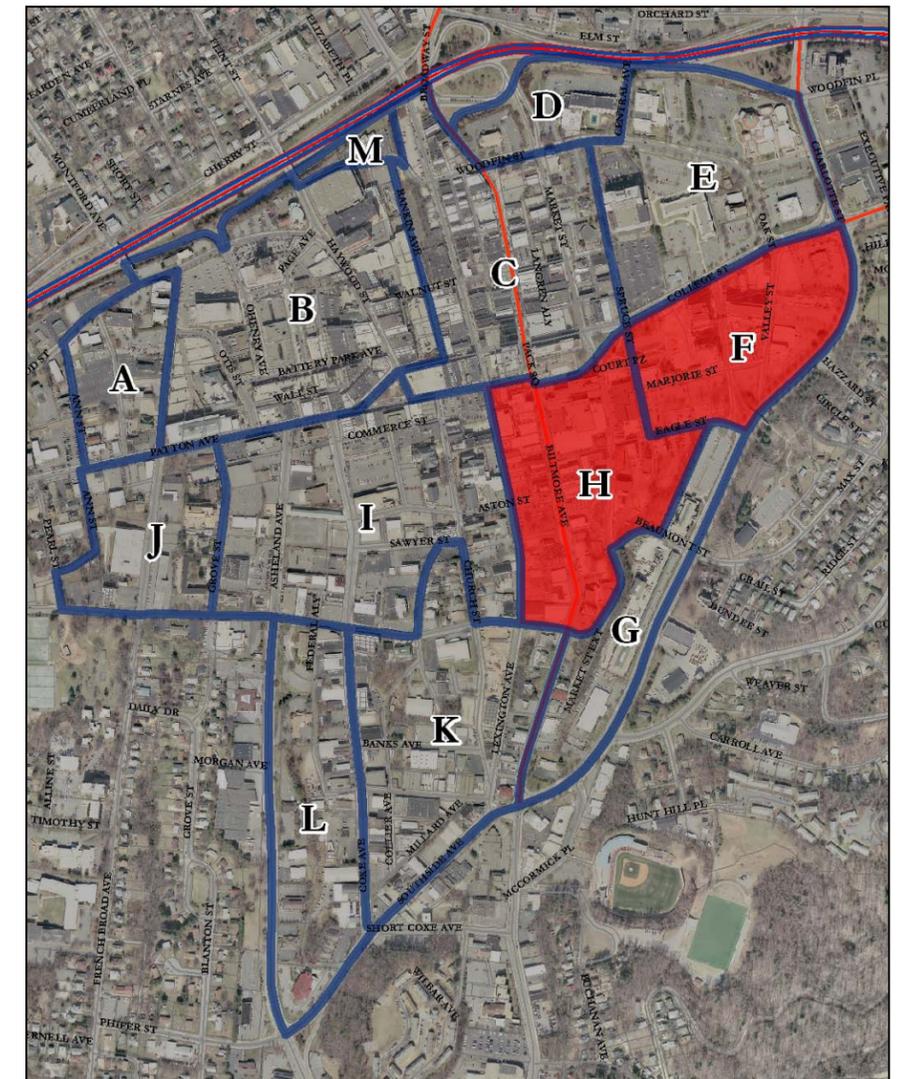
Peak Period: 7:00 PM

Scenario: *Future year analysis (includes proposed and committed projects provided by City of Asheville Economic Development)*

Event: *Assumes maximum occupancy at all businesses*

Notes:

- A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.
- B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.
- C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.
- D = Parking supply minus peak parking demand.
- E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.
- F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).
- G = Adjusted parking supply minus peak parking demand.



Deficient zones, corresponding to net parking surplus/deficit result

Table 27 - Special Event Parking Surplus and Deficit

Zone	Existing Land Use Intensity										Future Land Use Intensity									
	Weekday					Weekend					Weekday					Weekend				
	Concert at Civic Center	Craft Show at Civic Center	Event at Pack Square	Concert & Event at Pack Square	Craft Show & Event at Pack Square	Concert at Civic Center	Craft Show at Civic Center	Event at Pack Square	Concert & Event at Pack Square	Craft Show & Event at Pack Square	Concert at Civic Center	Craft Show at Civic Center	Event at Pack Square	Concert & Event at Pack Square	Craft Show & Event at Pack Square	Concert at Civic Center	Craft Show at Civic Center	Event at Pack Square	Concert & Event at Pack Square	Craft Show & Event at Pack Square
A	173	173	173	173	173	124	290	290	124	290	173	173	173	173	173	124	202	233	124	202
B	-98	-352	-36	-98	-352	-920	304	380	-920	300	-547	-801	-485	-547	-801	-1,441	0	0	-1,441	0
C	-616	-616	-616	-616	-616	0	0	0	0	0	0	0	0	0	0	118	152	166	118	152
D	71	71	71	71	71	78	114	113	69	108	79	79	79	79	79	141	145	147	141	145
E	15	15	15	15	15	0	0	0	0	0	41	41	41	41	41	0	0	0	0	0
F	-354	-354	-358	-358	-358	290	324	263	226	258	-659	-659	-663	-663	-663	-105	-105	-221	-221	-221
G	1	1	1	1	1	57	57	57	57	57	0	0	0	0	0	36	36	36	36	36
H	-476	-476	-476	-476	-476	-788	-788	-826	-826	-826	-294	-294	-294	-294	-294	-894	-894	-894	-894	-894
I	168	168	168	168	168	335	514	515	330	511	344	344	344	344	344	550	650	691	550	650
J	142	142	142	142	142	80	116	116	80	116	142	142	142	142	142	81	97	104	81	97
K	6	6	6	6	6	275	275	275	275	275	0	0	0	0	0	99	99	99	99	99
L	160	160	160	160	160	517	517	517	517	517	99	99	99	99	99	517	517	517	517	517
M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-808	-1,062	-750	-812	-1,066	47	1,721	1,699	-69	1,605	-623	-877	-565	-627	-881	-774	900	878	-890	784

Parking Operations and Management

The previous sections of this report have dealt with the actual parking environment in the downtown study area, including peak usage and estimated demands. This section analyzes the operations and management aspect of the downtown parking system. The review in this section includes on-street and off-street parking rates, enforcement, and operations; an overview of the City's parking management division; and a review of parking rates in similar cities.

On-Street Parking

The on-street parking system has approximately 1,202 spaces within the downtown study area. These include metered spaces, permit parking, non-metered timed spaces, handicapped parking, and loading zones. This analysis will focus on the metered and permit spaces, which generate revenue for the City. Metered spaces and permit parking total approximately 942 spaces, or 78 percent of the on-street parking supply. The locations of metered and permit parking are shown on **Figure 17**. The following sections review the metered and permit parking operations.

Meter Operations

There are approximately 743 parking meters in the downtown study area. Of these 743 total meters, 622 meters are on shared poles, and the remaining 121 are on individual poles. The meters on shared poles control two parking spaces, freeing up valuable sidewalk space for the pedestrian and storefronts. The City of Asheville's parking meters are manufactured by POM, Inc.

Metered parking hours of operation are between 8 am and 6 pm, based on City Ordinances. These hours of operation are enforced Monday through Saturday. The cost for metered on-street parking is \$1 per hour during this time period. On-street parking rates have not been increased in recent history. On-street rates are held higher than garage rates in an attempt to deter long-term parkers on-street.

Metered parking generated \$919,000 of revenue in 2007. Meter revenue is collected and tracked by routes designated by the City's Parking Services division. There are seven collection routes, and overall parking meter revenue is tracked by computer in the Parking Services offices.

At night and on Sundays, on-street parking is free, which is reflected in a much higher turnover during these periods. Parking is also free on City holidays, including New Year's Day, Martin Luther King, Jr. Day, Good Friday, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas (3 total days for the Christmas holiday).

Generally, the time limit for on-street spaces is two hours or less. There are some exceptions to this, including 30 minute parking spaces, one hour parking spaces, and three hour parking spaces. These alternative time limitations are not



Example of dual space meters

common, and are used only in situations where the nature of the land use dictates alternative turnover patterns, such as near the courthouse. There are four motorcycle-only designated parking spaces on College Street and Battery Park Avenue.

Permit Parking

There are approximately 208 permit parking spaces in the downtown study area. On-street permit parking is available in several areas downtown, including North French Broad Avenue, Rankin Avenue, Central Avenue, Woodfin Street, Valley Street, South Spruce Street, South Market Street, Aston Street, Buncombe Street, College Street, and Grove Street. Permit parking is available to anyone who applies on a first-come, first-served basis. Parking Services does not oversell the permit parking spaces, as it does with the parking garage monthly parking spaces. The permit parking spaces are approximately 95 to 100 percent leased for most of the system. However, there are a few locations that are not subject to such high demand, such as the parking along South Market Street.

There are seven different corresponding permit colors, and a variety of city restricted permit parking spaces. This color coding system is used to help enforcement staff easily identify illegally parked vehicles.

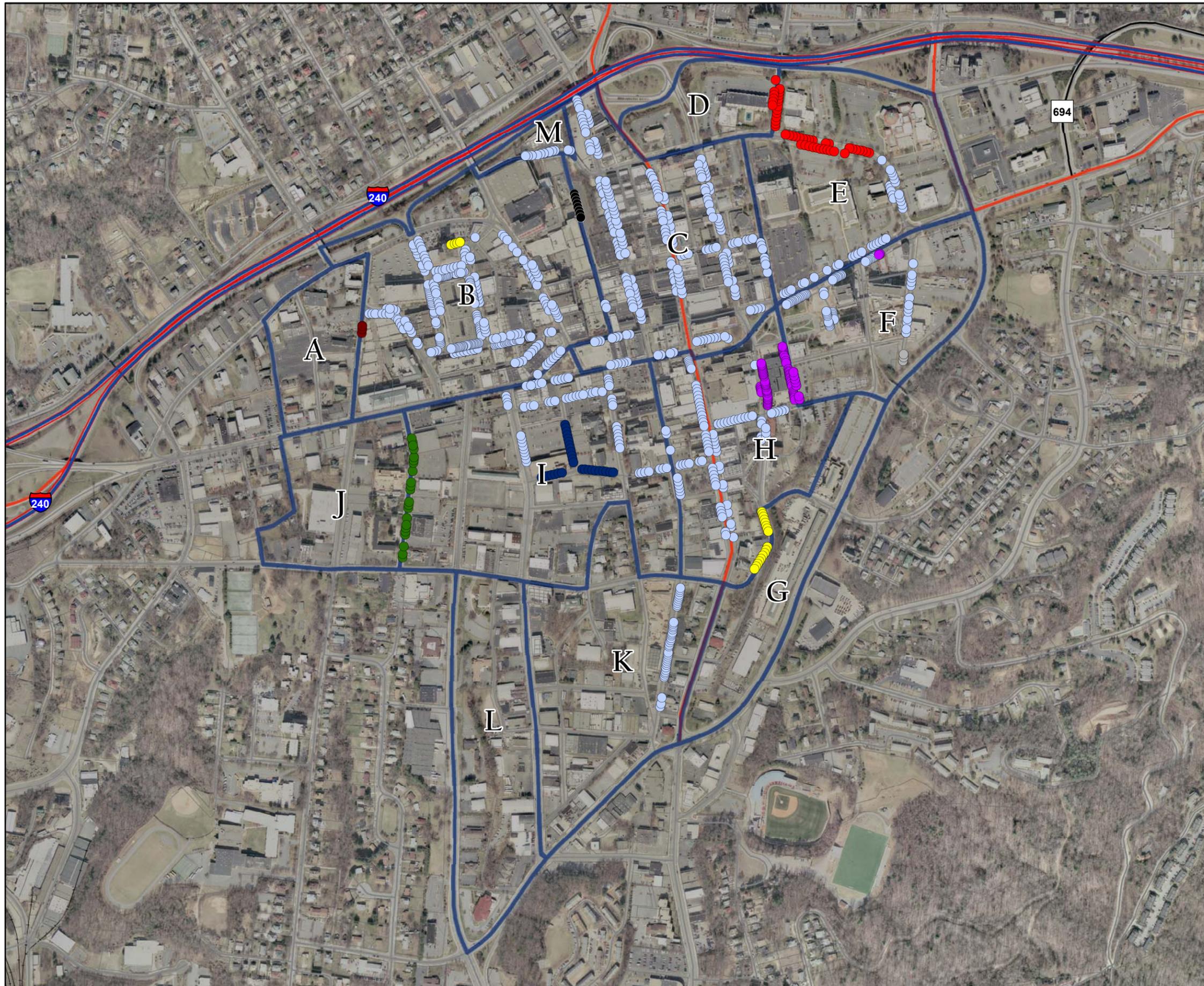
- Blue Permits – blue permits are located along Buncombe Street and Aston Street. There are 29 total spaces, with a monthly cost of \$45.
- Green Permits – green permits are located along Grove Street. There are 22 total spaces, with a monthly cost of \$30.
- Maroon Permits – maroon permits are located along North French Broad Avenue. There are three spaces, with a monthly cost of \$30.
- Red Permits – red permits are located along Woodfin Street, Central Avenue, and Elm Street. There are 50 spaces, with a monthly cost of \$45.
- Black Permits – black permits are located along Rankin Avenue. There are 8 total spaces, with a monthly cost of \$45.
- Yellow Permits – yellow permits are located along South Market Street. There are 21 total spaces, with a monthly cost of \$30.
- Silver Permits – silver permits are located along Valley Street. There are 9 total spaces, with a monthly cost of \$30.
- Animal Control Parking – Animal Control parking is located along South Spruce Street, with 3 spaces reserved for employees of this division.
- Asheville Fire Department Parking – Fire Department parking is located along South Market Street, with 30 spaces reserved for employees of the fire department.
- Asheville Police Department Parking – Police Department parking is located along South Spruce Street, with 31 spaces reserved for employees of the police department.
- Board of Elections Parking – Board of Elections parking is located along College Street, with two spaces reserved for staff of this department.



Black permit parking along Rankin Avenue

City of Asheville Comprehensive Parking Study

Figure 17 - City Owned On-Street Parking



City-Owned On-Street Parking

- Metered Spaces
- Blue Permits
- Green Permits
- Maroon Permits
- Red Permits
- Black Permits
- Yellow Permits
- Silver Permits
- Other Permits

- ▭ Parcels
- ▬ Interstates
- ▬ US Highways
- ▬ State Highways
- ▬ Local Streets
- ▬ Railroads



Kimley-Horn and Associates, Inc.





On-Street Enforcement/Fines

There are currently five parking enforcement employees on staff, including the parking enforcement supervisor, senior parking enforcement officer, and three parking enforcement officers. These enforcement officers monitor the on-street parking supply during normal hours of operation. These enforcement officers patrol the on-street parking, off-street surface lots, and County surface lots. The enforcement officers use electric powered vehicles to patrol the system.

For normal weekday operations, three officers are typically on patrol. This is an upgrade over the two officers that previously patrolled the parking system. The three officers split responsibilities as follows: one officer patrols the eastern portion of the parking system, another officer patrols the western portion, and the third patrols the loading zone and timed spaces. On weekends, two officers patrol the entire system.

The parking offenses and associated fines enforced by the City of Asheville are shown in **Table 28**. Currently, there are three methods for the payment of fines, including direct payment at City Hall, payment at the exit booths of the three City-owned garages, and online payment. Late penalties include \$25 for the first 15 days after the due date plus \$25 after each additional 30 day period.

Table 28 – City of Asheville Citations and Fines	
Citation	Fine
Over Time Limit	\$10
Subsequent over Time Limit	\$20
Loading Zone Violation	\$10
Blocking Crosswalk	\$10
Illegally Parked in Handicap Zone	\$250
Illegally Parked in Fire Zone	\$35
Parked in Front of Fire Hydrant	\$25

The City of Asheville Code of Ordinances allows for the towing and/or application of wheel lock for vehicles that have three or more unpaid parking tickets, which are outstanding for a period of 90 days or more. All applicable fines, plus an additional \$25 is required for removal of the wheel lock. If the fines are not paid within a period of 24 hours, the vehicle may be towed and impounded. Additional fees associated with towing and impounding will be added to the overall costs.

Off-Street Parking

The City of Asheville owns and operates three parking garages and a handful of paved surface lots throughout the downtown study area. The City-owned parking garages are available for transient, monthly, and special event parking. The City-owned surface lots are predominantly available for monthly parking. There are a total of 1,212 parking spaces in the City-owned off-street facilities, with 1,044 in the three parking garages and 168 in surface lots. **Figure 18** shows the



City of Asheville Enforcement Officer



Vehicle with wheel lock applied

locations of the City-owned parking garages and lots. The following sections review the off-street parking supply operations.

Monthly Parkers

Monthly parkers provide the highest amount of revenue from the City’s off-street system. All of the City-owned off-street lots are reserved for monthly parking; in 2007 these lots generated over \$29,000 in revenue. These locations include a grouping of lots on Haywood Avenue (commonly referred to as the Handi-Park lots), and two lots on either side of Rankin Avenue, north of the Civic Center parking garage. The City also recently paved a lot on North Lexington Avenue, under the I-240 overpass, which has space for 15 monthly parkers.

The cost for parking at the outdoor lots is \$55. The outdoor lots include the Rankin Avenue lots, the North Lexington Avenue lot, and two of the Handi-Park lots. The cost for parking at the indoor lot is \$65. The indoor lot is a two-story parking structure located on Haywood Avenue, which is part of the grouping of Handi-Park lots.

The City-owned parking garages have approximately 645 spaces available for monthly parking, which accounts for approximately 62 percent of the total supply of the garages. 535 spaces are available for monthly parkers in the Civic Center parking garage, accounting for approximately 97 percent of the available parking in the facility. 80 spaces are available for monthly parkers in the Rankin Avenue parking garage, accounting for approximately 31 percent of the total supply in the facility. 30 are available for monthly parkers in the Wall Street parking garage, accounting for approximately 13 percent of the total supply in the facility.

The number of monthly spaces has remained relatively constant over the last few years, and the City leases approximately 95 to 100 percent of its spaces. Monthly spaces in the Rankin Avenue and Wall Street parking garages are normally 100 percent leased, with a two year waiting list. The Civic Center parking garage usually operates at 85 to 90 percent of monthly parking spaces leased.

Monthly parking rates were increased two years ago by the City Council to account for inflation. The rates at the three garages were increased from \$50 to \$70 per month for the Civic Center parking garage, from \$75 to \$90 for the Rankin Avenue parking garage, and from \$90 to \$100 for the Wall Street parking garage. Rate increases typically occur every two to three years. Monthly parking in the City-owned garages generated \$554,000 worth of revenue in 2007.

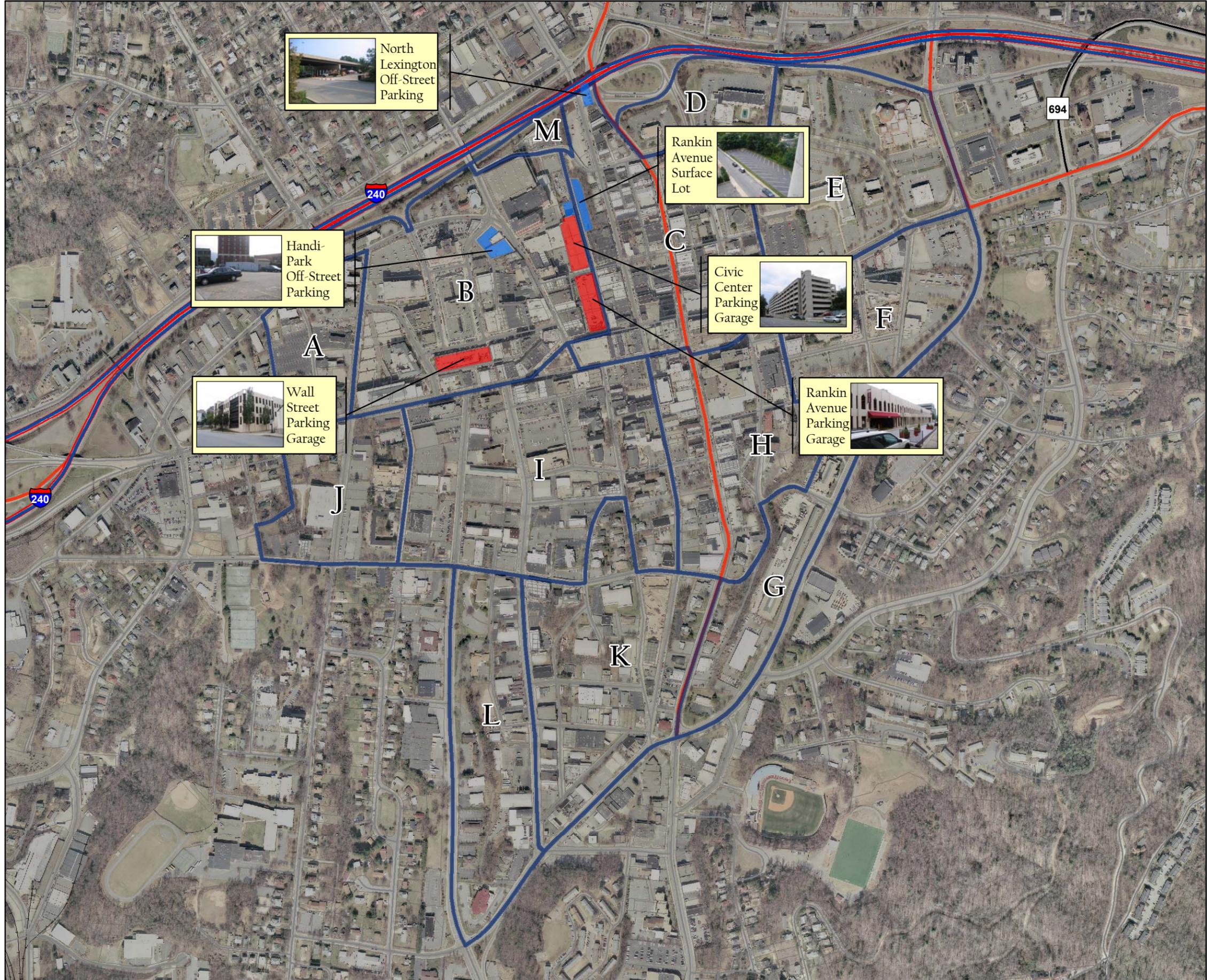
Transient Parkers

Transient parkers provide the second highest source of off-street revenue. All transient parking occurs in the three City-owned garages; in 2007, transient parking revenue exceeded \$368,000. Transient parkers are allowed the first hour free in the garages from 10 am to 7 pm on weekdays, with each subsequent hour costing \$0.50 in the Civic Center parking garage and \$0.75 in the Rankin Avenue and Wall Street parking garages. The daily maximum for each facility is \$4 for the Civic Center parking garage and \$6 for the Rankin Avenue and Wall Street parking garages. Transient parking rates were increased at the Rankin Avenue parking garage two years ago, from \$0.60 to \$0.75.

A flat rate is charged after hours, weekend, and holidays for the parking garages. This flat rate is \$1 for the Civic Center and Rankin Avenue parking garages and \$2 for the Wall Street parking garage. Transient parkers can enter the parking garages after 7 pm on Fridays and park downtown the entire weekend for \$1 to \$2.

City of Asheville Comprehensive Parking Study

Figure 18 - City Owned Off-Street Parking



- City-Owned Off-Street Parking
- █ Off-Street Monthly Parking
 - █ Parking Garage
 - Parcels
 - ▬ Interstates
 - ▬ US Highways
 - ▬ State Highways
 - ▬ Local Streets
 - ▬ Railroads



Kimley-Horn and Associates, Inc.





Special Event Parking

Special event parking is the third component to off-street revenue; in 2007, it generated approximately \$163,000 in revenue. Approximately 95 percent of special event parking revenue is generated in the Civic Center parking garage. Single day special event rates for each facility are \$7 for the Civic Center parking garage and \$6 for the Rankin Avenue and Wall Street parking garages. These rates were raised three years ago from \$5 in all three facilities. Multi-day special events, such as a trade show or the craft show, have a \$5 rate for all three garages.

Revenue Control Equipment

The entrance/exit points for transient parkers are operated by parking attendants during normal operating hours (10 am to 7 pm, on weekdays). The current payment method is cash or check only during operating hours and cash only after hours and on weekends. The entrance/exit points for monthly parkers have digital card reading machines. The access and revenue control equipment used by the City at its parking garages was last replaced approximately seven years ago. The current revenue control equipment is outdated, and the City is in the process of replacing all of the equipment in the three parking garages. At the time of this report, the City is accepting bids from outside contractors to design and implement the new system. The new system is expected to handle multiple transaction methods, including credit cards and cash.



Existing Revenue Control Equipment

Facility Security

A recurring theme throughout the public involvement phases of this project was security of downtown parking facilities, primarily the parking garages. Public perception is that there is a lack of security, especially in the Civic Center parking garage. This includes inadequate lighting on the parking floors and in the stairwells, as well the presence of homeless and illicit activity in the structure after hours.

Many potential causes for these perceptions were provided, including the location of the facility along the poorly lit Rankin Avenue, the entrance and exit points of the facility are located along dark alleys, and the size of the parking structure created too many opportunities for crime. Several citizens used the Wall Street parking garage as an example of a facility with a better perception of security, due to its openness, lighting, and proximity to adjacent streets and destinations.

Wayfinding

The current parking wayfinding system in the City of Asheville uses a color coding system to help parkers navigate to the appropriate parking facility. These signs are located at various points downtown in the proximity of the facilities, providing directional navigation. This system does a good job of pointing the parker in the right direction, but falls short in helping the driver reach the appropriate destination. The Civic Center and Rankin Avenue parking garages are located in an area that is not directly visible to the driver. Better delineation of the parking facilities, through the use of exterior signage, would make the facilities more visible from the adjacent street network.

Currently, the City is working with Asheville Convention and Visitors Bureau, Buncombe County, and the North Carolina Department of Transportation to develop a wayfinding plan for the community. This plan includes enhanced wayfinding for downtown parking, which should provide a better navigational tool for downtown parkers.

Off-Street Enforcement/Fines

Off-street surface lots are enforced by the City of Asheville Parking Services, as described in the on-street enforcement/fines section. Parking enforcement for the City-owned parking garages is handled by the Parking Garages division of Parking Services. All three parking garages are monitored by one security guard. There are two security guards on staff. One security guard works the day shift and the other works the evening shift. Late night security is handled by a private security contractor. There are less offenses and citations typically in the parking garages, and the on duty security officers typically are looking for misparked vehicles.



Existing Parking Wayfinding

Parking Management

Parking management is handled by the Parking Services office, which is a branch of the City of Asheville Transportation and Engineering Department. The Parking Services office is headed by the Parking Services Manager. There are two separate divisions of Parking Services, which are the Parking Garages division and the Parking Services division.

The Parking Garages division is responsible for the daily operation and maintenance of the City's parking garages, as well as special event parking. The Parking Garages division is headed by the Parking Operations Supervisor, with one Attendant Supervisor, three attendants, two security officers, and two facilities attendants on the staff.

The Parking Services division is responsible for the remainder of the parking system, including enforcement of the on-street spaces and off-street surface lots. The Parking Services division is headed by the Parking Enforcement Supervisor, with one Senior Parking Enforcement Officer, three Parking Enforcement Officers, and two trades workers, who are responsible for the collection of parking meter revenue.

Parking Action Plan

In 2006, the City developed a strategy to prevent future deficiencies in its parking system. This strategy, called the Parking Action Plan, was endorsed by the City Council in an effort to ensure parking deficiencies to not prevent future growth in the downtown. **Table 29** provides the Parking Action Plan developed by the City.

Item	Description
1	Evaluate adding levels to Rankin Avenue Parking Garage
2	Evaluate demolition and reconstruction of existing parking garages
3	Evaluation of parking option in the Battery Park area
4	Determine the highest and best use of the city-owned property on Haywood Street
5	Surface parking on North Lexington Avenue
6	Surface parking on Cherry Street
7	Evaluate possibility of new parking lot on Rankin Avenue across from the Civic Center
8	Parking at or near the Senior Opportunity Center
9	Parking at or near the Sheriff's Department/Ann Street
10	Partnerships on Coxe Avenue and College Street to include public parking
11	Public/private partnership on Biltmore Avenue to include public parking
12	Park-side parking initiative
13	Determine feasibility of locating parking facility over I-240

The City has already investigated some of these options and is currently investigating several more. Items 1, 2, and 3 have all been investigated and determined to not be feasible. Item 5 has been completed with the paving of the gravel lot under the overpass at North Lexington Avenue. Items 7, 10, and 11 are being investigated currently. The remaining items are still under consideration and will be evaluated in the future as viable alternatives to provide additional parking.

Comparison Cities

A review of previous parking rates was included in the previous sections for both on-street and off-street parking systems. This section compares the City of Asheville parking rates with those found in similar cities. The City of Asheville is unique in both form and use, as the downtown area is denser than other communities with similar populations and the level of tourist attraction is much higher than similarly sized communities. With this in mind, the comparisons in this section focus on communities within the same region which have fairly similar downtown makeup and population. The communities selected for this analysis include Greenville, SC; Knoxville, TN; and Chattanooga, TN. **Table 30** provides a comparison of normal weekday parking rates for these communities.

City	Downtown On-Street Parking	Downtown Off-Street Parking
Asheville, NC	\$1 per hour	1 st hour free \$0.50 - \$0.75 per hour \$4 – 6 daily maximum
Greenville, SC	Free	\$0.75 per hour (1 st 2 hours) \$0.50 for each additional hour \$6 daily maximum
Knoxville, TN	\$2 for high volume street \$1 for low volume street	\$1 for 1 st 2 hours \$1 for each additional hour \$7 daily max
Chattanooga, TN	\$0.50 per hour	\$1 for the 1 st two hours** \$1 for each additional hour** \$4 – 5 daily maximum**

*Parking Rates are for normal weekday operations

**Does not include CARTA parking (CARTA South = \$3 flat rate, CARTA North = \$2 1st half hour, \$1 each additional hour, \$7 daily max)

Financial Analysis

A financial analysis of existing parking revenues and expenses was conducted for the existing parking system. The existing system is comprised of on-street parking meters, three parking garages, and surface parking lots. Based on historical trends and assumptions developed through conversation with City staff, projections of revenue and expenses were performed for five, ten, and twenty year periods using historical data provided by the City of Asheville. The following sections document this analysis and provide the results of the projection exercise.

Review of Past Revenue and Expenses

The financial analysis begins with a review of past revenues and expenses to determine the effectiveness of the current parking services budget. Actual revenue and expense data for fiscal years 2004 through 2006 were provided by the City of Asheville. The approved fiscal year 2007 budget information also was provided. These revenues, by year and fund, are shown in **Table 31**. Revenue for these years was provided for the following types of parking systems:

- On-street meters
- Parking fines and citations
- Parking lots
- Parking garages

The revenues for each City-owned parking garage for fiscal years 2004 through 2006 included monthly parking revenues, transient parking revenues, and special event revenues, while after hour revenues were reported as a combination of all three facilities. For the fiscal year 2007 budget, the City changed the way they perform their accounting. For 2007 budgeted revenue projections, the various sources of garage revenue (monthly, transient, special event, and after hour) are no longer tracked by garage, but rather as a combination of all three facilities.

A quick review of the monthly parking data for the parking garages reveals that approximately 379 dedicated transient spaces are available in the three City-owned parking garages (15 in the Civic Center, 162 in Rankin Avenue, and 202 in Wall Street). Based on these values and the City's budget of \$368,384 revenue for transient spaces, the transient revenue per space is approximately \$1,000 per year. This calculation was derived by dividing the budgeted transient revenue for 2007 by the total number of transient spaces available in all of the parking garages. This calculated average revenue will be used in the projection of future revenues.

Total parking revenues budgeted for fiscal year 2007 are slightly over \$3,000,000 which is 19.7 percent greater than actual 2004 revenues. This revenue occurred with no increase in rates and represents a healthy growth in parking revenue.

Table 31 also shows operating expenses by the following categories: garage expenses, garage administration, meter expense, and meter administration. The annual debt service to cover the debt for the Wall Street parking garage is shown in this table. This debt is scheduled to be paid off in 2008.

The net system surplus/deficit is the difference between revenues, operating expenses, and annual debt service. Based on the data summarized in **Table 31**, the parking system has operated at healthy surplus in recent years.

Table 31 – Review of Past Revenue and Expenses				
	Fiscal Year			
	2004 (Actual)	2005 (Actual)	2006 (Actual)	2007 (Budget)
Meter Revenue				
# of Meters	800	760	740	710
Meter Rate per Hour	\$1.00	\$1.00	\$1.00	\$1.00
Actual Meter Revenue	\$879,291	\$805,983	\$913,211	\$919,411
Actual Annual Revenue per Meter	\$1,099.11	\$1,060.50	\$1,234.07	\$1,294.95
Parking Fines and Citations Revenue				
	\$617,739	\$479,387	\$623,171	\$832,732
Parking Lot Revenue				
# of Spaces	168	168	168	168
Annual Revenue	\$33,557	\$39,277	\$89,474	\$29,227
Annual Revenue per Space	\$199.74	\$233.79	\$532.58	\$173.97
Parking Garage Revenue				
<i>Civic Center Garage</i>				
Total Revenue	\$434,754	\$450,309	\$496,713	-
Revenue per Space	\$790.46	\$818.74	\$903.11	-
<i>Rankin Avenue Garage</i>				
Total Revenue	\$167,597.00	\$177,402.00	\$192,199.00	-
Revenue per Space	\$639.68	\$677.11	\$733.58	-
<i>Wall Street Garage</i>				
Total Revenue	\$177,460.00	\$181,941.00	\$181,394.00	-
Revenue per Space	\$764.91	\$784.23	\$781.87	-
<i>After Hours Revenue</i>				
2007 Revenue	\$247,321.00	\$251,150.00	\$213,215.00	\$194,469.00
Monthly Revenue	-	-	-	\$194,469.00
Special Event Revenue	-	-	-	\$554,055.00
Transient Revenue	-	-	-	\$163,709.00
Total Parking Garage Revenue	\$1,027,132	\$1,060,802	\$1,083,521	\$1,280,617
Total Parking Revenues	\$2,557,719	\$2,385,449	\$2,709,377	\$3,061,987
Operating Expenses				
Garages Expenses	\$380,662	\$716,565	\$770,088	\$768,098
Garages Administration	\$99,803	\$170,120	\$193,493	\$190,688
Meter Expenses	\$260,824	\$215,015	\$133,206	\$217,013
Meter Enforcement and Administration	\$340,164	\$286,388	\$277,738	\$290,928
Total Operating Expenses	\$1,081,453	\$1,388,088	\$1,374,525	\$1,466,727
Annual Debt Service	\$607,760	\$640,369	\$595,857	\$603,518
Net System Surplus/Deficit	\$868,506	\$356,992	\$738,995	\$991,742

Table 32 summarizes the overall historical performance of the parking system from 1996 to 2006. Data was not available for 1998 through 2001. This table demonstrates that the parking system has transformed from a system that required subsidy from the General Fund to a net contributor to the City's revenues. Based on the data summarized in the table, revenues increased 175 percent and operating expenses increased 145 percent between 1997 and 2006. The operating expenses projections do not include debt service.

	1996	1997	2002	2003	2004	2005	2006
Total Operating Expenses	\$466,629	\$560,295	\$814,515	\$835,852	\$1,081,453	\$1,388,088	\$1,374,525
Total Revenues	\$931,075	\$985,395	\$2,087,690	\$2,630,351	\$2,557,719	\$2,385,449	\$2,709,377
Debt & Lease Payments	\$603,967	\$608,995	\$586,566	\$598,836	\$607,760	\$640,369	\$595,857
Annual Surplus/Deficit	-\$139,521	-\$183,895	\$686,609	\$1,195,663	\$868,506	\$356,992	\$738,995

Projection of Future Revenues

The next step in the financial analysis was to project the future revenues for each of the four categories of revenue, including fines and citations, parking lots, meter operations, and parking garages. The historic revenue projections were used to estimate growth rates and assumptions were made regarding growth of the parking system based on conversations with City staff. For the purposes of revenue projections, no increase in fines or rates was assumed.

Fines and Citations

The 2007 budget projects a significant increase in the amount of revenue from fines and citations. This projection was based on the City adding an additional person to assist in enforcement. The amount of fines and citations is projected to increase approximately 34 percent over 2006. Prior to the 2007 budget, the revenues from fines and citations were fairly flat – averaging about \$620,000 per year. Assuming 2007 revenues for fines and citations are approximately \$800,000 per year, a 2 percent annual growth is assumed for projection purposes.

Table 33 shows the historical data and projected revenues for 2013, 2018, and 2028 for fines and citations.

Actual Revenues			Budget	Projected Revenues		
2004	2005	2006	2007	2013	2018	2028
\$617,739	\$479,387	\$623,171	\$832,732	\$883,300	\$975,200	\$1,188,800

Parking Lots

The City presently has 168 parking spaces in surface lots that are available for monthly rental. These are small surface lots ranging in size from approximately 15 to 50 spaces. Using historical data (excluding 2006, which appears to be an outlier), the average annual revenue per space is \$202.50. This average value is used to determine the projected revenue, assuming that the average annual revenue remains consistent.

In 2008, a new 15-space lot on Lexington Avenue was added to the monthly off-street parking supply. A new parking garage is proposed for the location of the Rankin Avenue lot, which contains 50 spaces. Therefore, a net reduction of 35 spaces is projected for parking lots. The overall projections also assume no increase in monthly parking rates.

Table 34 shows the historical and projected revenues for 2013, 2018, and 2028 for parking lots.

	Actual Revenues			Budget	Projected Revenues		
	2004	2005	2006	2007	2013	2018	2028
# of spaces	168	168	168	168	133	133	133
Revenue	\$33,557	\$39,277	\$89,474	\$29,227	\$26,900	\$26,900	\$26,900
Revenue per space	\$200	\$234	\$533	\$174	\$202	\$202	\$202

Parking Meters

Parking meter revenue is growing at an annual rate of approximately 18 percent between 2004 and 2007. However, space occupancy is near 100 percent in peak hours in many locations. Clearly, this pace of growth in meter revenue is not sustainable. Moreover, the number of meters has decreased in recent years. For the purpose of this projection, it was assumed the number of meters would stabilize at approximately 700.

The theoretical maximum annual revenue of a parking meter is a function of the number of hours it is in use (10 hours from 8 am – 6 pm), the days of enforcement (all days except Sunday), and the rate (\$1 per hour). This theoretical maximum for Asheville is \$3,000 per meter per year. Realizing this maximum for all meters in the system would be almost impossible.

For the purpose of revenue projection, two percent annual growth in meter revenue was assumed. Revenue also was assumed to cap at 60% of the theoretical maximum. Based on the projections, this maximum was achieved sometime between the years of 2018 and 2028. For 2028, the annual rate of \$1,800 per meter was used for the projection. Revenues from parking meters are projected to exceed \$1 million by 2013.

Table 35 shows the historical trend in revenue per parking meter in recent years, as well as the projected revenues for 2013, 2018, and 2028.

	Actual Revenues			Budget	Projected Revenues		
	2004	2005	2006	2007	2013	2018	2028
# of meters	800	760	740	710	700	700	700
Revenue per Meter	\$1,099	\$1,061	\$1,234	\$1,295	\$1,458	\$1,610	\$1,800
Percent of Max Revenue	-	-	-	-	49%	54%	65%
Projected Meter Revenue	-	-	-	-	\$1,020,800	\$1,127,100	\$1,260,000



Parking Garages

The total revenue generated by the three City-owned parking garages is budgeted to exceed \$1.2 million in 2007. Parking garage revenue is derived from four sources:

- After-hours revenue – this is the total revenue from parkers who use the garage after normal operating hours. The fees are collected by pay stations upon exit.
- Monthly revenue – this is the total revenue collected from parkers who rent spaces in the parking garage on a monthly basis.
- Special event revenue – this is the total revenue collected from people who park at the garages for special events (typically at the civic center).
- Transient revenue – this is the total revenue collected from people who park at the garages and pay on an hourly basis.

No historical data is available for these revenue sources, so it is assumed that all sources (except the revenue associated with monthly parkers) grow at an annual rate of 4 percent. No growth was projected for monthly parking revenue since the number of monthly parkers is presently near its maximum; no increase in the monthly rate was assumed for analysis purposes.

Table 36 shows the historical trend in revenue per parking garage space in recent years, as well as the projected revenues for 2013, 2018, and 2028.

	Actual Revenues			Budget	Projected Revenues		
	2004	2005	2006	2007	2013	2018	2028
Total Parking Garage Revenue	\$1,027,132	\$1,060,802	\$1,083,521	\$1,280,617	\$1,473,400	\$1,672,600	\$2,209,700
After Hours Revenue	\$1,099	\$1,061	\$1,234	\$194,469	\$246,100	\$299,400	\$443,200
Monthly Revenue	-	-	-	\$554,055	\$554,100	\$554,100	\$554,100
Special Event Revenue	-	-	-	\$163,709	\$207,100	\$252,000	\$373,000
Transient Revenue	-	-	-	\$368,384	\$466,100	\$567,100	\$839,400

The revenues associated with a new garage were projected and are shown in **Table 37**.

	Projected Revenues		
	2013	2018	2028
Assumed Transient Occupancy	60%	75%	85%
Transient Revenue	\$192,000	\$240,000	\$272,000
Monthly Revenue	\$268,800	\$268,800	\$268,800
New Garage Total Revenue	\$460,800	\$508,800	\$540,800

For the purposes of this analysis, it was assumed that the new garage would have 640 spaces and that 320 spaces would be allocated to monthly parkers. The monthly rate was assumed to be \$70 per space. No increase in parking rates was

assumed and the average annual revenue per space previously calculated would be used to estimate the revenue from transient parkers. Percentage occupancy of the transient spaces by year also was assumed.

Table 38 shows the overall projected garage parking revenue, combining the existing garages with the proposed garage. This analysis found that the revenue from parking garage operations would be nearly \$2 million dollars in 2013 and would grow to a little over \$2.7 million by 2028.

	Projected Revenues		
	2013	2018	2028
Existing parking Garages Revenue	\$1,473,400	\$1,672,600	\$2,209,700
Proposed Parking Garage Revenue	\$460,800	\$508,800	\$540,800
Total Projected Parking Garage Revenue	\$1,934,200	\$2,181,400	\$2,750,500

Projections of Future Operating Expenses

The next step in the financial analysis was to project future operating expenses for the parking system. The City of Asheville tracks operating expenses in the following five categories:

- Garage operating expenses
- Garage administration – includes the personnel costs associated with the garages
- Meter operating expenses
- Meter enforcement and administration
- Annual debt service

The historical expenses and 2007 budgeted expenses, as well as future expense projections for 2013, 2018, and 2028 for each of these categories is show in **Table 39**.

	Actual Expenses			Budget	Projected Expenses		
	2004	2005	2006	2007	2013	2018	2028
Garages Operating Expenses	\$517,922	\$727,334	\$238,445	\$1,371,616	\$1,897,800	\$2,309,000	\$3,417,900
Rehabilitation of Existing Garages	-	-	-	-	-	\$184,900	\$365,000
Garages Administration	\$99,803	\$170,120	\$193,493	\$190,688	\$470,500	\$629,600	\$1,127,500
Meter Expenses	\$260,824	\$215,015	\$133,206	\$217,013	\$274,600	\$334,100	\$406,500
Meter Enforcement and Administration	\$340,164	\$286,388	\$277,738	\$290,928	\$412,700	\$552,300	\$989,100
Annual Debt Service	\$607,760	\$640,369	\$595,857	\$603,518	\$1,090,800	\$1,090,800	\$1,090,800
Total Expenses	\$1,826,473	\$2,039,226	\$1,438,739	\$2,673,763	\$4,146,400	\$5,100,700	\$7,396,800

Operating expenses have been relatively stable over recent years. However, due to the increased age of the garages, more maintenance costs can be expected in the upcoming years. Operating costs were projected to grow at an annual rate of 4 percent. Additionally, a new garage is programmed to be placed in operation in 2011. Annual operating expenses for that garage were budgeted at \$150,000 in year 2011.

To maintain the safety of the garages and help extend their life expectancy, a structural assessment and rehabilitation should be planned to occur at a minimum every 10 years and possibly every 5 years depending on the age and condition of each garage. The City is currently performing twenty year maintenance and rehabilitation on all three parking garages. It is assumed that all three existing garages would not need another rehabilitation until 2018. A present cost of \$500,000 per garage was assumed along with an inflation factor of 4 percent.

The expenses for administration for garages are associated with the personnel to manage and run the garages. It is assumed that two additional staff members will be added in 2011 for the new garage. An annual increase of 6 percent was assumed to cover salaries and fringe benefits for employees. Based on the 2006-2007 budget, the average cost per employee (salary + fringe benefits) is approximately \$89,000.

Actual meter expenses have remained flat during recent years. The number of meters also has been declining. However, for the purpose of this projection, the number of meters is assumed to be steady for future years at approximately 700. Expenses are projected to increase at annual rate of 4 percent. Administrative expenses for meter operations were projected to grow at an annual rate of 6 percent.

The debt service on the existing parking garages will be paid off in April 2008. For the purpose of this projection, it was assumed that the City would incur new debt in the amount of \$15,000,000 to fund the proposed new garage. A 20-year payback period and an interest rate of 4 percent were assumed yielding an annual payment of \$1,090,800 that would begin in 2011.

Total annual operating expenses were projected to exceed \$4 million dollars in 2013 and grow to over \$10 million in 2028.

This projection shows that (given the stated assumptions) somewhere in the 2012 to 2013 timeframe, the overall parking system will again be operating at a deficit. The deficit will continue to grow thus necessitating the need to be planning for increases in revenue. It is suggested the City continue the practice of increasing parking rates every two to three years.

Summary of Projections

The total revenue and expense projections are summarized in **Table 40**.

Table 40 – Summary of Projected Revenues and Expenses			
	Year		
	2013	2018	2028
Projected Revenues			
Fines and Citations	\$883,300	\$975,200	\$1,188,800
Parking Meters	\$1,020,800	\$1,127,100	\$1,260,000
Parking Lots	\$26,900	\$26,900	\$26,900
Parking Garages	\$1,934,200	\$2,181,400	\$2,750,500
Total Projected Revenue	\$3,865,200	\$4,310,600	\$5,226,200
Projected Expenses			
Garages	\$2,368,300	\$3,123,500	\$4,910,400
Meters	\$687,300	\$886,400	\$1,395,600
Debt Service	\$1,090,800	\$1,090,800	\$1,090,800
Total Projected Expenses	\$4,146,400	\$5,100,700	\$7,396,800
Projected Surplus/Shortfall	-\$281,200	-\$790,100	-\$2,170,600



Recommendations

This section uses the deficiencies identified in the previous sections to develop a list of potential recommendations for the downtown parking system. The recommendations outlined in this section are consistent with the ideas expressed by the general public during the public workshops, the findings of the existing conditions review and parking demand analysis, and the results of the financial analysis. The proposed recommendations are based on planning level analysis and should be investigated further before actual design and construction are started.

Summary of Findings

The previous sections analyzed the current parking system in downtown Asheville to determine specific issues and deficiencies. These identified deficiencies include public comments, occupancy and turnover issues identified during data collection, parking demands identified through the parking demand model, and budgetary issues identified through the financial analysis. Listed below are a few of the prominent findings identified in this study.

Public Workshop Results

- Based on the results of the public survey, the citizens of Asheville rate the public parking system between two and three on a scale of one to five, with five being the best rating.
- The locations identified with the highest perceived parking problems were the Grove Arcade, Biltmore Avenue, Lexington Avenue, Battery Park Avenue, College Street, Pack Square, and around the Civic Center during special events.
- The most often identified parking problems in downtown Asheville include a lack of available parking, lack of wayfinding to available parking, security at structured parking facilities, parking enforcement, and the need to educate business owners and employees on the correct places to park (i.e. not on-street directly in front of their businesses).

Existing Conditions Results

- Based on the review of existing conditions and parking data, only 24 percent of the parking supply is available to the general public (i.e. visitors, tourists, shoppers, diners, etc.)
- Parking garages approach or exceed capacity from 11am to 4pm on weekdays and during the evening peak on weekends.
- On-street parking approaches or exceeds capacity between 2pm and 4pm on weekdays and between 4pm and 10pm on weekends.
- There was a moderate occurrence of vehicles parking longer than two hours in the on-street parking, which is typically reserved for short term parkers (less than two hours). There was not a large occurrence of vehicles parking for longer than four hours.
- The estimated turnover rate for the on-street parking system is approximately three vehicles per space per day.
- The most heavily abused locations were the Grove Arcade, Market Street, and the Courthouse.

Parking Demand Results

- Based on the parking demand analysis, existing deficiencies include the Grove Arcade and Haywood Street areas, the Lexington Avenue/Broadway Street area, Biltmore Avenue area, and the Courthouse/College Street area. The overall deficiency is approximately 800 spaces.
- The projected future deficiency (with the assumption that new parking facilities are built) is approximately 600 spaces. The primary deficiencies are located in the Grove Arcade and Haywood Street areas, the Biltmore Avenue area, and the Courthouse/College Street area.

Parking Operations Results

- The existing revenue control equipment in the City parking garages is outdated; it is scheduled to be replaced in 2008.
- Security in the City parking structures was cited as lacking based on the results of the public workshops.
- The existing wayfinding system is lacking, and is currently being evaluated by an approved taskforce.
- Hourly rates in comparison cities are comparable to Asheville's. However, the daily maximums collected at the off-street facilities are higher in the comparison cities.

Financial Analysis Results

- Based on the results of the financial analysis, the parking system budget is expected to operate in a deficiency by the 2012-2013 fiscal year. This projection is based on the assumption that one new facility is built and financed, and no rate increases occur.

Recommendations

Based on these deficiencies, several recommendations are proposed for the downtown parking system. These recommendations are grouped based on whether they are improvements to the on-street, off-street, or the entire parking system. Recommendations for parking rates are also included. The following sections outline the proposed improvements.

On-Street Parking System

Upgrade on-street parking meters – The existing on-street meters, manufactured by POM Inc., are cash only meters. The current meter casing is already designed with the capability to read Smartcards, which are an alternative to cash only payments. The Smartcard is used like a credit card, with users paying the balance at the end of each month. The shell of the existing parking meters would need to be upgraded, but this conversion will provide increased payment options to the downtown users. This upgrade would be sufficient to enhance the system by three to four years.

On-street pay stations – Beyond this three to four year horizon, it may be possible to expand the payment options further by installing either pay stations for on-street parking meters, or utilizing pay-by-phone technology. Either choice reduces



POM Parking Meter with Smartcard capability
(Source: www.pom.com)



the need for the parking user to carry cash, increasing the attractiveness of the parking system. These improvements also reduce the amount of physical money collected throughout the system, as well as reduce the amount of maintenance required for the on-street system.



Example pay-by-phone parking meters



Example on-street payment station
(Source: City of Portland)

Relocate police and fire employee parking – The existing police and fire division employee parking is located along South Spruce Street and South Market Street, respectively. These on-street spaces are in a prime location relative to the Courthouse facility and the Biltmore Avenue area. These spaces could be converted to either parking metered space available to the general public, or to monthly permit spaces, which would be ideal for the employees at the courthouse and the many businesses along Biltmore Avenue. The police and fire staff could be relocated to the Pack Plaza parking garage, which is adjacent to their current on-street location.

Off-Street Parking System

New parking garage on Rankin Avenue – In conjunction with this study, the City has been investigating the feasibility of constructing a new, structured parking facility on Rankin Avenue, adjacent to the Civic Center parking garage. Based on the results of the parking demand analysis, the areas in the vicinity of this site operate at an existing deficiency of approximately 650 spaces (parking analysis zones B and C, which contain the Grove Arcade/Haywood Street area and the Lexington Avenue area).

The proposed garage is projected to have 700 spaces and is being designed to include mixed-use components, including either ground floor retail or work force housing. The inclusion of these types of use will help integrate the structure into the aesthetic fabric of downtown. Future parking demand projections, with the proposed parking garage in place, show the parking deficiency in the vicinity of the site reducing by approximately 170 spaces. The deficit is not reduced by the total 700 spaces because of additional projected growth in the vicinity of the Grove Arcade, which increases the overall parking demand in that area.



Potential parking garage on Rankin Avenue

Explore additional parking near Grove Arcade – Based on the results of the parking demand analysis, the area around the Grove Arcade operates at an existing deficiency of approximately 30 to 40 spaces. This deficiency is relatively low compared

to the overall deficiency of the parking system, but is expected to become worse with time. Future projections show this deficiency rising to nearly 485 spaces based on potential development. With this deficit in mind, the City should begin to investigate alternatives for additional parking in the area.

Explore additional parking near Biltmore Avenue – Based on the results of the parking demand analysis, the area in the vicinity of Biltmore Avenue is deficient by approximately 475 spaces. This area is projected for strong growth and redevelopment, based on discussion with City staff. At the time of this writing, two new hotels and new condominiums were proposed for the area. This area is also very active on nights and weekends, and actually experiences an increase in parking demand on the weekend (unlike the other parking analysis zones).

Future projections in the parking demand analysis included the construction of the two new hotels and new condominiums, as well as the construction of a new 500-space parking garage. With the new garage in place, the deficit is reduced by approximately 200 spaces. The deficit is not reduced by the total 500 spaces because the new hotel will require parking to house its guests.

Explore opportunities for additional parking locations – Moving forward, the City should look for opportunities to acquire land for additional future parking. With the current rate of development/redevelopment, the City should take every opportunity to acquire necessary real estate before costs escalate. Present acquisitions could prove fruitful as growth continues in the City, and new development patterns create new parking demand patterns.

Increase nighttime security in parking garages – Based on results of the public survey and the public workshop, security in the City owned parking garages is lacking, specifically in the Civic Center parking garage. The primary time for concern is at night and on weekends. The main complaints were the lighting in the garage and the stairwells and the overall size of the parking facilities. The City should investigate upgrading lighting in the garage to LED lighting as well as providing additional security after hours and on weekends. The City currently has one security guard who monitors all three parking garages. It may be beneficial to provide a dedicated security guard at the Civic Center garage, and let another security guard patrol the Rankin Avenue and Wall Street garages.

Update parking garage revenue collection systems – Based on discussions with the City staff, the existing revenue collection equipment in the parking garages is outdated and needs to be replaced. The City should move forward with plans to replace the equipment. As part of this endeavor, the City should investigate the use of machines able to accept both cash and credit cards, which should enable the collection of additional revenue during weekend and after-hours periods. The City should also investigate using machinery with the ability to maintain space counts for use in parking management and potentially in parking wayfinding.



Example revenue collection machine with credit card payment capability





Overall Parking System Enhancements

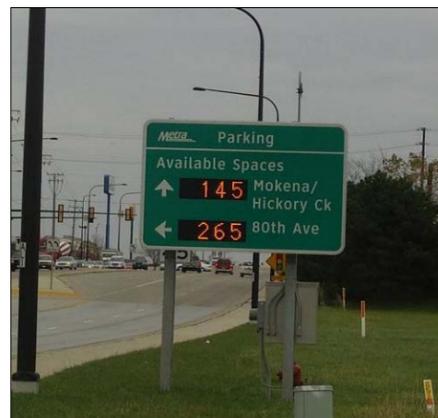
Update parking wayfinding –The City’s existing parking wayfinding, which is a color coded signage system, attempts to direct parkers to available parking facilities. However, the signage is not frequent enough to fully guide the parker to the destination, and some of the destinations are in locations that are not easily spotted by the parker (such as the Civic Center and Rankin Avenue garages). The City is currently working with Asheville Convention and Visitors Bureau, Buncombe County, and the North Carolina Department of Transportation to develop a wayfinding plan for the community. This plan includes enhanced wayfinding for downtown parking, which should provide a better navigational tool for downtown parkers. The City should follow through with the recommendations of this study, which should decrease driver confusion.



Example of parking wayfinding signage with destination information (Source: Regional Wayfinding Plan)



Example parking signage extending from face of parking garage for increased visibility (Source: Regional Wayfinding Plan)



Example dynamic message sign displaying available parking

In addition to the recommendations outlined by the wayfinding taskforce, the City should investigate technology based solutions to help parkers navigate the downtown parking system. One example would be dynamic message signs indicating available spaces by parking garage. These signs would be located at key entrance points to the City, such as exits 4C (onto Haywood Street) and 5A (onto Broadway Street) off of Interstate 240, which are primary access points to downtown. These signs would enhance driver navigation to available parking, and working with the City’s updated wayfinding signage, should lead to much lower driver confusion and a more even utilization of the off-street parking supply. This recommendation would require that the City’s new revenue collection equipment be equipped with space counting capabilities, which would need to be coordinated with the signage system.

Another example of technology based wayfinding would be to develop a parking website for the City of Asheville that downtown visitors could use to plan their trip. A site like this would display real-time parking availability, which would help users determine their preferred parking location before embarking on their trip. A solution like this would reduce the need to circle the parking system looking for available parking spaces. Removing those circling vehicles from the streets could reduce congestion, air pollution, fuel waste, and crashes. Another application of this solution would be to provide real-time parking information via PDA.



Example online parking guidance system (Source: City of Santa Monica, CA; <http://parkingspacenow.smgov.net/>)



Satellite Park and Ride transit system – The provision of satellite park and ride lots could reduce parking demand in the downtown by moving some of the parkers to the fringe of downtown and shuttling them into their destinations. This solution would work well for downtown business owners and employees, by providing affordable parking solutions while keeping valuable spaces closest to the businesses free for customers. The recommendation would require a fixed shuttle route with short headways that served major destinations, such as the Grove Arcade area, the Lexington Avenue area, the Courthouse area, the Department of Human Services, and the Biltmore Avenue area. There would need to be several parking facilities around the major access points to downtown to handle potential demand from each approach.



Example Park and Ride guidance signage (Source: Manual on Uniform Traffic Control Devices)



Example Park and Ride lot, Chapel Hill, NC

Investigate ordinance changes to require residential parking from new development – Currently the City does not require parking from new development in the downtown area. The City should review this policy to determine if new residential development should provide on-site parking for its residents. Based on comments heard at the public workshops, downtown residents are left to find their own parking, which sometimes is difficult based on the location of new development and price of parking. Based on the unique nature of the downtown, the City could potentially have lower than average requirements for residential development, which is typically in the neighborhood of 1.5 to 2 spaces per dwelling unit.

Parking Action Plan – The City should continue to evaluate the alternatives outlined in the Downtown Parking Action Plan. Two of the alternatives, additional parking on Rankin Avenue and Biltmore Avenue, are included as recommendations in this plan. The remaining alternatives that have not been evaluated should be reviewed and if feasible, should be implemented. Moving forward, the City should consider creating a new Parking Action Plan, containing the recommendations outlined in this report.

Parking Rates

Keep the first hour free – Based on a review of previous year’s financial data, the estimated cost to the City to provide the first hour free is approximately \$1,500 per month, or \$18,000 per year. While this may represent lost revenue, it is important to understand the function of the first hour free. This concept is used as an enticement to parkers to utilize the

parking garages, which keeps valuable short-term on-street parking available for its intended use. The first hour free concept is valuable to both downtown businesses and the downtown parking system. As such, it should be kept in place.

Charge hourly rates for parking garages after hours and on weekends – With the expected upgrade of the City’s revenue control equipment for its parking garages, the City should consider charging hourly rates and daily maximums after hours and on the weekends. This approach would allow the City to earn additional revenue, while policing parking abuse in the downtown structured facilities. A common occurrence viewed during data collection, as well as through discussion at the public workshops, was long-term parking in these facilities, with exits occurring on the weekends, when the exit fee was a flat rate of \$1 to \$2 based on location. Upgrading the revenue collection systems to recognize this type of abuse will allow the City to earn revenue it has lost in the past. The first hour free concept should be maintained on the weekends to still entice visitors to use the off-street parking facilities.

Increase daily parking maximums –Based on a review of parking operations, Asheville’s daily parking rates are lower than other comparable cities. The City should consider raising its daily parking maximum to be consistent with these other communities. A rate increase of \$1 per day for each facility would be sufficient to match the comparison cities, which would provide a valuable revenue increase to the parking system.

Continue periodic rate increase – The City currently increases parking rates every two to three years to maintain parking rates consistent with inflation and the growth of the parking system and the parking services division. The City should continue to investigate rate increases every few years to maintain a healthy parking system budget. On-street rates should be kept higher than off-street rates to encourage long-term parkers to use the structured parking facilities.