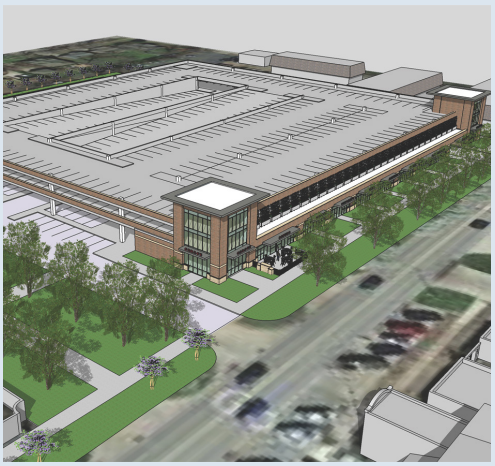

2016
Norman Parking Study

JACOBS

2016 Norman Parking Study

City of Norman

Cleveland County

Norman Downtowners Association

Campus Corner Merchants Association

Final Submittal

April 28, 2016

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1. Introduction

1.1 Background

Originally established in 1886, the City of Norman is home to the University of Oklahoma (OU) and is one of the most desirable places to live, work, and play in Oklahoma. The city's 2010 Census population was 110,925, including approximately 27,278 OU students.[1][2] By 2014, Norman's estimated population had increased to 118,040.[3] Norman is the third largest city in Oklahoma and is the county seat of Cleveland County. Cleveland County had a 2014 county-wide population of 269,908.[4]

The Santa Fe Railway Company played a principal role in the early development and settlement of Norman. In 1886, the Atchison, Topeka, Santa Fe Railway Company selected "Norman's Camp" as a station site. The following year, the company platted a town site and filed the plat with the U.S. Department of the Interior. The Oklahoma Land Rush of 1889 and establishment of the University in 1890 swelled the town's population.

Typical Weekday Traffic and Parking Conditions along Main Street near Peters Avenue

Norman's historic Central Business District (CBD) functions as the commercial center for the community – the "Heart of Norman". Downtown has many established uses including government, financial institutions, businesses, law firms, churches, and a number of successful retail and restaurant establishments. After 1970, downtown retail activity declined as businesses relocated to the Interstate 35 (I-35) corridor and shopping strip centers outside of downtown. Limited parking downtown is considered one of several factors influencing the movement of retail businesses and office space away from downtown.

Campus Corner is the commercial district located just north of OU's campus. Created by the Oklahoma Territorial Legislature in 1890, the University was founded roughly one half-mile southwest of the CBD. By the 1920's, Campus Corner developed as the center for commercial activities for the University community.

[1] U.S. Census Bureau, "2010 Census Interactive Population Search: OK – Norman city", http://www.census.gov/2010census/popmap/ipmtext.php?fl=40.

[2] The University of Oklahoma, Institutional Research and Reporting, "The Annual Profile of the University of Oklahoma, 2015 Fact Book", http://www.ou.edu/content/irr/fact-books.html.

[3] U.S. Census Bureau, Population Division, "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014; Population Search: OK – Norman city", http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

[4] U.S. Census Bureau, Population Division, "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014; Population Search: OK – Cleveland County", http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

As of 2014, enrollment at OU's Norman campus was 27,292 students with an additional 5,497 full-time equivalent faculty and staff members.[2] Campus Corner's proximity to the OU campus aids the district in sustaining a high level of business activity. OU students, alumni, faculty, staff, and visitors frequent the Campus Corner commercial district to visit its wide variety of clothing stores, bookstores, coffee shops, restaurants, cafes, and bars.

Norman is faced with many unique development and community planning challenges given its history, its size, and its location within the Oklahoma City metropolitan area. Moreover, as a campus community, the City has to deal with accommodation of students and visitors on a seasonal basis and for special events. On football weekends in the fall, the City's population swells by many tens of thousands, bringing a huge influx of vehicles that overwhelm the road network and parking facilities in and around the campus and downtown.

The City's growth has reached a stage where parking measures are necessary to meet changing needs. Norman has implemented many measures in recent years to facilitate parking in Downtown Norman and Campus Corner. These measures will help the City deal with continued growth in both year-round resident population and university population groups.

In the 1990s, the City removed most parking meters downtown in an effort to stem the relocation of commercial activity away from the downtown area. A tire-marking program is used to enforce one-hour and two-hour time limits of the many meter-free on-street spaces available in Downtown.

In 2014, the City of Norman and the University of Oklahoma partnered together to conduct an intensive visioning effort that included the West CBD, Campus Corner, and the neighborhood connecting the two. The goal of the Center City Vision Project was to establish a vision for what future development and redevelopment should like

Typical Weekday Traffic and Parking Conditions
Along Asp Avenue in Campus Corner

within the Center City, and to provide guidance on how Norman, OU, and private stakeholders can make progress toward achieving the vision.[5] Significant contributions were received by a wide range of community members during steering committee meetings, the pre-charrette activities and throughout the project's charrette process to support the project's vision and ultimately the form-based code recommendations made for the Center City. As of April 2016, the City is working with the consultant team to finalize the form-based code prior to its adoption.

The Center City Vision Plan made the following observations and recommendations about parking:[5]

- There are an abundance of parking lots in the Center City, with church lots that are nearly always empty and too much pavement area that would be better utilized for other uses.
- Multi-story parking garages should be constructed in the Center City, but there should be no expansion of surface parking.
- Shared use agreements should be considered for the church parking lots to meet some of the parking demands that are present during the week without requiring additional parking supply.
- Parking and access should be integrated for adjacent properties.
- On-street parking is vital for the district.
- A parking authority is needed to manage complex parking issues and to help achieve the overall vision for the Center City.
- Parking should not be allowed to dominate the perception of place. Incorporate more active street frontages and "wrapped" internal parking to work toward subduing the influence of parking on the district.

The current draft of the form-based code provides a section on parking requirements, including a maximum number of reserved, non-shared parking spaces that are allowed to be provided in support of redevelopment in the Center City. There are several incentives/disincentives included in the draft form-based code to encourage more shared parking in the district.

Norman Depot Station in Downtown

In 2003, restoration was completed for Norman's historic Santa Fe Railway Depot for use as the Amtrak passenger station. The City has recently extended the Legacy Trail along the Burlington Northern Santa Fe (BNSF) Railroad corridor up to Robinson Street and then west to University North Park. The trail has experienced significant use by both pedestrian and casual cyclists.

The first ever *Norman Comprehensive Transportation Plan* (*CTP*), referred to as *Moving Forward*, was adopted by the City Council on May 13, 2014.[6] The *CTP* identified future transportation needs for the area, goals and policies, and short-term and long-term capital investments for improvements to existing roads, construction

[5] City of Norman, University of Oklahoma, "Norman Center City Vision: Charrette Summary Report", July 2014.

[6] City of Norman, Public Works, "Moving Forward: A Comprehensive Transportation Plan for the City of Norman", http://www.normanok.gov/content/moving-forward.

of new roads, bicycle, pedestrian, and transit facilities. The Citizens Visioning Committee (CVC) and a project steering committee were both integral in the development of establishing the vision for what the transportation system can and should look like for Norman and also assisted with the prioritization of projects to work toward the vision.

Norman Forward was a citizen-initiated proposal to renovate, expand, construct and fund multiple Quality of Life projects including a new central library, east branch library improvements, the extension of James Garner Avenue, a senior center, numerous sports and recreational projects, and public art displays.[7] Norman Forward will be funded with a one-half percent sales tax that was approved by 72% of Norman voters on October 13, 2015. There are many projects that will be funded through Norman Forward that were previously identified in City planning efforts as high-priority community investments.

Downtown streetscape improvements were completed in 2004 that made downtown a more pedestrian friendly environment. Streetscape improvements were prioritized for Main Street and Gray Street and included lighting, benches, trees and planting areas. Following the Center City Vision Charrette and the Norman CTP efforts, conversion of the Main Street and Gray Street one-way couplet to pedestrian/bicycle-friendly, two-way streets was determined to be a priority consideration. A study to evaluate the impacts, opportunities, and estimated costs of this two-way conversion is underway by the City's consultant and is slated for completion in 2016.

1.2 Study Purpose & Objectives

This parking study is the result of a proactive approach by the City and Cleveland County to manage parking resources in the Central Business District (CBD) and Campus Corner. The study was commissioned to provide the City and County with a blueprint for future parking improvements and expenditures. The provision of adequate parking conveniently located in the CBD and Campus Corner is a critical element supporting revitalization and redevelopment in Norman's Core.

This study set out to accomplish several important objectives including:

- To outline City and County needs and courses of action to mitigate existing parking deficiencies and to meet the projected parking demands of 2025.
- To determine policy changes needed to help ensure responsible development in the CBD and Campus Corner with respect to parking.
- To determine appropriate public parking management measures to accommodate all citizens and visitors.
- To provide an estimate of fiscal investment required to address the study issues and objectives.

The parking study was conducted from April through December of 2015. Data were collected and analyzed to measure peak parking utilization and parking supply. By analyzing peak parking needs, a parking strategy could be crafted to best accommodate all residents, merchants, students, and visitors.

[7] City of Norman, "Norman Forward", http://www.normanok.gov/cm/norman-forward.

Developing a parking management strategy for Norman's CBD and Campus Corner is a complex undertaking. This is particularly true in a university campus community like Norman that has significant seasonal fluctuations in population, traffic, and parking needs. Parking is inextricably linked with land use activities that determine not only what kind of parking is needed, but also the required number of spaces. Combinations of certain land uses in the CBD and Campus Corner make shared parking a viable and preferred alternative to providing separate parking for each land use. A shared parking environment is relied upon for the computation of parking demands and for consideration of future parking policies.

On-Street Parking along Main St. near Jones Ave. and the Sooner Theater

1.3 Study Area

The study area identified for analysis includes both the CBD and Campus Corner commercial district. The limits of the parking study boundary are shown in **Figure 1-1**, along with an aerial view of the vicinity. The parking study emphasis areas for both the CBD and Campus Corner are shown in **Figure 1-2**. Block numbers have been assigned for each of the 69 total blocks included within the study emphasis areas in **Figure 1-2**, and these numbers are consistent throughout this document.

Generally, the study area is bounded on the west by Lahoma Avenue, on the north by Tonhawa Street, on the east by Porter Avenue, and on the south by Boyd Street. In comparison to the 2003 Norman Parking Study, the most significant change to the study boundary is the additional area that has been included north of Andrews Park to account for the upcoming projects extending James Garner Avenue northward to Robinson Street and to construct a new central branch public library and possibly a senior center.[8] These projects will be funded through the Norman Forward initiative and will be key developments that may help spur additional redevelopment just north of the historic urban core of Norman.

1.4 Study Scope of Work

The work documented in this study was performed in four overlapping steps (as illustrated in **Figure 1-3**):

1. Determine Existing Conditions
2. Project Future Conditions
3. Evaluate Alternatives for Improvement
4. Document Findings and Recommendations

[8] City of Norman, Public Works, "Moving Forward: A Comprehensive Transportation Plan for the City of Norman", http://www.normanok.gov/content/moving-forward.

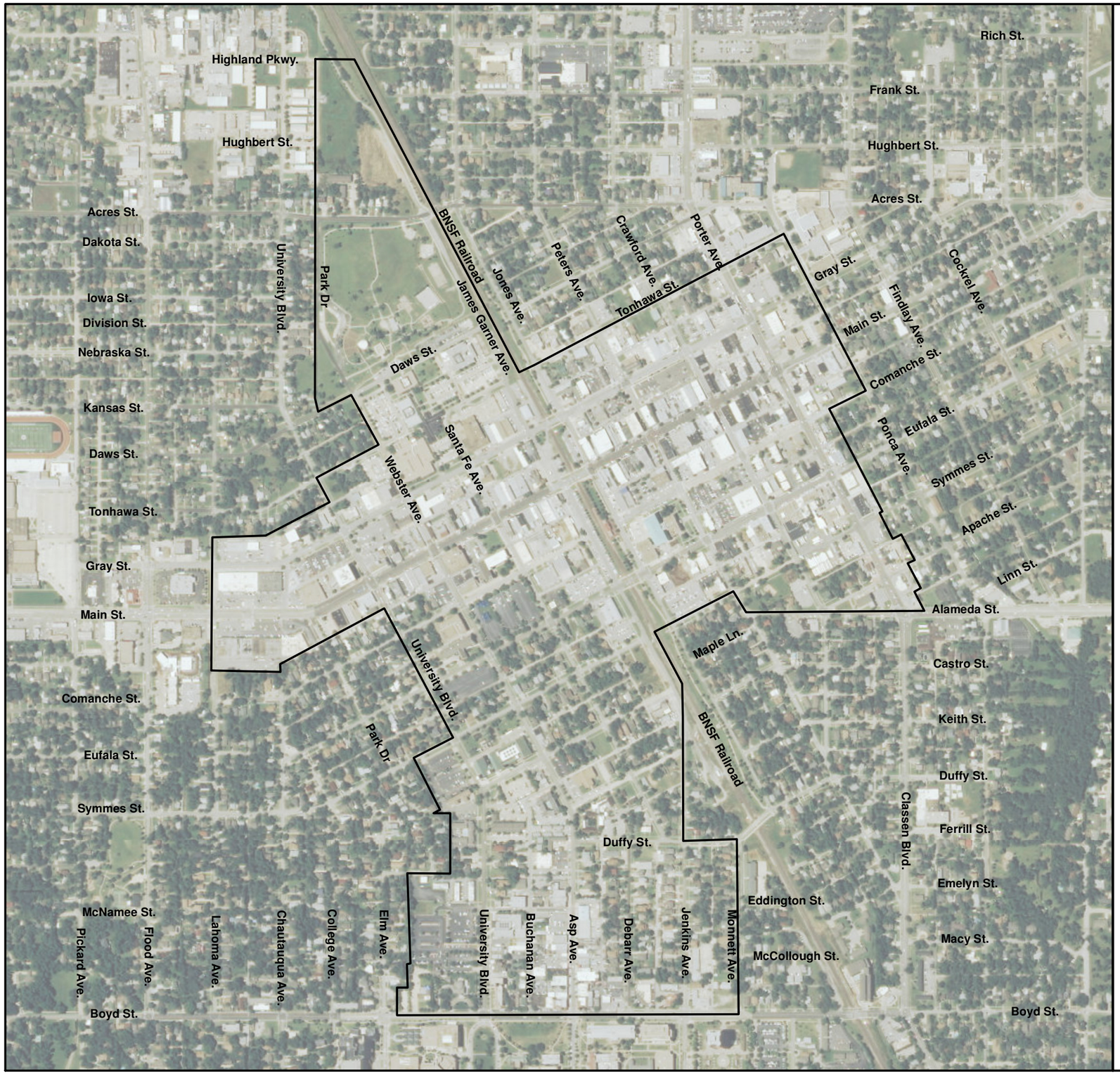

Figure 1-1:
Parking Study Boundary Map
Norman Parking Study
August 2015

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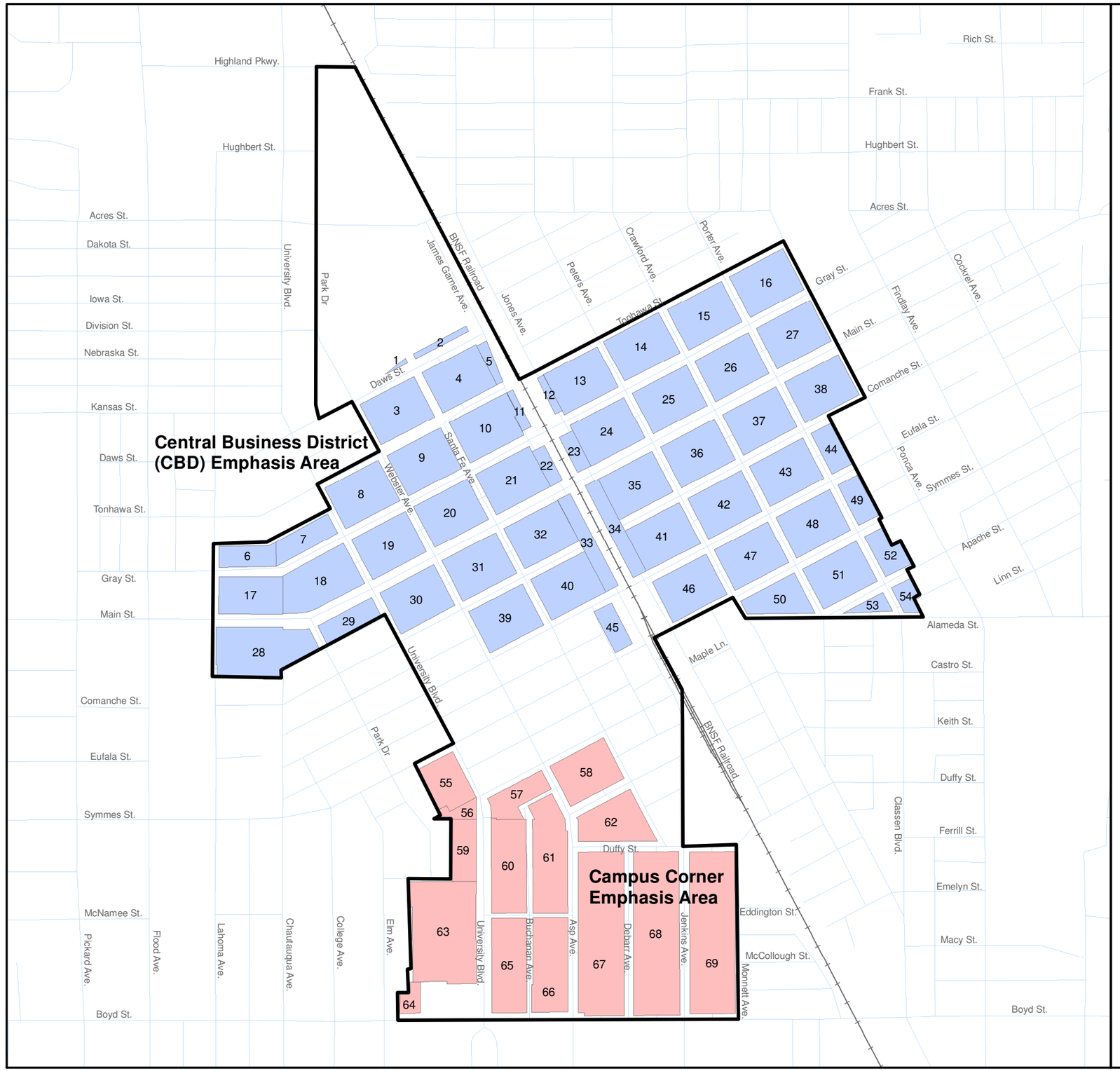

Figure 1-2:
Emphasis Area Map
Norman Parking Study
August 2015

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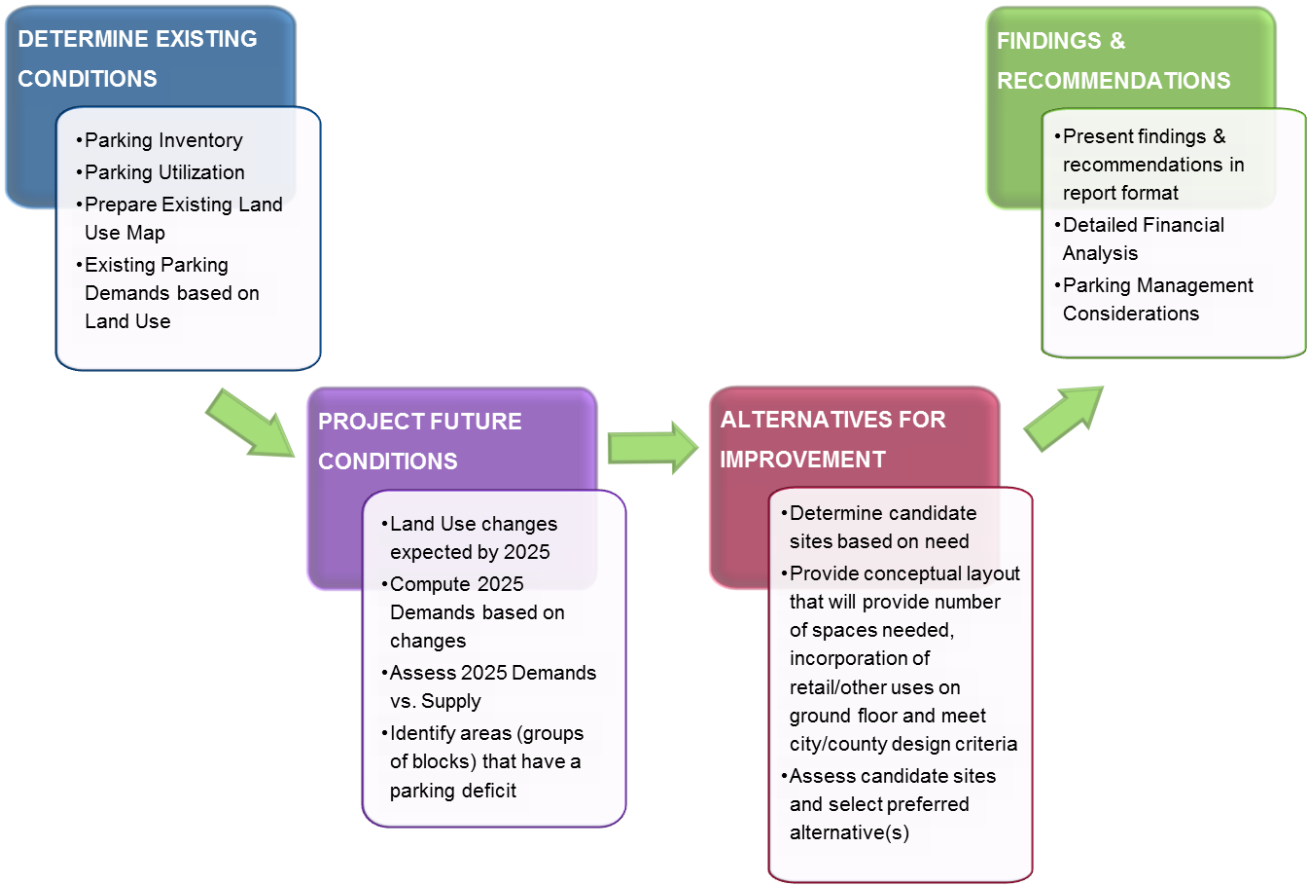


Figure 1-3: Parking Study Work Plan Summary

The first activity was to identify the proposed study area boundary and label each of the blocks that would be evaluated. Each of the blocks was further broken down into individual parking areas (lots or sub-lots) where existing parking supplies and utilization counts were conducted in the field. The supply and utilization counts were performed on April 20th, 21st, 28th, 29th, and 30th of 2015. Supplemental counts were performed to capture the jury trial peak, which occurs about once per month, on Monday, August 24th, 2015.

To fully evaluate and understand existing parking conditions in Norman, the project team compiled and/or reviewed the following information:

- Reviewed the Center City Vision Charrette Report and Draft Form-Based Code
- Reviewed the Norman Comprehensive Transportation Plan (CTP)
- Reviewed the 2003 Norman Parking Study
- Reviewed other previous plans and studies that included the CBD and Campus Corner Districts
- Conducted parking inventory survey of both on and off-street parking spaces in the CBD and Campus Corner including curbside parking, surface lots, and parking garages
- Performed parking utilization counts to determine peak occupancies and hourly parking characteristics in the CBD and Campus Corner
- Created an inventory of land uses in the CBD and Campus Corner, including building square footages, number of floors, street addresses, and assessed property values.

The second major activity was to project future conditions for the project emphasis area by working with area stakeholders to record possible land use changes. 2025 parking demands were then computed based on the anticipated land use changes and the base land use areas where there were no changes. The computed 2025 demands were evaluated versus the 2025 parking supply for the core areas of each district. Based on the

demand versus supply comparisons, core areas within each district that appeared to have a parking deficit were identified.

Third was the consideration of alternatives for improvement, building on the results and work performed in the previous two steps. Candidate sites were identified where the opportunity may exist for parking improvements that would address some of the previously noted deficiencies. The candidate site locations were presented to the public and to the project steering committee for their review and comment. Generally, the locations identified were well received by both groups. The candidate sites were then compared based on anticipated costs (including acquisition costs) and how well improvements at the sites could potentially satisfy parking deficiencies in the area.

The fourth and final major activity was to present the findings of this study in a report format and to document the recommendations and next steps going forward. Detailed financial analyses were included in this step, along with pro forma financial analysis for each recommended structure. Due to the potential for relatively low-cost benefits that could be obtained, a number of parking management considerations were included in this study document as well.

1.5 Community Involvement and Public Participation

An open and extensive community involvement and public participation process was utilized to solicit input and present results of the analyses and collected data during the study process. Meetings were held both with the City of Norman and Cleveland County as the project scope was being developed to identify key issues and desired outcomes to be addressed in the parking study. A project steering committee was established by the City prior to project initiation. Steering committee meetings were held on a monthly basis from July 2015 through February 2016. The members of the steering committee were:

• Shawn O'Leary	City of Norman	Director of Public Works
• Angelo Lombardo, PE	City of Norman	City Transportation Engineer
• Susan Connors, AICP	City of Norman	Director, Planning & Community Development
• Darry Stacy	Cleveland County	County Commissioner, District 2
• Chuck Thompson	Chair	Norman Economic Development Advisory Board
• Jim Adair	Representative	Norman Downtowners Association
• Rainey Powell	Representative	Campus Corner Merchants Association

Parking Stakeholder Meetings were held for both Downtown Norman and Campus Corner. Both meetings were held on Thursday September 10th, 2015. The purpose of both was to define the project, present the parking inventories and utilization summaries, present the 2015 land use maps, explain how the land use maps will be used to compute both the 2015 and 2025 parking demands, and utilize group discussion to receive input on where additional parking supply or other improvements may be needed.

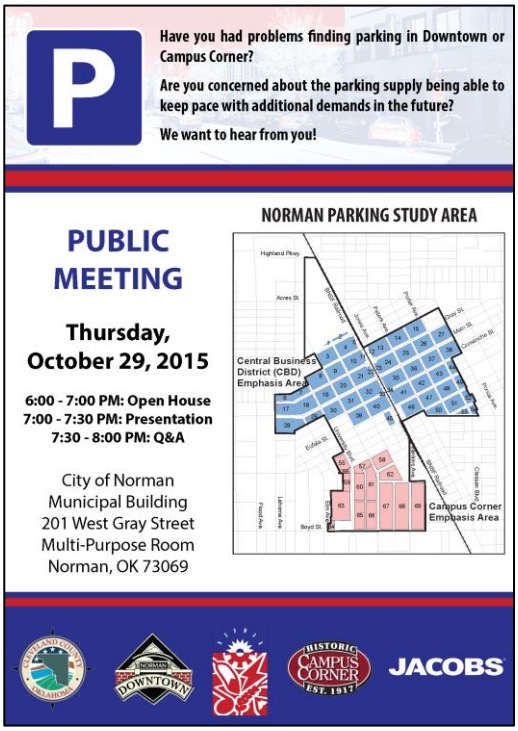
The Downtown Stakeholders Meeting was held from 9:30 am to 11:30 am in the City of Norman's Multi-Purpose Room inside the Council Chambers building. 14 individuals attended the meeting. Several of the comments received during this meeting were determined to be points of agreement at the Community Forum meeting held subsequently and are presented below.

The Campus Corner Stakeholders Meeting was held from 2:00 pm to 4:00 pm at the St. John's Episcopal Church at 235 W. Duffy Street. 18 individuals attended the meeting. Several of the comments received were determined to be points of agreement at the Community Forum meeting held subsequently and are presented below.

The Community Forum Meeting was open to the public. The meeting took place at the City of Norman's Multi-Purpose Room inside the Council Chambers building on Thursday, October 29th, 2015. There were 24 participants in total, excluding project steering committee members and consultant staff. The Community Forum included a one-hour open house format where several "stations" were set up to illustrate work that had been performed on the study addressing the following topics:

1. Welcome/Project Overview
2. CBD Improvement Concepts
3. Campus Corner Improvement Concepts
4. Parking Management Considerations
5. CBD Comments List
6. Campus Corner Comments List

Several photographs were provided of modern parking structures at the two Improvement Concepts stations and a map indicating the three most likely candidate sites where improvements would be recommended in each respective district.



Public Meeting Invite Flyer

The Parking Management Considerations station included the following preliminary recommendations for review and input from the public:

- Increasing shared use parking
- Managing on-street parking supply
- Parking fee management
- Continued Smart Growth policy implementation
- Meter replacement plan
- Formation of a Parking Authority
- Flexible approach to parking enforcement
- Parking Overflow Plans for special events
- Establishing procedural guidelines for public-private partnership considerations
- Incorporation of business patron validation program
- Loading zone regulations

At the two Comment List stations, participants were encouraged to vote for comments they agreed with most. By the end of the meeting, the following CBD comments received the most votes (in order from most to least votes):

- Parking should be centrally located and convenient to destinations. (12 votes)
- Downtown needs more shared use parking. (11 votes)
- Lack of parking is restricting new or renovated office developments. (10 votes)
- Restaurant patrons need longer term parking (1-hr+). (9 votes)
- Inadequate shared public-use parking results in a large amount of private-use parking serving individual businesses. (8 votes)
- County Courthouse Complex needs more parking. (6 votes)

The following Campus Corner comments received the most votes (in order from most to least votes):

- Patrons avoid dining in Campus Corner due to lack of convenient, easy-to-find parking. (15 votes)
- Campus Corner needs more shared use parking. (13 votes)
- Wayfinding guide signs should be provided to guide visitors to shared parking facilities. (12 votes)
- Lack of employee parking in Campus Corner causes employees to occupy most convenient spaces, which makes them unavailable for patrons. (10 votes)
- Spillover OU campus parking demand seems to be increasing (likely due to higher enrollment and Jenkins garage construction). (8 votes)
- More information on district parking should be available for visitors (via websites, social media or in the form of print maps/brochures distributed to businesses). (6 votes)

In addition, comments were provided at the Community Forum meeting that a neighborhood parking validation program needs to be considered for the Campus Corner area to address spillover parking issues around the OU campus. Due to the large area of land devoted to surface parking lots to serve churches, the comment was made that the parking study should address the opportunities that seem to be available with these existing surface parking lots. The question was asked if the ongoing one-way to two-way conversion study for Main Street and Gray Street would affect parking in the CBD. In answer, it was noted that this parking study assumes that there will be no reductions in on-street parking supply after Main Street and Gray Street are converted and that the consultant preparing the one-way to two-way conversion study has been asked to retain the entire on-street parking supply with their recommendations.

Comments received at each of the meetings provided vital input to the study process and assisted in the formulation of the recommendations.

2. Existing Conditions

2.1 Overview

This section presents a summary of 2015 parking conditions in the Central Business District (CBD) and Campus Corner Commercial District. The City of Norman and Cleveland County provided available information that was analyzed and summarized in this section. Additional data was collected by Jacobs to capture parking conditions and problems during typical weekdays. Excluding special events, peak district parking demands in both the CBD and Campus Corner Districts typically occur on weekdays when the activities of workers, shoppers, and students coincide with one another.

This section describes the current parking supply in the CBD and Campus Corner, including both public and private parking. Public parking is defined as parking that is available for use by the general public on an hourly or daily basis, whether the parking is free or requires a user fee. Private parking is restricted for use by certain individuals or groups, such as reserved parking for employees or customers of a particular business, and is not available for use by the public. Existing land uses are also discussed in this section because of the strong interrelationship between land use and the need for parking. Information is presented on pertinent transportation system capabilities, such as transit service, in the CBD and Campus Corner as well as the University of Oklahoma's (OU's) parking management efforts and anticipated parking supply additions.

In April 2015, field data were collected to capture parking patterns in the CBD and Campus Corner. The data collection was completed while OU was in session and prior to the old County jail site demolition that occurred later in 2015. The data are representative of the existing supply and utilization of parking resources in the CBD and Campus Corner. The existing utilization data are presented in **Section 3** of this study.

2.2 Inventory of Parking Supply

An inventory of the available parking supply was performed in April of 2015. The number and locations of all parking spaces in both the CBD and Campus Corner were identified and recorded. The inventory included on-street and off-street parking spaces, a record of whether or not meters were present, any time limit durations, whether the parking was public or private, the angle of the parking spaces, the identification of any ADA handicap accessible spaces and any other parking restrictions in place. At the time of the study, there were no multi-level parking structures located in either the CBD or Campus Corner.

2.2.1 CBD Parking Supply

The parking supply in the CBD is summarized in **Figures 2-1** through **2-7**, with a tabular summary provided on **Table 2-1**. **Figure 2-1** shows the off-street parking spaces located in the CBD west of the BNSF railroad tracks. **Figure 2-2** shows the on-street parking supply of the West CBD. **Figure 2-3** provides the off-street parking supply for the East CBD (east of the railroad), and **Figure 2-4** provides the on-street parking supply for the East CBD. **Figures 2-5** through **2-7** provide graphical summary breakdowns of public off-street parking, private off-street parking, and on-street parking available for the West, East, and combined CBD areas.

The CBD has 6,176 total spaces, of which 5,118 spaces (82.9% of the total supply) are off-street parking in surface lots and 1,058 spaces (17.1%) are on-street spaces. A small percentage of the off-street parking supply includes informal parking areas, which can be defined as commonly used spaces in alleys or other areas but may not be clearly delineated as a parking space.

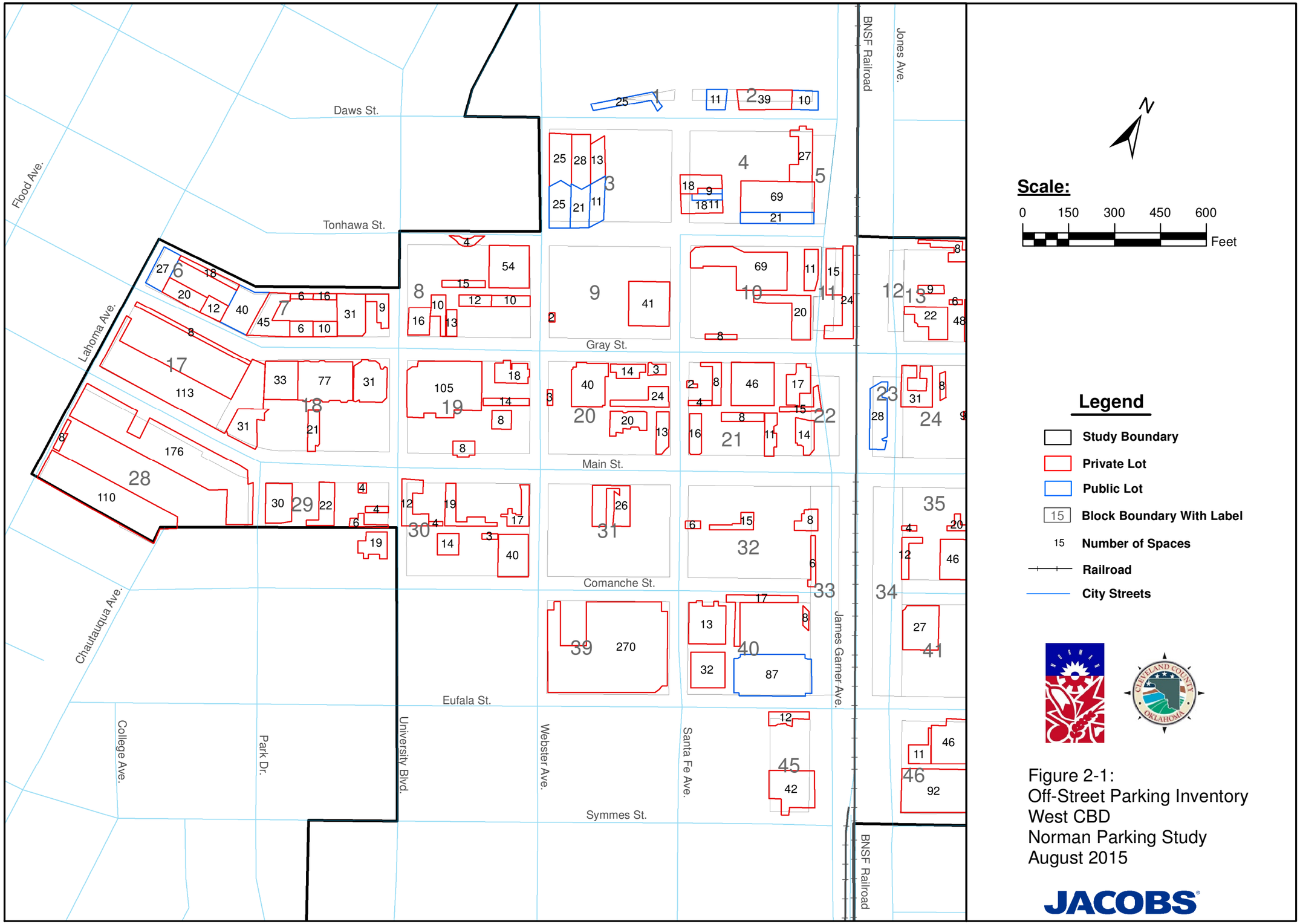


Figure 2-1:
Off-Street Parking Inventory
West CBD
Norman Parking Study
August 2015

JACOBS

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- Metered
- Non-Metered
- Railroad
- City Streets

Label Descriptions:

Restrictions

H- ADA Accessible
X- Loading Zone
R- Reserved
N- No Apparent Restriction

Time Restrictions

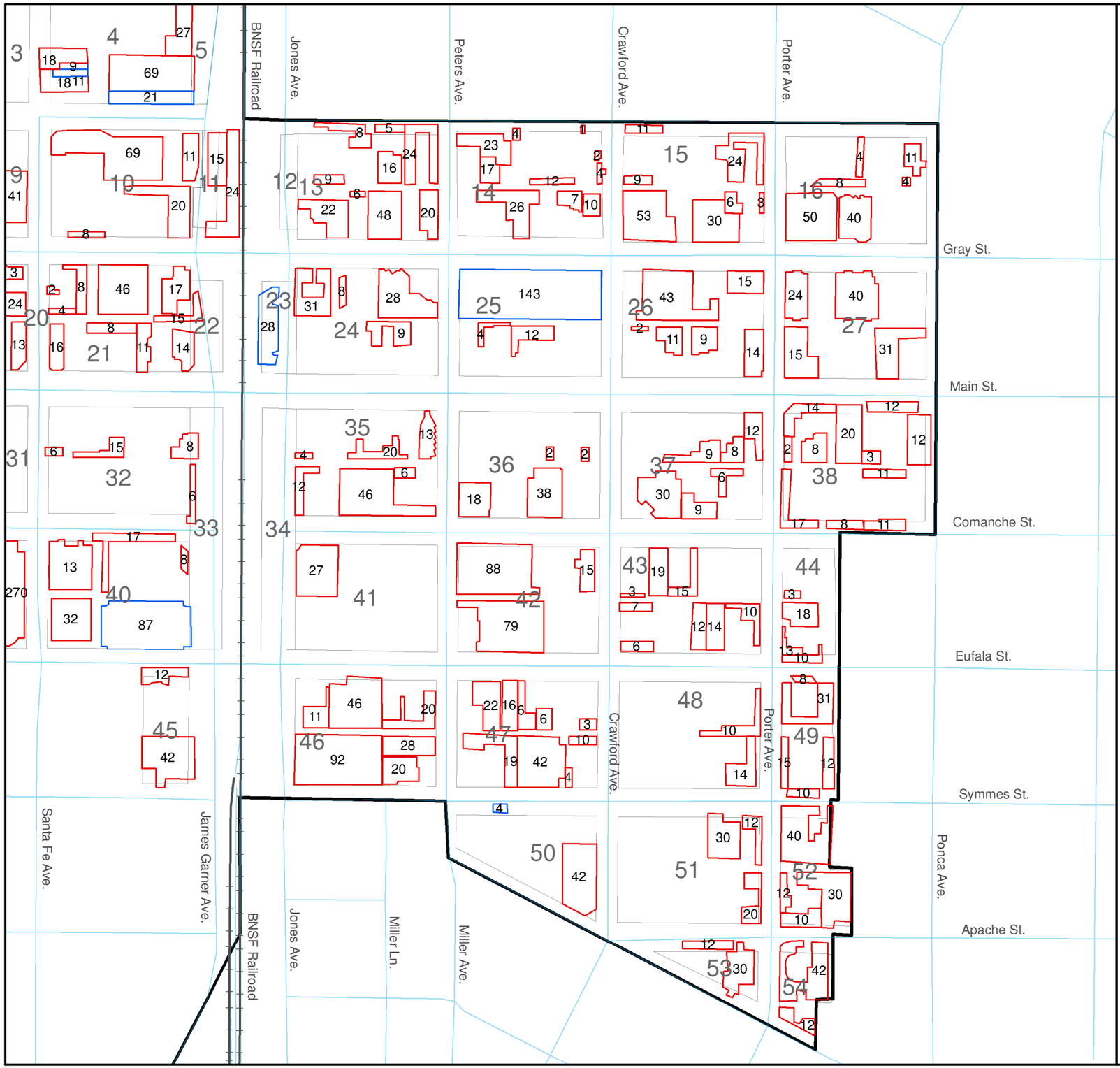
A- 15-Min.
B- 30-Min.
C- 1-Hr.
D- 2-Hr.
E- Sunday Only
F- No Limit

Parking Direction

G- Angled Parking
P- Parallel Parking
S- 90 Degree/Straight Parking

Figure 2-2:
On-Street Parking Inventory
West CBD
Norman Parking Study
August 2015

JACOBS



N

Scale:

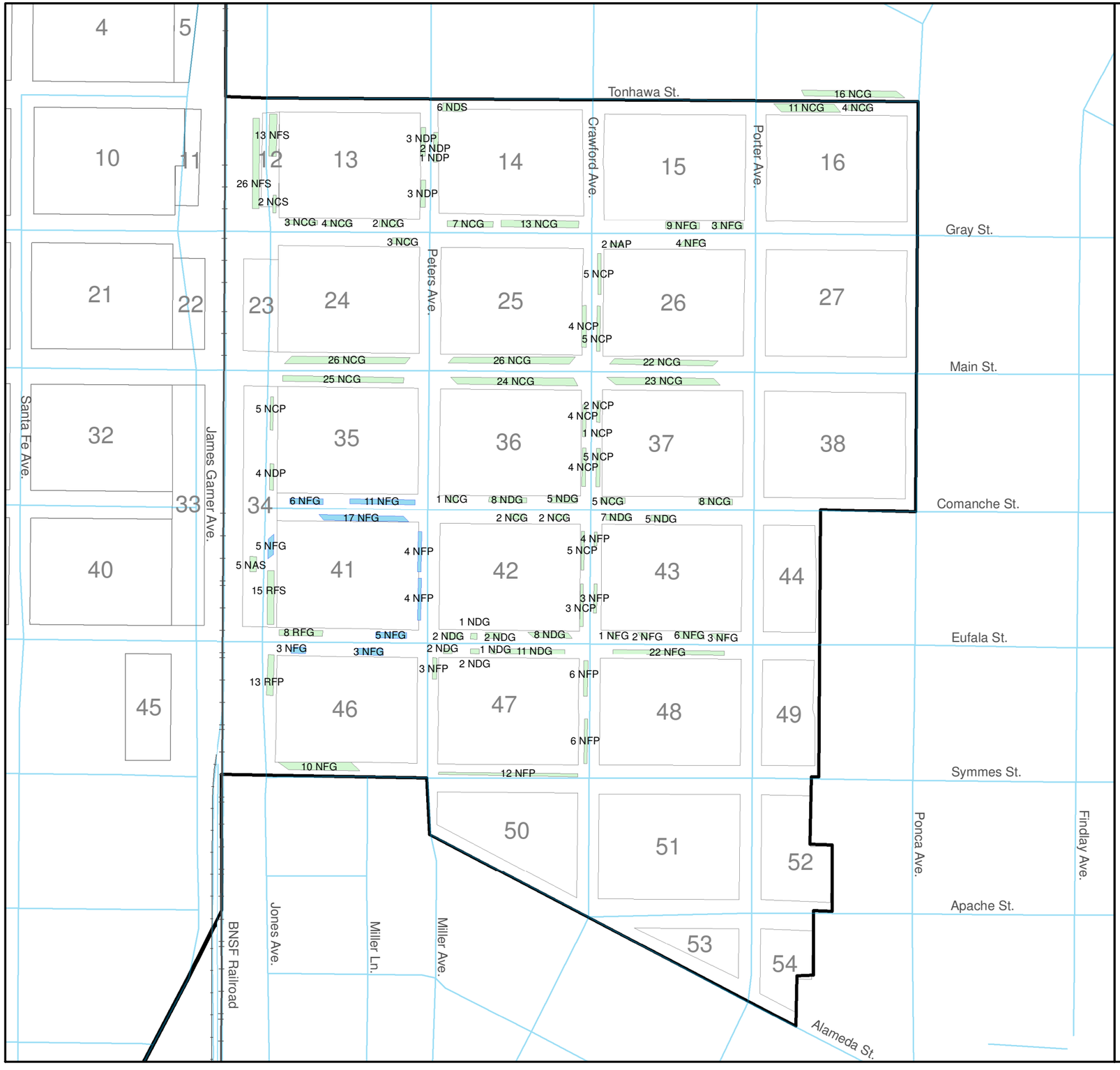
0 150 300 450 600 Feet

Legend

- Study Boundary
- Private Lot
- Public Lot
- 15 Block Boundary With Label
- 15 Number of Spaces
- Railroad
- City Streets

Figure 2-3:
Off-Street Parking Inventory
East CBD
Norman Parking Study
August 2015

JACOBS



Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- Metered
- Non-Metered
- Railroad
- City Streets

Label Descriptions:

Restrictions

H- ADA Accessible
X- Loading Zone
R- Reserved
N- No Apparent Restriction

Time Restrictions

A- 15-Min.
B- 30-Min.
C- 1-Hr.
D- 2-Hr.
E- Sunday Only
F- No Limit

Parking Direction

G- Angled Parking
P- Parallel Parking
S- 90 Degree/Straight Parking

Figure 2-4:
On-Street Parking Inventory
East CBD
Norman Parking Study
August 2015

JACOBS

There are currently no multi-level parking garages in the CBD. Off-street parking includes 134 ADA accessible spaces designed for use by handicapped persons.

Parking for the City of Norman's municipal employees and law enforcement officers is located in Blocks 1 through 5 and Block 9, which can generally be described as the area bounded by Daws St. on the north, the BNSF Railroad on the east, Tonhawa St./Gray St. on the south, and Webster Ave. on the west. A total of 422 parking spaces are provided in this area, with many of them being reserved for officers or city employees. There are times when visitor parking is sparse in this area, particularly when special events or meetings are taking place at City Hall during normal business hours. There may be an opportunity to add visitor and employee parking for the city offices after the public library is relocated.

Cleveland County owns property in Blocks 35, 40, 41 and 46, generally surrounding the County Courthouse and Administration Building which is located at 201 S. Jones Avenue (Block 41). There are currently 240 full-time county employees who work at the Courthouse and Administration Building. In addition, there are 15 county employees with offices at the old abstract building and 60 county employees at the Chase Bank building; both of which are located to the north in Block 35. Currently, the employees located in Block 35 utilize parking just outside their respective facilities.

Employees at the County Courthouse and Administration Building use a large employee parking lot located to the south in Block 46. There are 138 total spaces provided for county employees in this controlled-access lot. There is additional county parking available via the metered, on-street spaces around the Courthouse (58 spaces), along James Garner Avenue to the west of the railroad tracks (109 spaces), and in the south half of Block 40 (119 spaces). Much of the additional parking west of the railroad tracks is used by jurors and other County Courthouse/office visitors on days when the Courthouse is especially busy, such as jury selection day.

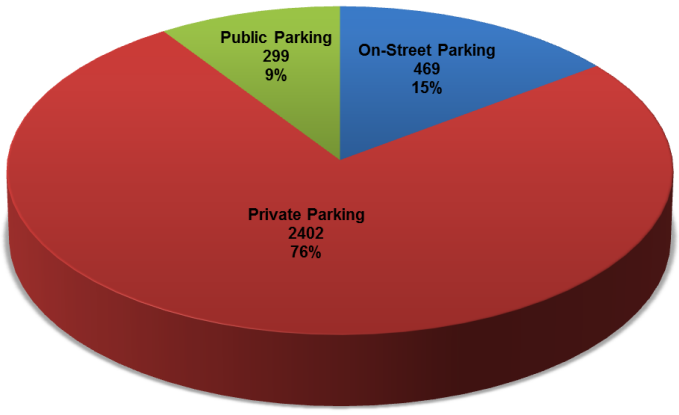


Figure 2-5: Parking Inventory – West CBD

Following the recommendations given in the 2003 Parking Study, the City has been able to work with local property owners to acquire properties in the north half of Block 25 (on Gray St. between Peters Ave. and Crawford Ave.) and to fund the construction of a public surface parking lot with 143 total spaces. The public parking at this location is centrally located to offices and retail/restaurant uses in the East CBD, and provides a large facility where visitors to the area can typically find an open parking space.

Most on-street parking in the CBD is non-metered, free parking with maximum time limits in place. The maximum time durations range from 15 minutes to 2 hours. 425 of the on-street spaces in the CBD, such as the on-street parking along James Garner Avenue, have no time limit or restriction in place. The on-street parking supply around the County Courthouse has one-hour parking meters installed charging $0.25 per hour. In total, there are 58 total metered, on-street spaces. The metered spaces are located on Comanche St., Peters Ave., Eufaula St., and Jones Ave., immediately adjacent to the County Courthouse. Meters are enforced Monday through Friday, from 8:00 am to 5:00 pm.

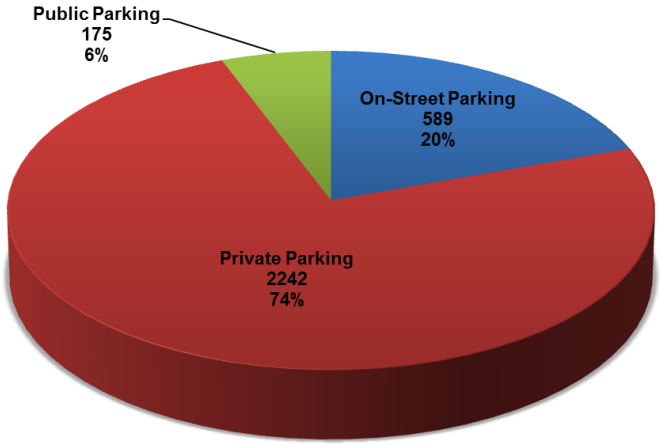


Figure 2-6: Parking Inventory - East CBD

Of the non-metered on-street parking spaces, there are 133 spaces with a two-hour time limit, 344 spaces with a one-hour time limit, and just 7 spaces with a 15-minute time limit. The on-street parking supply includes 45 ADA accessible spaces. In addition, vehicles with a handicapped hangtag permit may park for free in any legal on-street parking space (except for those reserved for official use). There are no commercial loading zones in on-street locations that interfere with parking in the CBD. Reserved on-street parking includes 46 spaces designated for official police vehicles or other designated uses.

24.1% (1,486 spaces) of the total available CBD parking supply is designated for general public use, available on an hourly or daily basis with or without a user fee. The remaining 75.9% (4,690 spaces) are private-use parking spaces reserved for use only by certain individuals or groups. While the total CBD parking supply is significant, the spaces are widely dispersed throughout Downtown and the availability of convenient parking close to major destinations is limited. Private parking further limits the availability of general public parking in the CBD.

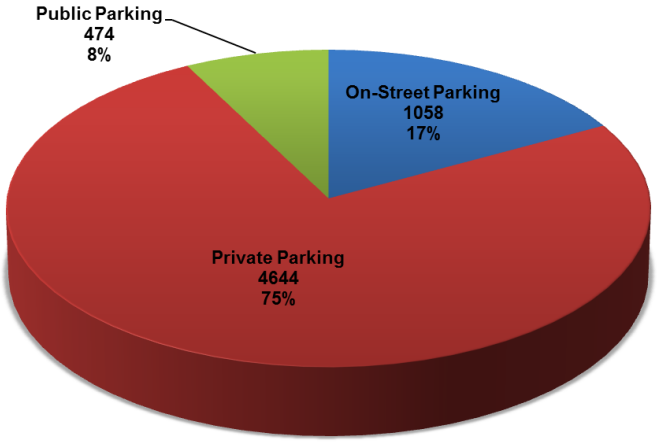


Figure 2-7: Parking Inventory - Total CBD

Table 2-1: Summary of CBD Parking Inventory

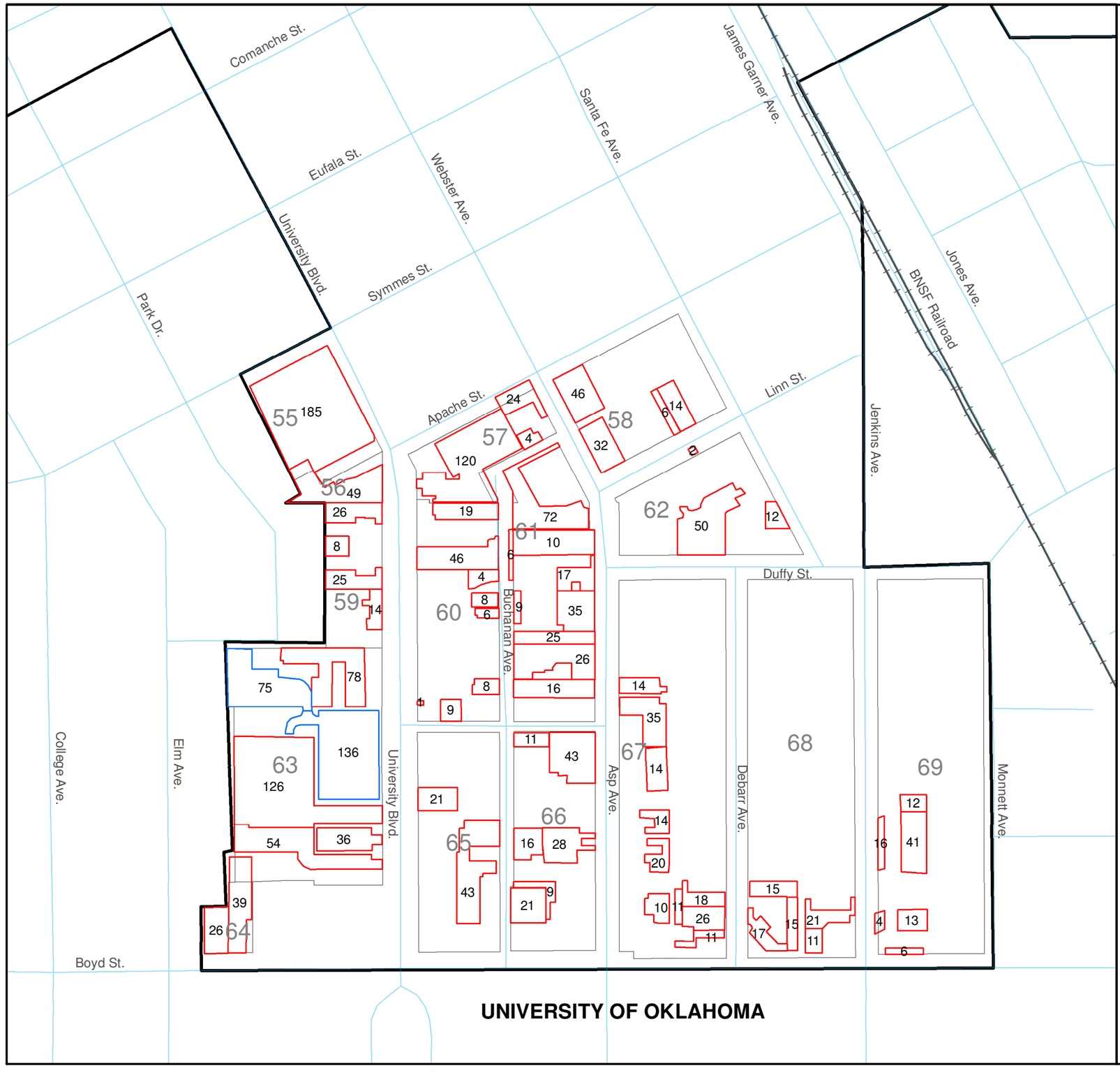
	Type of Parking	Number of Spaces	% Total Spaces
Off-Street Parking	Public Lot	449	7.270%
	Public Lot ADA	25	0.405%
	Private Lot	4,535	73.429%
	Private Lot ADA	109	1.765%
	Sub-Total Off-St.	**5,118**	82.869%
On-Street Parking	15-Minute	7	0.113%
	30-Minute	0	0.000%
	1-Hour	344	5.570%
	2-Hour	133	2.153%
	No Time Rest.	425	6.881%
	Metered	58	0.939%
	ADA Accessible	45	0.729%
	Loading Zone	0	0.000%
	Reserved	46	0.745%
	Sub-Total On-St.	**1,058**	17.131%
	Total Parking Supply	**6,176**	100.000%
	Public Use Parking	**1,486**	24.061%
	Private Use Parking	**4,690**	75.939%

2.2.2 Campus Corner Parking Supply

The parking supply in Campus Corner is summarized in **Figures 2-8** through **2-10**, with a tabular summary provided on **Table 2-2**. **Figure 2-8** provides the off-street parking supply and **Figure 2-9** provides the on-street parking supply. **Figure 2-10** presents a graphical summary of the public off-street parking, the private off-street parking, and the on-street parking available in Campus Corner.

Campus Corner has 2,323 total parking spaces. There are 2,040 off-street spaces (87.8% of total supply) that are located in surface lots and informal parking areas and 283 on-street spaces (12.2%). Off-street spaces include 35 ADA accessible spaces designated for use by handicapped persons. There are currently no multi-level parking garages in Campus Corner.

Some parking provided in the core area of Campus Corner is open for use by anyone visiting one of the many nearby stores/restaurants in Blocks 63, 65, and 66. However, most of the parking available in Campus Corner overall is either intended for use by patrons and shoppers of specific businesses or is located on the fringes of the district. A substantial supply of parking (211 spaces total) is available in Block 63 that is owned and maintained by the Presbyterian Church, for which parking fees are required. This parking is just outside of the core of Campus Corner and provides an ideal location for employee parking and overflow parking for customers during busy periods. Maximizing employee use of the Presbyterian lot allows for more convenient parking to be left available for customers.



UNIVERSITY OF OKLAHOMA

N

Scale:

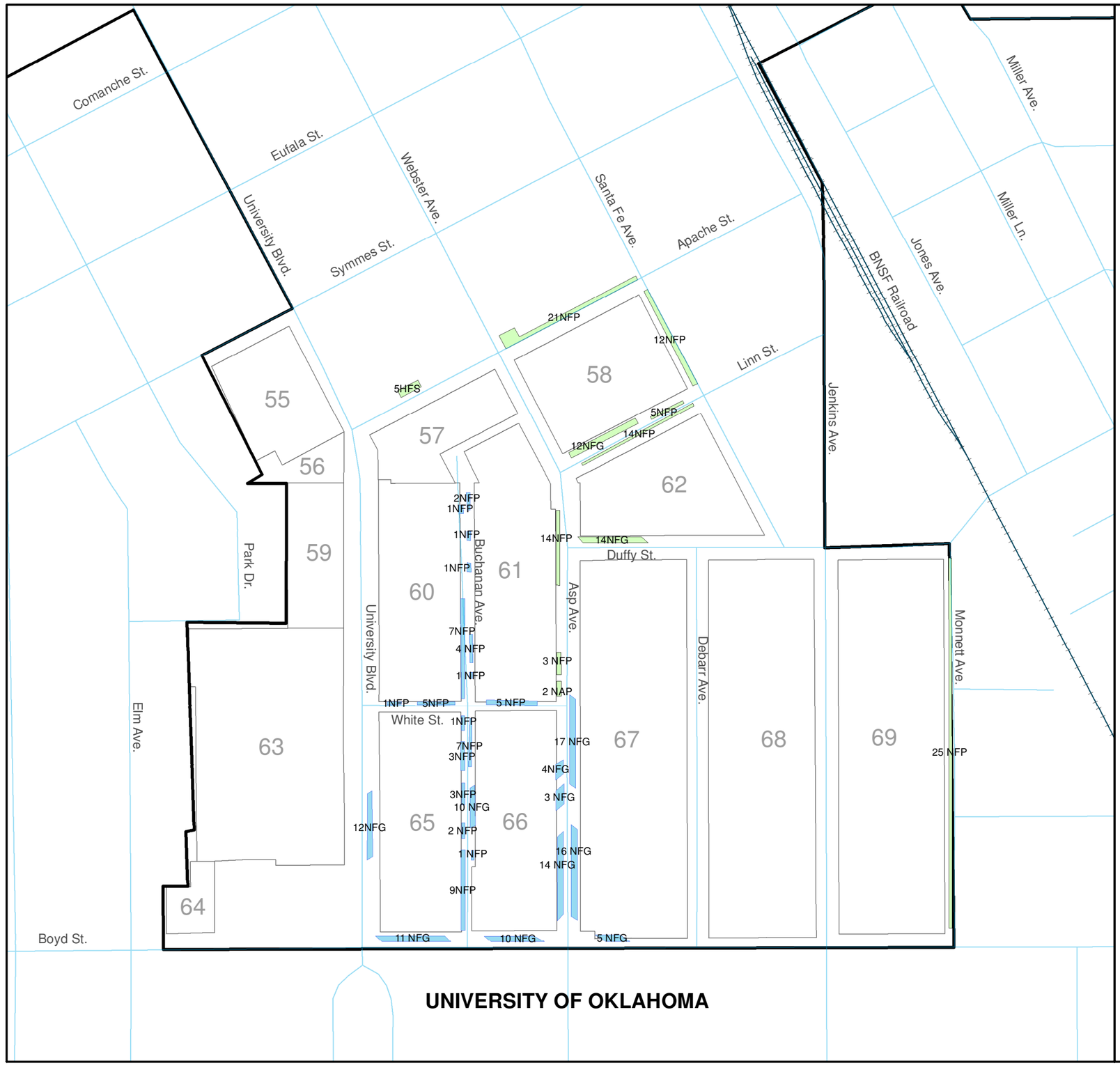
0 150 300 450 600 Feet

Legend

- Study Boundary
- Private Lot
- Public Lot
- 15 Block Boundary With Label
- 15 Number of Spaces
- Railroad
- City Streets

Figure 2-8:
Off-Street Parking Inventory
Campus Corner
Norman Parking Study
August 2015

JACOBS



N

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- Metered
- Non-Metered
- Railroad
- City Streets

Label Descriptions:

Restrictions

H- ADA Accessible
X- Loading Zone
R- Reserved
N- No Apparent Restriction

Time Restrictions

A- 15-Min.
B- 30-Min.
C- 1-Hr.
D- 2-Hr.
E- Sunday Only
F- No Limit

Parking Direction

G- Angled Parking
P- Parallel Parking
S- 90 Degree/Straight Parking

Figure 2-9:
On-Street Parking Inventory
Campus Corner
Norman Parking Study
August 2015

JACOBS

Directly south and west of the Presbyterian lot, there are 126 commuter spaces provided for OU students. The southernmost lot of Block 63 provides an additional 54 spaces reserved for OU, and Block 64 has an additional 65 spaces that are reserved for OU faculty/staff and visitors.

On-street parking includes 129 non-metered spaces and 154 metered spaces. The non-metered spaces include 119 spaces with no time restrictions and two spaces with a 15-minute time limit. Of the metered, on-street parking supply, there are 154 one-hour meters charging $1.00 per hour, two 30-minute meters, and three 15-minute meters. There are eight ADA accessible on-street spaces designated for use by handicapped persons. Commercial loading zones are present at three on-street locations, but are restricted for use only between the hours of 6:00 am to 10:00 am. The commercial loading zones double as metered parking spaces at all three locations.

78.7% (1,829 spaces) of the total available Campus Corner parking supply is private-use, reserved for use only by certain individuals or groups. The remaining 21.3% (494 spaces) is designated for general public use available on an hourly or daily basis with or without a user fee. A high percentage of private-use, reserved parking diminishes the available supply for public uses and increases the perception of a parking deficiency because motorists must find parking spaces for other destinations, which may also require a longer walking distance to their destination.

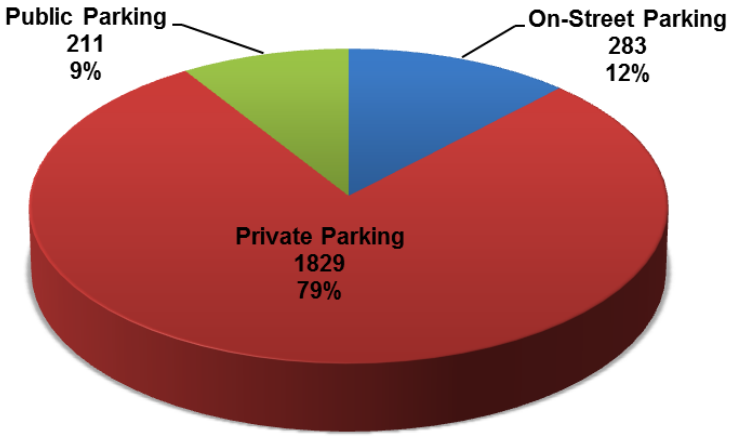


Figure 2-10: Parking Inventory - Campus Corner

Table 2-2: Summary of Campus Corner Parking Inventory

	Type of Parking	Number of Spaces	% Total Spaces
Off-Street Parking	Public Lot	211	37.613%
	Public Lot ADA	0	0.000%
	Private Lot	1,794	77.228%
	Private Lot ADA	35	1.507%
	Sub-Total Off-St.	**2,040**	87.817%
On-Street Parking	15-Minute	2	0.086%
	30-Minute	0	0.000%
	1-Hour	0	0.000%
	2-Hour	0	0.000%
	No Time Rest.	119	5.123%
	Metered	154	6.629%
	ADA Accessible	8	0.344%
	Sub-Total On-St.	**283**	12.183%
	Total Parking Supply	**2,323**	100.000%
	Public Use Parking	**494**	21.266%
	Private Use Parking	**1,829**	78.734%

2.3 Existing Land Use

Parking and land use are very closely interrelated. Every land use generates the need for a certain amount of parking. Certain land uses, such as restaurants, generate a considerable need for parking during peak activity periods (for restaurants, these are typically around noon and in the early evening hours). Other land uses, such as warehouse and storage, have a low demand for parking during normal business hours and also in the evening hours when restaurant demands may be high. The type and total area that can be attributed to each land use, along with the land use mix in the CBD and Campus Corner, are key determinants in assessing the demand for parking.

In August 2015, an inventory of land uses in the CBD and Campus Corner was prepared utilizing information as provided by the City of Norman and property record information from the Cleveland County Assessor's Office.[1] Field observations and *Google StreetView* were used to confirm the land use data received from County and City sources.[2] Where appropriate, land uses were broken down further based on separate lease spaces broken out for different uses (such as retail at ground floor with office or residential use above). Steering committee members reviewed and provided information to further refine the land use inventories developed for each district.

Existing land uses for the CBD are shown on **Figures 2-11** and **2-12**. **Table 2-3** and **Figure 2-13** summarize the land use inventory by estimated gross floor area for each major land use category. Existing land uses for Campus Corner are shown on **Figure 2-14**. **Table 2-4** and **Figure 2-15** summarize the land use inventory by estimated gross floor area for each major land use category.

[1] Cleveland County Assessor's Office, "GIS Map Server", http://www.clevelandcountyassessor.us/.

[2] Google Street View 2015, https://www.google.com/maps/place/Norman,+OK/@35.246941,-97.4324096,12z/data=!3m1!4b1!4m2!3m1!1s0x87b263b67f93eee7:0x445b233faba85cf8.

Scale:

0 150 300 450 600

Feet

Legend

- Industrial
- Single-Fam. Residential
- Multi-Fam. Residential
- Hotel/Inn
- Adult Cabaret
- Theater or Athletic/ Recreation Center
- University
- Church/Nonprofit/ Daycare Center
- Library
- Medical/Veterinary Clinic
- Bank
- Office
- Government Office
- Retail/Services
- Restaurant
- N/A

Study Boundary

15 Block Boundary With Label

Emphasis Area

Railroad

City Streets

Figure 2-11:
2015 Land Use Map - West CBD
Norman Parking Study
November 2015

JACOBS

Scale:

0 150 300 450 600 Feet

Legend

- Industrial
- Single-Fam. Residential
- Multi-Fam. Residential
- Hotel/Inn
- Theater or Athletic/ Recreation Center
- University
- Church/Nonprofit/ Daycare Center
- Library
- Medical/Veterinary Clinic
- Bank
- Office
- Government Office
- Retail/Services
- Restaurant
- N/A (Vacant)

Study Boundary

15 **Block Boundary With Label**

Emphasis Area

Railroad

City Streets

Figure 2-12:
2015 Land Use Map - East CBD
Norman Parking Study
November 2015

JACOBS

Downtown Norman has a healthy mix of land uses. In total, there is slightly more than 2.0 million gross square feet of developed use, most of which falls under the general category of commercial use. The highest land uses in the CBD are office (524,195 sf) and retail/services (456,539 sf). Other frequent uses are government office (239,900 sf.), industrial (174,389 sf), bank (128,513 sf), and restaurant (87,825 sf).

Table 2-3: 2015 Land Use Summary - CBD

Land Use Category	Gross Floor Area (Sq. Ft.)	Percent of District Total
Industrial	174,389	8.7%
Single-Family Residential	32,578	1.6%
Multi-Family Residential	29,317	1.5%
Hotel/Inn	6,239	0.3%
Adult Cabaret	0	0.0%
Theater or Athletic/Recreation Center	43,029	2.1%
University	0	0.0%
Church/Nonprofit/Daycare Center	134,788	6.7%
Library	54,500	2.7%
Medical/Veterinary Clinic	9,773	0.5%
Bank	128,513	6.4%
Office	524,195	26.2%
Government Office	239,900	12.0%
Retail/Services	456,539	22.8%
Restaurant	87,825	4.4%
N/A (Vacant)	80,339	4.0%
Total	**2,001,924**	**100.0%**

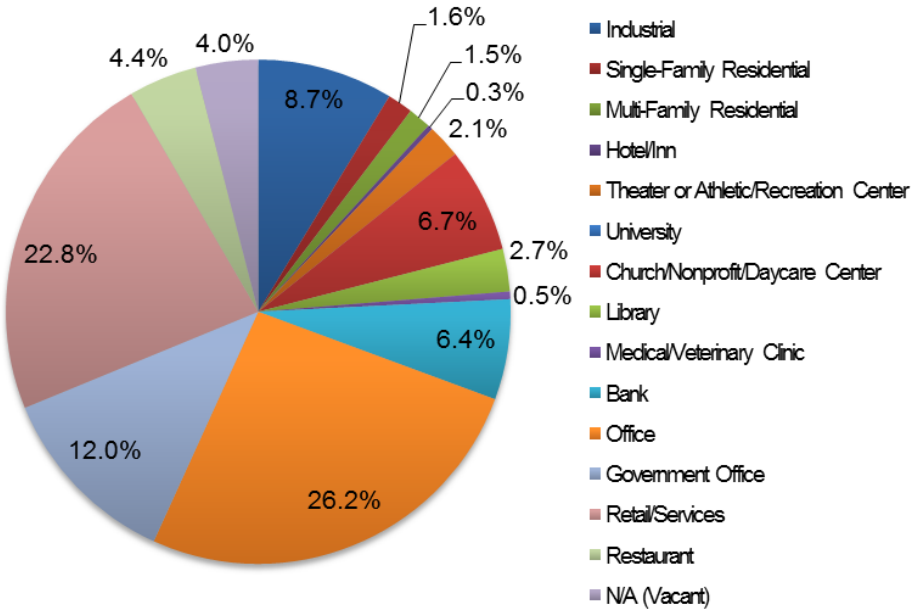
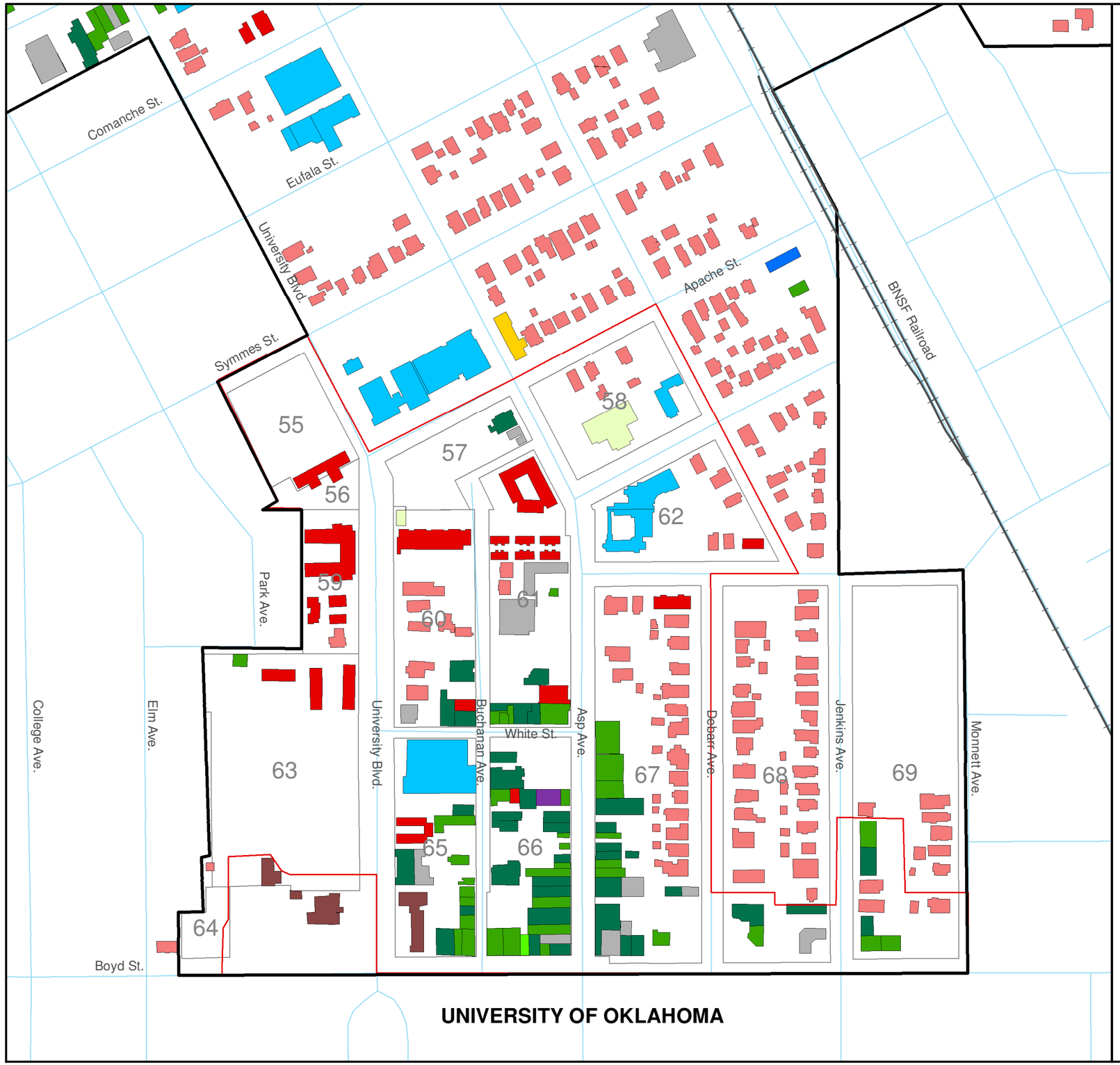


Figure 2-13: Land Use Summary Chart - CBD



N

Scale:

0 150 300 450 600 Feet

Legend

- Industrial
- Single-Fam. Residential
- Multi-Fam. Residential
- Hotel/Inn
- Adult Cabaret
- Theater or Athletic/ Recreation Center
- University
- Church/Nonprofit/ Daycare Center
- Library
- Medical/Veterinary Clinic
- Bank
- Office
- Government Office
- Retail/Services
- Restaurant
- N/A

Study Boundary
15 **Block Boundary With Label**
Emphasis Area
Railroad
City Streets

Figure 2-14:
2015 Land Use Map - Campus Corner
Norman Parking Study
November 2015

JACOBS

Campus Corner also has a healthy diversity of land uses within the defined emphasis area. Existing development includes an estimated total of 771,905 square feet of gross floor area. Residential uses comprise a majority of the land uses present in the Campus Corner emphasis area at 235,726 sq. ft. and 157,111 sq. ft. for single-family/duplex residential and multi-family residential units, respectively. Of the non-residential land uses, restaurants (128,022 sf) and retail/services (89,335 sf) are the highest uses. There is also 68,965 sf of church/nonprofit/daycare center, 52,768 sf of office space, and 23,310 sf of University-related space.

Table 2-4: 2015 Land Use Summary - Campus Corner

Land Use Category	Gross Floor Area (Sq. Ft.)	Percent of District Total
Industrial	0	0.0%
Single-Family Residential	235,726	30.5%
Multi-Family Residential	157,111	20.4%
Hotel/Inn	0	0.0%
Adult Cabaret	3,000	0.4%
Theater or Athletic/Recreation Center	0	0.0%
University	23,310	3.0%
Church/Nonprofit/Daycare Center	68,965	8.9%
Library	0	0.0%
Medical/Veterinary Clinic	12,218	1.6%
Bank	1,450	0.2%
Office	52,768	6.8%
Government Office	0	0.0%
Retail/Services	89,335	11.6%
Restaurant	128,022	16.6%
N/A (Vacant)	0	0.0%
Total	**771,905**	**100.0%**

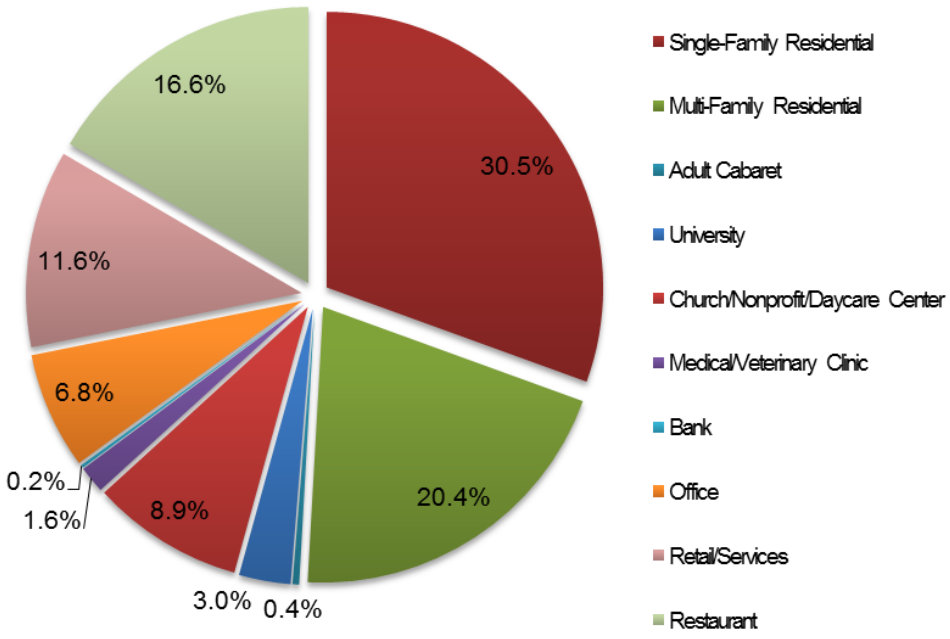


Figure 2-15: Land Use Summary Chart - Campus Corner

2.4 City Parking Regulations

City parking regulations and requirements are contained in the Norman Code of Ordinances. These regulations have a direct impact on the number of parking spaces in the CBD and Campus Corner. The code sets forth such items as the number of parking spaces required by land use, parking stall dimensions, and locations where parking is not permitted.

Norman parking ordinances were reviewed in comparison with current industry standards and similarly sized communities in the region. The parking code provides reasonable guidelines, standards, and restrictions where appropriate. Some areas of the code are recommended for modification/updating, as described in **Section 8** of this study.

2.5 Parking Enforcement

Parking enforcement in Norman is generally effective in supporting a desirable parking environment in the Campus Corner and the CBD. Tire marking is used to monitor and enforce turnover of non-metered, time-restricted parking spaces in the CBD, and metered parking is appropriately enforced around the Courthouse and in Campus Corner. Discussions with parking enforcement staff indicated that overtime parking is fairly common. Most violators are issued parking citations.

In Norman, there were 8,383 total citations written for expired parking meters in Fiscal Year 2015 (FY15), which runs from July 1, 2014 to June 30, 2015. These expired parking meter citations led to approximately $100, 612 in revenue. In FY15, there were 1,218 total citations written for overtime parking in time-restricted on-street spaces. The overtime parking citations resulted in $15,024.75 worth of revenue collected. There are four full-time parking enforcement officers whose combined annual salaries total $133,120.

2.6 Accessible Parking for the Disabled

The Americans with Disabilities Act (ADA) of 1990 imposed new guidelines and restrictions on virtually all new and remodeled buildings and other facilities open to the public. Final guidelines were published by the federal government in 1991 and took effect on January 26, 1992. ADA requires the following:

- Public accommodations must be accessible to persons with disabilities;
- Auxiliary aids and service must be provided in public accommodations for use by disabled individuals;
- Physical barriers in existing public accommodations must be removed, if possible; and
- New construction and alterations of public and commercial facilities must be designed and constructed to accommodate persons with disabilities.

ADA Title II applies to public entities, including local governments such as the City of Norman and Cleveland County. ADA Title III applies to private enterprise. Generally, the provisions are similar; however, Title II is slightly more stringent. ADA Accessibility Guidelines (ADAAG) were developed by the Architectural and Transportation Barriers Compliance Board (ATBCB) and are generally accepted design requirements. ADAAG provides specifications for the minimum number of accessible spaces required, the provision of wider van accessible spaces, overhead clearance for vans (8’-2”), and the provision of wider doors and curb ramps to accommodate wheelchairs.

Application of the ADAAG leaves some room for interpretation. The 8’-2” overhead clearance requirement could apply to only one floor of a facility if all van spaces are grouped on that floor. In addition, the overhead clearance requirement may not have to be met for a remodeled structure. Accessible spaces can be grouped in a facility to enhance accessibility. No accessible spaces may be placed on a floor with a cross slope of greater than two percent. A four-foot wide clear path with grades of two percent or less is required outside of the facility.

A list of the number of accessible parking spaces to be provided for the total number of spaces provided in a given lot/structure is shown in **Table 2-5**.

Table 2-5: ADAAG Requirements for Number of Accessible Parking Spaces

Total Parking Spaces in Lot / Structure	Minimum Number of Accessible Spaces Required
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2% of total
1,000 and over	20 plus 1 accessible space for each 100 total over 1,000

The required accessible parking dimensions are eight feet wide with an adjacent five-foot accessible aisle. Two spaces can be grouped on each side of an aisle to provide two accessible spaces. The number of van accessible spaces is directly related to the above accessible space requirements, with one van space provided for every eight accessible spaces at a minimum. ADAAG requires van accessible spaces to have an eight-foot wide access aisle.

The City of Norman has 45 accessible on-street spaces in the CBD out of a total of 1,058 spaces. There are eight accessible spaces out of 283 total on-street spaces in Campus Corner. Many of the accessible spaces are van accessible. The City also allows accessible parking free at any on-street stall to accommodate those individuals who need close proximity to their destination, but don't necessarily need a wider space or adjacent curb ramp for a wheelchair. ADA does not require accessible parking to be free when other patrons pay for parking.

2.7 University of Oklahoma Parking Management

The University of Oklahoma has developed a campus parking system including on-street spaces, surface parking lots, and multi-level parking structures. While the campus is not included in the study area for this parking study, a summary of the OU parking system is provided here for general information, as it is easily recognized that there is considerable overlap between Campus Corner and the University of Oklahoma. Spillover parking demand being generated by OU is a major factor impacting the total parking utilization in Campus Corner.

Parking permits are required to park on the OU campus from 7:00 am until 9:00 pm Monday through Friday. Parking is provided on a first-come, first-serve basis. Annual parking permits for faculty/staff and vendors cost $256.[3] Annual permits for on-campus resident and commuter students are $226. Faculty/staff parking permit restricted areas are enforced year-round except on holidays when OU is closed. In addition to the various surface and structured parking available, permit-free parking is available for students, faculty and staff on the north side of the Lloyd Noble Center with free Cleveland Area Rapid Transit (CART) shuttles provided to campus.

[3] The University of Oklahoma, Parking & Transportation Services, http://www.ou.edu/parking.html.

Certain spaces and areas in campus parking facilities/lots are set aside for use by visitors. These areas have been located for maximum visitor convenience and are clearly identified with signs. Visitor permits are free of charge and are valid for a single visit.

OU currently has two parking structures on campus and is in the process of building a third, which is expected to open around January of 2017. The first structure is located on Elm Ave. just south of the Catlett Music Center. There are 576 spaces provided in this five-level structure. Generally, the first level is reserved parking, and levels two through five are open to faculty/staff. There are also several four-hour metered spaces that are available inside the structure.

The second OU parking structure is located on Asp Ave. immediately west of the stadium. There are 724 parking spaces provided in this structure. Level one provides reserved parking, and levels two through six are designated as faculty/staff parking. In addition, there are several 45-minute and two-hour metered spaces that are available on a first-come, first-served basis.

The Jenkins Avenue parking structure is currently under construction and will cost a total of $28 million. The structure is located on Jenkins Ave. east of the Huston Huffman Fitness Center and across the street from the Headington Hall lot.[4] The additional 1,221 parking spaces to be provided will replace a multipurpose lot with nearly 600 spaces at the same location. An additional parking structure is currently being planned for OU's campus, but its location is still pending.

2.8 Transit Service

Strategies to increase bus ridership to offset additional parking needs were among those considered in the study. OU operates the Cleveland Area Rapid Transit (CART), providing public transportation service to areas in Norman with six routes terminating at the CART transfer station located on OU's campus at the South Oval. CART Routes serve the CBD, Campus Corner, the Public Library, the County Health Department, West and East Norman shopping areas, the Community Services building, and many City parks. Routes extend north, south, east, and west into the City of Norman, serving a variety of residential neighborhoods, public facilities, apartment complexes, and shopping centers.

Campus shuttle service is provided between the Lloyd Noble Center, Sam Noble OU Museum of Natural History, the Law Center, Goddard Health Center, Physical Sciences Center, Catlett Music Center, Student Union, Armory, and the South Oval. Service hours are Monday through Friday, 7:00 am to 9:00 pm. CART will extend hours on some route schedules to serve students during finals week each semester. The fare cost is $0.75 for one-way trips in Norman and $3.00 for a one-way ticket on the Sooner Express route.[4] Fares for riders with physical disabilities range from $1.50 to $3.50 for one-way trips; this service is referred to as CART access. With a valid form of identification, OU students and faculty/staff ride free of charge for both regular trips and CART access services, excluding trips on the Sooner Express route. Additional discounts are available for youth, senior citizens, and disabled riders. Easy Fare $15 punch cards and monthly Unlimited Ride ($25) and Sooner Express 30-day Unlimited Ride passes ($50) are sold at various retail locations.

CART is supported by funding from the federal government, the State of Oklahoma, and the City of Norman. The fleet consists of replica trolleys, paratransit vans, and transit coaches. CART operates seven Norman city routes and three OU routes, transports more than 1 million riders annually, and provides curb-to-curb service for disabled riders on the lift-equipped vans. CART has three lift-equipped buses allowing disabled riders to board the bus independently. One of these vehicles operates on the Main Street route, and with a 24-hour advance request a lift-equipped bus is provided on any fixed route.

[4] Cleveland Area Rapid Transit (CART), "Route Schedule and Transit Guide", http://www.ou.edu/content/dam/CART/Images/Route%20Schedule%207-2015.pdf

3. Existing Parking Utilization

The characteristics of when, where, and for how long patrons utilize parking spaces provide some of the most important pieces of information that are used to develop a comprehensive parking strategy for a community. Many factors affect the selection of a parking space including the user's trip purpose, location of available spaces, intended parking duration, applicable parking restrictions, past experiences with parking, traffic access, and parking fees. Understanding these characteristics provides a sound basis for planning and policy decisions.

Norman is a university town. As such, parking demand historically has been greatest during the fall, winter, and spring semesters when university classes are in session. Parking occupancy data were collected over several days on the weeks of Monday, April 20th and Monday, April 27th. Parking counts were conducted to capture peak utilization during a normal, non-special event day when OU classes were in session. The data also give a clear indication of parking utilization for year-round residents, particularly as the data relate to daytime employee parking.

This chapter provides a summary of the parking utilization data collected in the field. Included is an analysis of parking patterns in both the CBD and Campus Corner on a typical weekday.

3.1 Data Collection and Methodology

Data were collected on a typical weekday (Monday through Thursday) in the CBD and Campus Corner. The parking utilization data collected were a 100 percent sample of parking spaces representative of the entire supply of parking within the emphasis areas. Both public and private spaces were counted every hour from 9:00 am to 5:00 pm. All of the data were recorded manually by consultant staff using pre-made data collection forms.

3.2 Parking Occupancy in the CBD

Parking occupancy refers to the accumulation of parking over the course of a day. The actual occupancy during peak periods is the primary measure of parking use and the key indicator in determining the possible need for additional parking supply. Occupancy rates that are at or very close to 100 percent are generally considered undesirable because motorists must "hunt" for available parking and may even be tempted to park illegally. Occupancy rates near 100 percent do not allow any potential surplus for special circumstances or special event parking that may occur. Parking occupancy in the range of 85 to 90 percent is typically considered to be at its practical capacity. A fully utilized parking system should maintain a 10 to 15 percent margin of excess parking supply. For the purposes of this study, the effective parking supply is defined as 85% of the actual number of parking spaces.

Parking occupancy in the CBD is summarized in **Figures 3-1** through **3-3** for the West CBD, East CBD and overall CBD areas, respectively.

On the days when field data was collected, the CBD's total parking occupancy peaked in the hour between 10:00 and 11:00 am, when a total of 2,662 parked vehicles (43% peak occupancy of the total available spaces) was observed. For all hours counted except for the 12:00 pm to 1:00 pm hour, demand remains fairly consistent with parking occupancy rates above 40% of the total CBD parking supply. Overall parking utilization in the CBD during the weekday is below the effective parking supply available (85% of the total parking supply), indicating that parking supply was not an issue on the district-wide level. However, this overall surplus of parking exists because many parking spaces are located around the periphery in areas that are not within convenient walking distance of primary destinations.

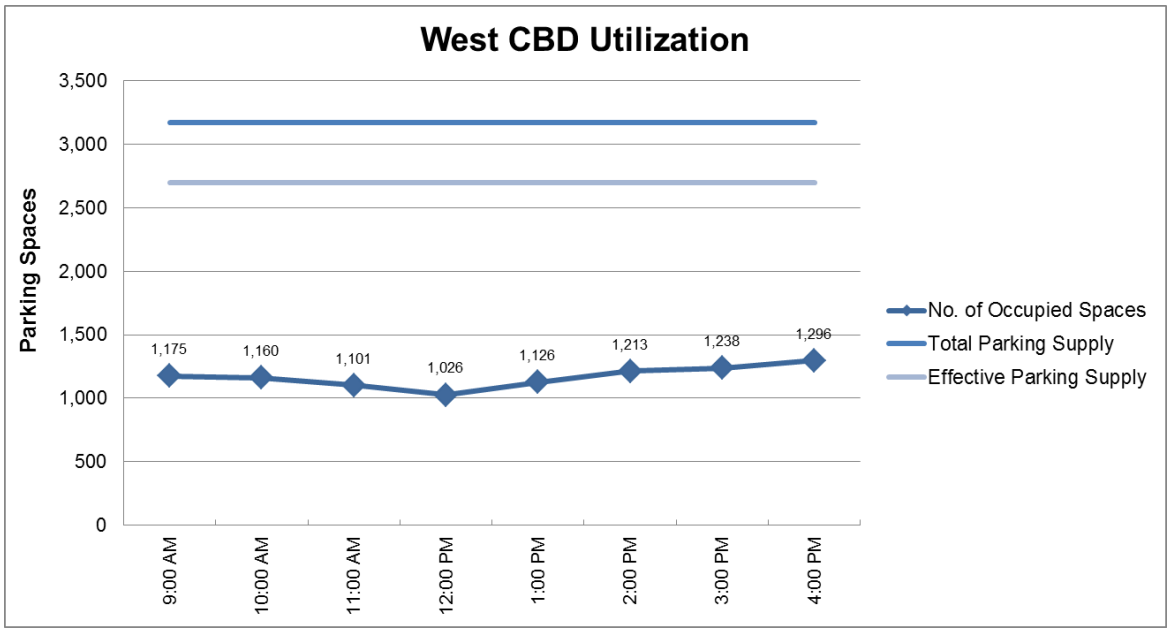


Figure 3-1: Hourly Parking Utilization - West CBD

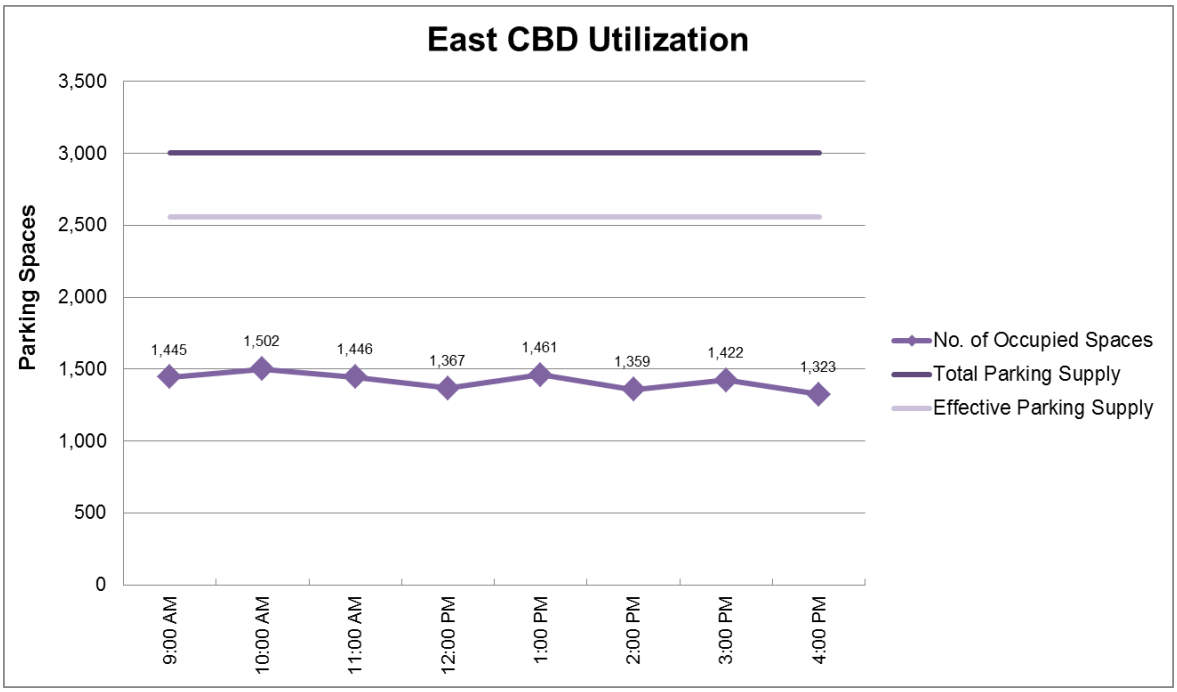


Figure 3-2: Hourly Parking Utilization - East CBD

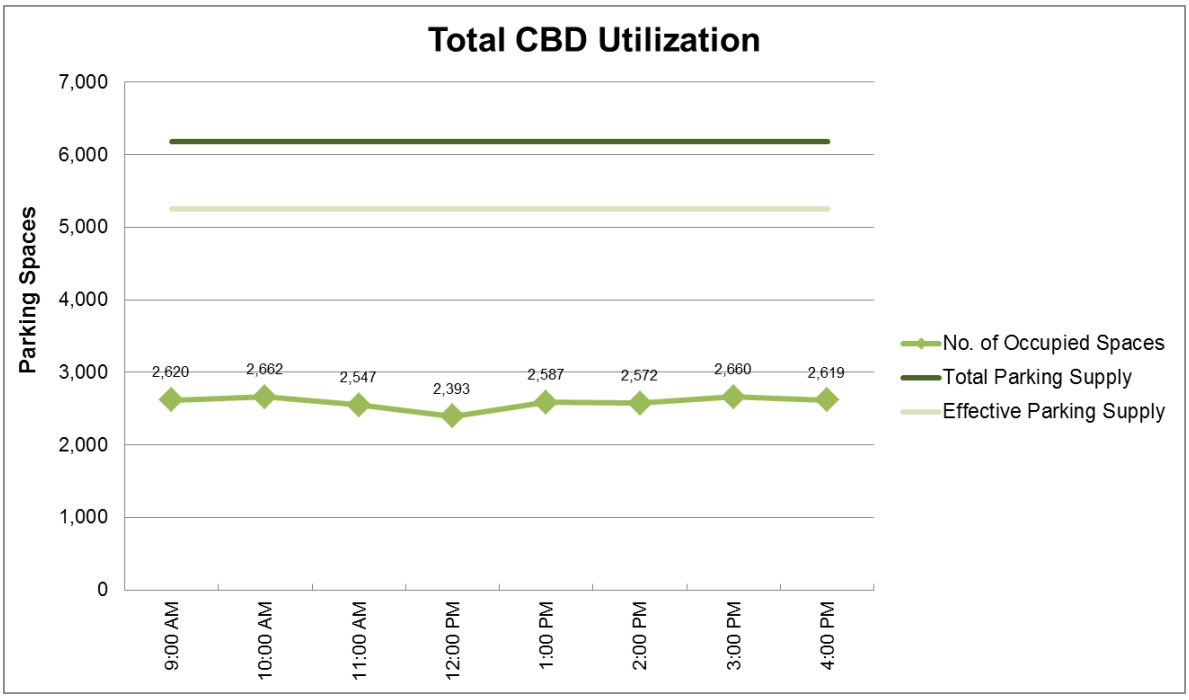


Figure 3-3: Hourly Parking Utilization – Total CBD

3.3 Parking Occupancy in Campus Corner

Parking occupancy for Campus Corner is summarized in **Figure 3-4**. These data show occupancy by block for off- and on-street parking spaces.

On the days when field data was collected, Campus Corner's total parking occupancy peaked in the hour between 1:00 pm to 2:00 pm, when a total of 1,510 parked vehicles, or 65% percent peak occupancy of the total available spaces, was observed. Between 11:00 am and 4:00 pm, overall parking occupancy rates remained above 55%. Although overall parking utilization in Campus Corner during the weekday is below the effective parking supply provided, there is a multi-block area located at the district's core that has a parking deficit. A parking deficit occurs when either the peak parking utilization or peak parking demand exceeds the effective parking supply.

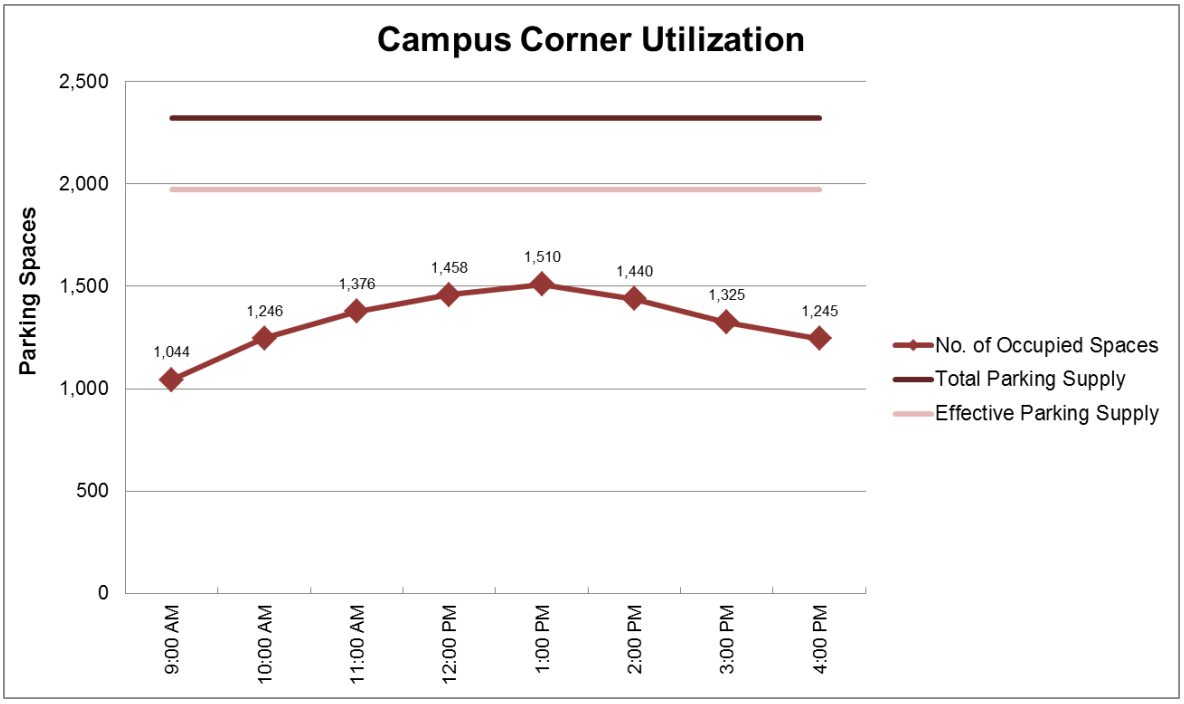
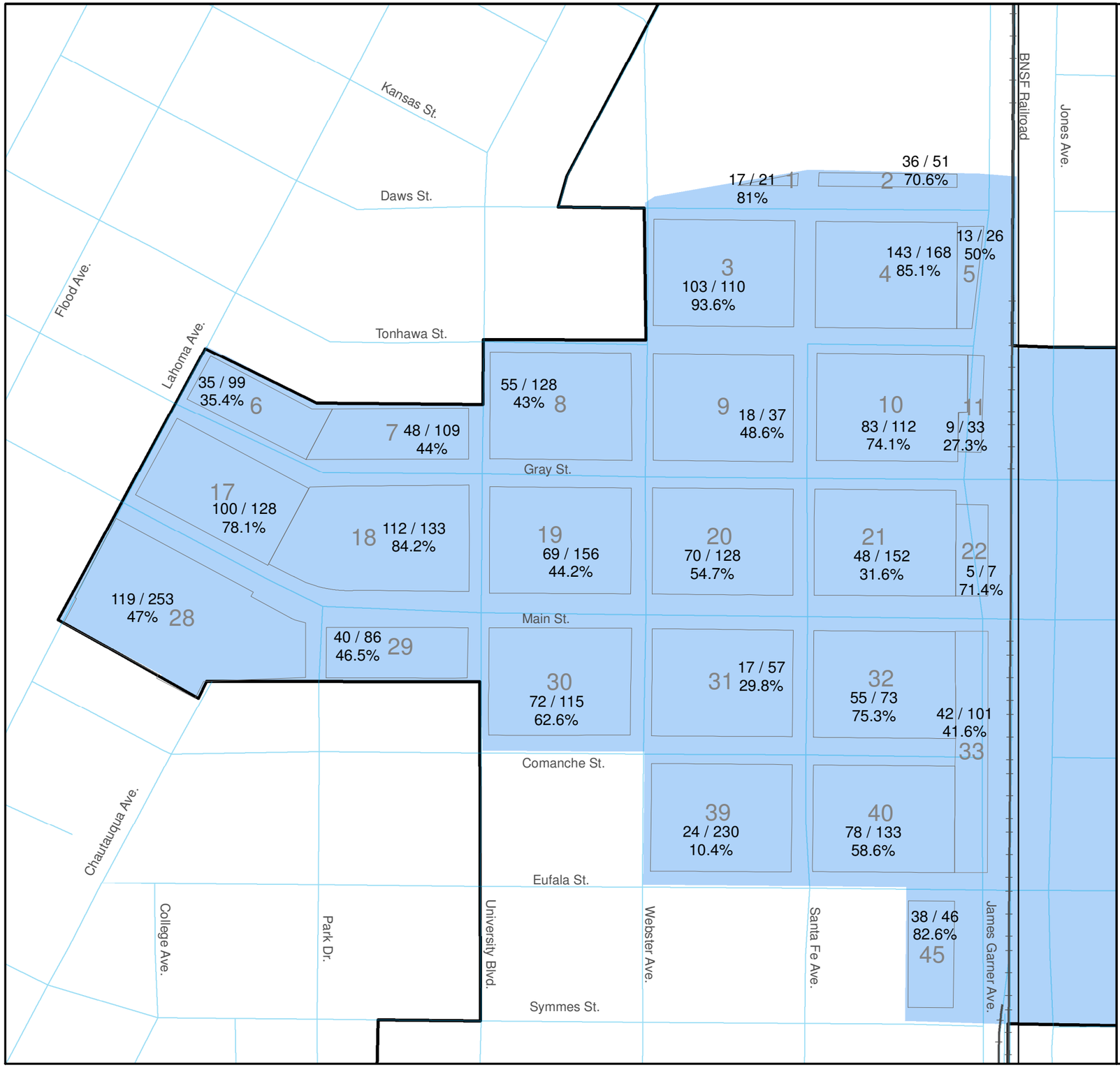


Figure 3-4: Hourly Parking Utilization - Campus Corner

3.4 Peak Parking Utilization by Block for CBD and Campus Corner

The parking utilization data are summarized by block for the West CBD, East CBD and Campus Corner areas as shown on **Figures 3-4**, **3-5** and **3-6**, respectively. Peak utilization of parking spaces for the individual blocks occurs at different times of the day depending on the uses that the individual block serves. Because the peak utilization occurs at different times for different blocks, the total for all the blocks is greater than the area-wide peak occupancy shown previously.



Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- CBD Emphasis Area
- Parking Utilization by Block (No. of Vehicles)
- Effective Parking Supply by Block (No. of Spaces)
- 15 / 25
- 60.0% ← % Utilization (Util./Supply)
- Railroad
- City Streets

Figure 3-5:
West CBD Parking Utilization
Norman Parking Study
August 2015

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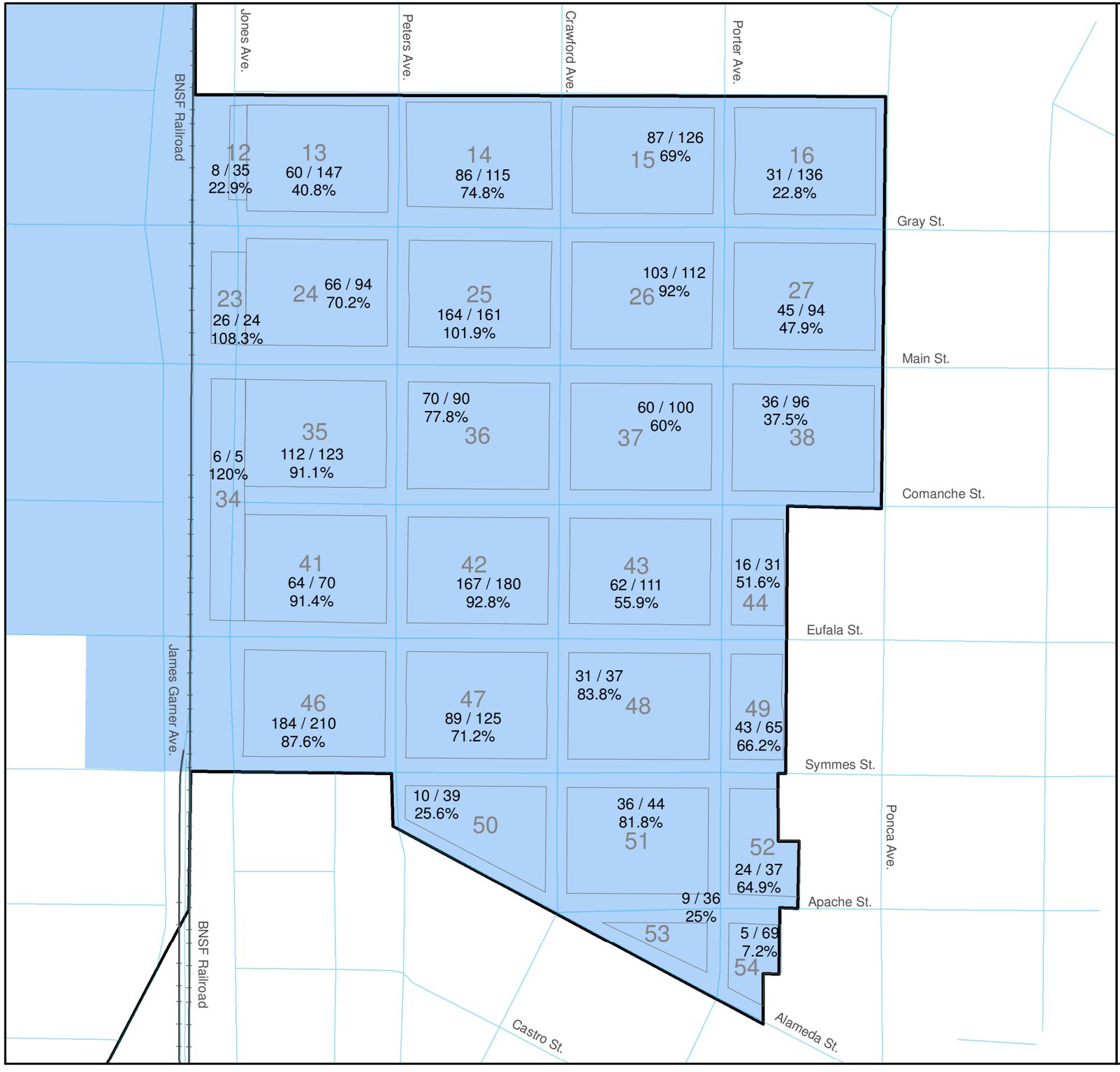


Scale:

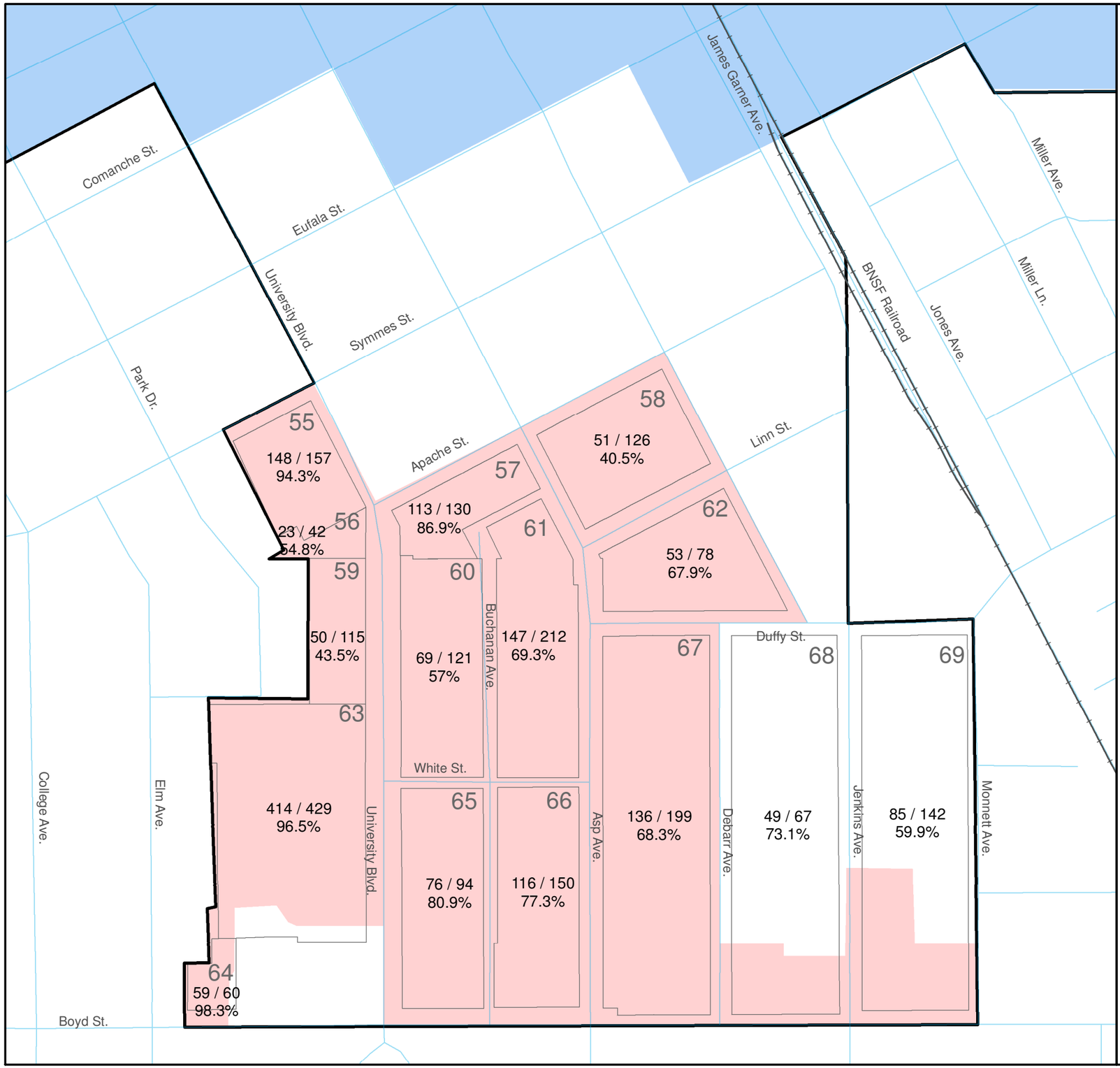
0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- CBD Emphasis Area
- Parking Utilization by Block (No. of Vehicles)
- Effective Parking Supply by Block (No. of Spaces)
- 15 / 25
- 60.0% % Utilization (Util./Supply)
- Railroad
- City Streets

Figure 3-6:
East CBD Parking Utilization
Norman Parking Study
August 2015

JACOBS



N

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- CBD Emphasis Area
- Campus Corner Emphasis Area
- Parking Utilization by Block (No. of Vehicles)
- Effective Parking Supply by Block (No. of Spaces)
- 15 / 25
- 60.0% % Utilization (Util./Supply)
- Railroad
- City Streets

Figure 3-7:
Campus Corner Parking Utilization
Norman Parking Study
August 2015

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3.5 Summary

Data collected and observations made provided considerable insight regarding parking characteristics in the CBD and Campus Corner. The data presented in this section provide the foundation for determining the actual parking demands present in both districts. The following key findings resulted from the parking utilization analysis performed for this project:

- For the CBD and Campus Corner districts on the whole, there is excess parking supply available, even during the peak hours on a typical weekday.
- An overall surplus of parking exists in many Downtown areas because many parking spaces are located around the periphery in areas that are not within convenient walking distance of primary destinations. The location of excess parking outside of convenient walking distance from primary destinations does not relieve localized deficits within the district core.
- Parking occupancy of 100% is rarely achieved and is not a desirable trait for any area. Parking occupancy in the range of 85 to 90% is typically considered to be at its practical capacity. A fully utilized parking system should maintain a 10 to 15 percent margin of excess parking supply. For the purposes of this study, the effective parking supply is defined as 85% of the actual number of parking spaces.
- In the CBD, overall occupancy plateaus during the typical weekday at approximately 43%. In Campus Corner, overall utilization peaks at approximately 65%. However, there are core multi-block areas located within both the CBD and Campus Corner that experience significantly higher occupancies due to concentrated activities and limited supplies closer to some of the primary district destinations.
- During the typical weekday, significant variations in parking utilization were noted for blocks within both districts. For example, convenient, centrally located parking spaces were fully utilized while parking lots and on-street spaces in outlying areas were scarcely utilized. What individual users consider an acceptable walking distance to be in travelling to their ultimate destinations is a key factor in how parking is utilized in an area.

4. Parking Demands Assessment

Assessing the magnitude of existing and future parking demands in Norman's CBD and Campus Corner is a principal objective of this study. Parking needs depend on the magnitude of parking demands generated by employees, visitors, shoppers, students, and residents; the proportion of trips made by automobile versus other modes of transportation; the extent that a captive market environment is present; the peak hour when district-wide demands are at their highest; and the parking supply available to accommodate the demands.

Parking occupancy levels, as noted in **Section 3**, are not necessarily synonymous with parking demands for several reasons. Parking occupancy is an indicator of how the existing parking supply is utilized. Projected parking demands, on the other hand, indicate how many patrons would like to park at a given location and time if there were sufficient supply. If parking spaces near their destination are scarce or unavailable, patrons may:

- Park further away from their destination (a block or more away),
- Use transit/bicycle as an alternative mode of transportation,
- Decide to conduct business elsewhere, or
- Decide not to make the trip at all.

Parking policy and availability of public transit can influence parking demands. Parking turnover can be increased by strictly enforcing time restrictions, leading to more parking supply availability during busy periods. The enforcement program in Norman works very well in creating turnover, especially for short-term on-street parking related retail uses. Charges for parking, and the rate structure utilized, also have an impact on patron's willingness to drive and park. On-street parking spaces and off-street parking lots in core areas of the CBD and Campus Corner are generally well utilized on weekdays. Free on-street parking in the CBD attracts both short- and long-term parking. Increased transit service during periods of peak trip generation may help reduce trips by automobile, particularly when parking is in short supply or is relatively expensive. In Norman, the utilization studies indicate significant numbers of individuals choose to drive and park in free, conveniently located on-street spaces and parking lots. Perceptions of a parking shortage stem from the limited number of available parking spaces conveniently located in high activity clusters during peak periods.

Managing the balance between parking demands and parking supply is complex. In Norman, parking demands are greatest during fall, winter, and spring months when OU is in session. The parking demands are lower in the summer, particularly through June, July and the first half of August. Peak demands occur during the midday period on typical weekdays, although special events generate extraordinarily high demands at other times. Supplying enough spaces to accommodate peak parking demands can result in a surplus of parking during off-peak periods and can dampen core area revitalization efforts. Because construction of parking facilities is an expensive proposition, parking demands need to be carefully scrutinized.

Norman's CBD and Campus Corner Districts contain a mixture of land uses, as discussed in **Section 2**. Predominant land uses in the CBD include office (26.2%), retail (22.8%), and government office (12.0%). The predominant land uses in Campus Corner include multi-family residential (20.4%), single-family residential/duplex units (30.4%), restaurant (16.6%), retail (11.6%), churches and daycare centers (8.9%), and offices (6.8%). Since peak parking demands for many of the land uses vary by time of day and day of the week, there is an opportunity to share much of the parking supply in core urban areas. For example, during weekends and evenings, shoppers and restaurant patrons can utilize parking spaces occupied by office workers during weekday business hours. Shared parking was accepted as a key tenet in computing the parking demands for this study.

4.1 Methodology

The approach used to determine existing parking demand in the CBD required multiple steps. The first was the development of an inventory of land uses and summarizing the uses by category. This resulted in the land use groups presented in **Section 2**. While the land use information provided in this document was aggregated into categories, the more specific land uses were carried forward to establish peak parking generation rates for each specific land use. Sources of peak parking rates include the Institute of Transportation Engineers' (ITE) *Parking Generation*, the Urban Land Institute's (ULI's) *Shared Parking*, and parking studies carried out in other communities that are similar to Norman's CBD and Campus Corner.[1][2]

The 2015 parking demands were calculated using both raw parking generation rates and shared parking adjustment factors. The shared parking adjustment factors appropriate for the CBD and Campus Corner are:

- Time of day reduction factor based on land use and local characteristics, to account for a reduction in parking demand rates for a specific land use during the district-wide peak hour.
- Building occupancy reduction factor based on individual uses at specific locations, to account for storage and common areas located in specific lease spaces that generate less parking demand.
- Captive market reduction factor based on the district, as described below.

Modal reduction and carsharing adjustments were considered, but not included in this study on a district-wide basis. Modal reduction factors account for the increased use of alternative travel modes, such as walking or biking, in lieu of vehicular travel and parking. Carsharing reduction factors can be appropriate to account for higher vehicular occupancies than typically expected. After applying the time of day, building occupancy, and captive market reduction factors, the adjusted parking demands correlated well with the utilization data collected in the field. Based on this, it was concluded that the modal reduction and carsharing adjustment factors were not necessary at this time. As further public improvements are made in the future to support walking, bicycling, and transit modes, a modal reduction factor may become more applicable. While modal adjustments were not applied on a district-wide basis, limited modal adjustments were made at the core of Campus Corner to account for the relatively high percentage of people walking to and from OU's campus.

Past studies have shown that some reduction of customer and employee parking needs occurs in a mixed-use environment due to the patronage of multiple land uses.[2] Examples include an office employee visiting a coffee shop or retail shoppers who choose to also dine at a nearby restaurant. To capture this effect of two or more land uses being visited with just one unit of parking demand, a captive market factor was utilized. The captive market reduction factor selected for both the CBD and Campus Corner was 0.80.

The factors selected represent activity in Norman and other communities with similar characteristics. These factors were derived not only from industry sources, but also from previous experience of the consultant staff and input from the steering committee that was used to capture unique local characteristics.

Generally, office employees need long-term parking spaces between 8:00 am and 5:00 pm, Monday through Friday. Retail and restaurant employees also need long-term parking, but the hours and days are more variable dependent on the individual establishment. Short-term parking (up to two hours) is typically adequate for retail/ restaurant/bank customers, students, and office visitors, and should be located as close as possible to the final destination of the user. Student related parking demands that occur in the Campus Corner area are variable (anywhere from 1 to 8+ hours), but are typically highest in the late morning and early afternoon hours.

[1] Institute of Transportation Engineers, *Parking Generation*, 4th Edition, 2010.
[2] Urban Land Institute, *Shared Parking*, 2nd Edition, 2005.

4.2 2015 Parking Demands

Existing (2015) parking demands were computed based on the methodology described in the previous section. Parking demands, summarized below, represent the district-wide peak hour parking demands anticipated during a typical weekday.

The 2015 parking demands are summarized by land use category in **Tables 4-1** and **4-2** for the CBD and Campus Corner, respectively. As shown in **Table 4-1**, the total CBD parking demand is 4,353 spaces for the district-wide peak hour between 10:00 am and 11:00 am. Campus Corner's total parking demand is 1,517 spaces for the district-wide peak hour between 12:00 pm and 1:00 pm, excluding spillover demands generated by OU's campus. If OU's spillover demand is accounted for based on parking utilization observations made in the emphasis area, the total parking demand for Campus Corner would be increased to 1,877 spaces.

Total parking demands calculated for both districts are higher than the peak utilizations observed in the field. Because the utilization data was collected in late April, seasonal variations in parking demand as compared with the data should be expected and accounted for. Higher parking demands in the early fall, November/December shopping season, and early spring months would be expected. Based on anticipated seasonal variations in parking demand and the limited sample size offered by the single-day utilization counts, allowing the 2015 parking demands to be greater than the utilization data is appropriate.

Table 4-1: 2015 Parking Demand Summary - CBD

Land Use Category	Gross Floor Area (Sq. Ft.)	2015 Parking Demand
Industrial	174,389	131
Single-Family Residential	32,578	0
Multi-Family Residential	29,317	35
Hotel/Inn	6,239	5
Adult Cabaret	0	0
Theater or Athletic/Recreation Center	43,029	66
University	0	0
Church/Nonprofit/Daycare Center	134,788	59
Library	54,500	91
Medical/Veterinary Clinic	9,773	37
Bank	128,513	320
Office	524,195	1,915
Government Office	239,900	703
Retail/Services	456,539	636
Restaurant	87,825	355
N/A (Vacant)	80,339	0
Total	**2,001,924**	**4,353**

Table 4-2: 2015 Parking Demand Summary - Campus Corner

Land Use Category	Gross Floor Area (Sq. Ft.)	2015 Parking Demand
Industrial	0	0
Single-Family Residential	235,726	0
Multi-Family Residential	157,111	213
Hotel/Inn	0	0
Adult Cabaret	3,000	0
Theater or Athletic/Recreation Center	0	0
University	23,310	0
Church/Nonprofit/Daycare Center	68,965	12
Library	0	0
Medical/Veterinary Clinic	12,218	26
Bank	1,450	5
Office	52,768	149
Government Office	0	0
Retail/Services	89,335	128
Restaurant	128,022	984
N/A (Vacant)	0	0
Total	**771,905**	**1,517**

4.3 2015 Parking Demands Compared with Parking Supply

As reported in **Section 2**, the CBD has 6,176 total parking spaces. 2015 peak parking demand is 4,353 spaces, as detailed in **Section 4.2**. In Campus Corner, the 2015 peak demand was 1,877 spaces (with OU's spillover demand) as compared to the total parking supply of 2,323. While the district-wide parking supply is adequate to accommodate the parking demands calculated for the district as a whole, it appears that much of the excess supply is located on the fringes of the study emphasis area. Near the core activity areas of both the CBD and Campus Corner, open parking spaces are much more difficult to locate than they are on the outermost blocks. Also, much of the parking in the CBD and Campus Corner is private parking and is not available for public use.

When the effective parking supply (taken as 85% of the supply) is considered, the difference between the 2015 demands and the supplies is reduced. An effective parking supply provides a better measure of the level of parking that is perceived as available in a given area, based on the driver's perspective. When occupancy exceeds 85% of the available supply, then most available parking spaces within normally acceptable walking distances are taken. This results in the general public's perception that there is a shortage of unoccupied spaces available to them. The district-wide effective parking supplies are 5,250 and 1,975 for the CBD and Campus Corner, respectively.

2015 parking demands and effective parking supplies are shown by block on **Figures 4-1** and **4-2** for the West and East CBD, respectively, and **Figure 4-3** for Campus Corner. Building on **Figures 4-1** through **4-3**, parking surpluses/deficits on a per block basis are shown on **Figures 4-4** and **4-5** for the West/East CBD and **Figure 4-6** for Campus Corner. Positive numbers printed in green (**+24**) indicate blocks with a parking surplus where the available effective parking supply exceeds projected demands by the number indicated. Negative numbers printed in red (**-37**) indicate blocks with a parking deficit where projected demands exceed the available effective parking supply.

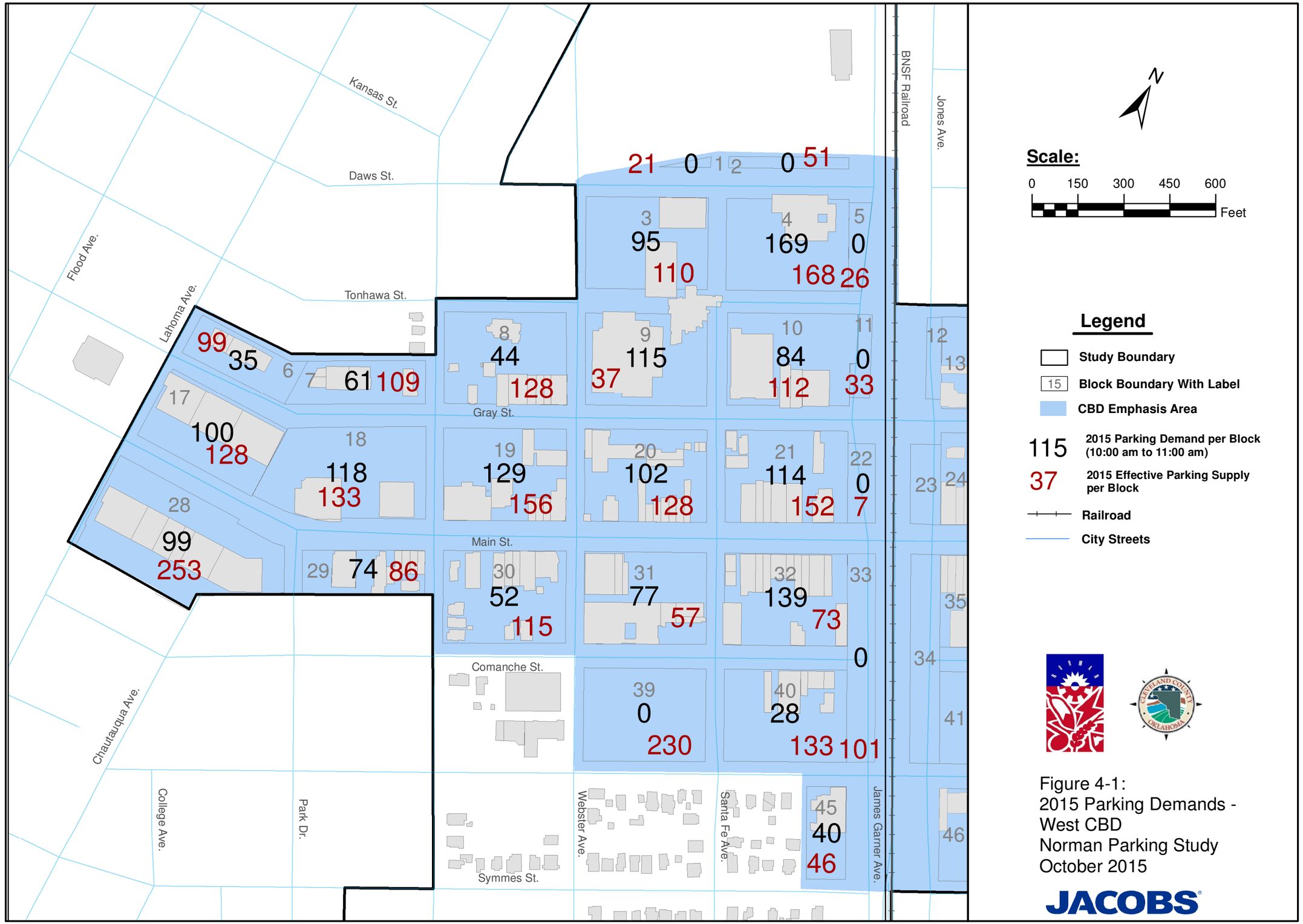

Figure 4-1:
2015 Parking Demands - West CBD
Norman Parking Study
October 2015

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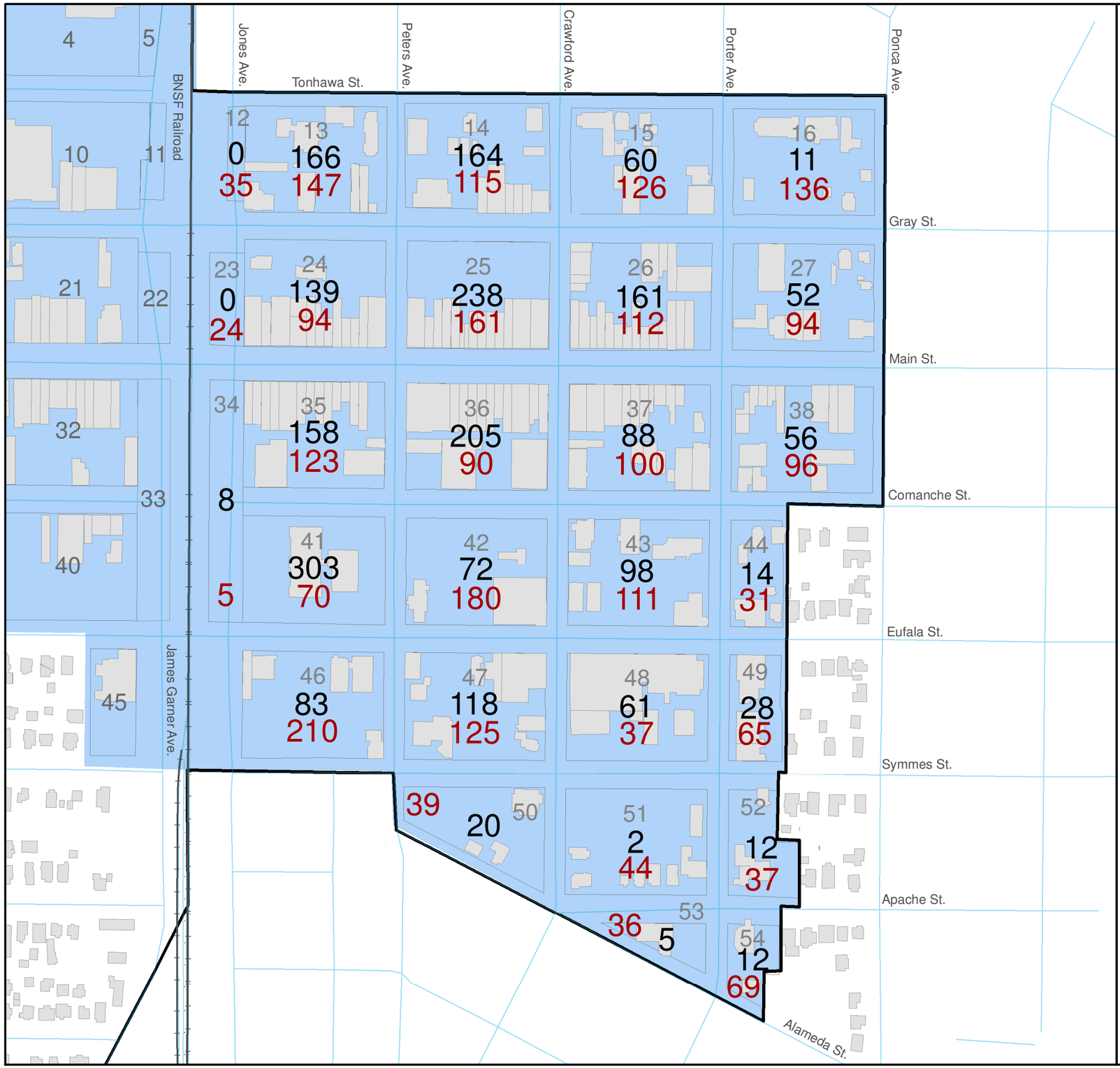


Scale:

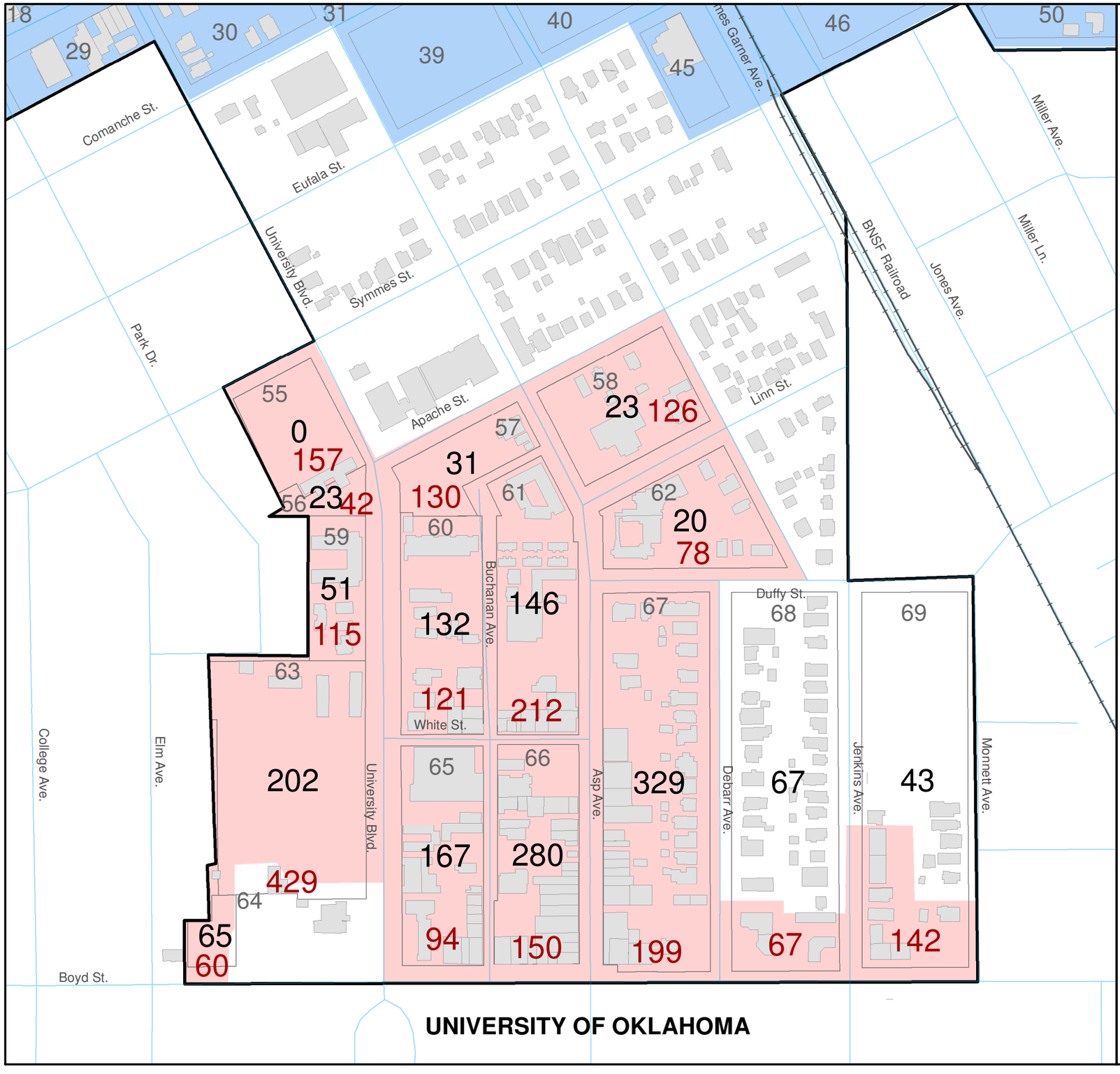
0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- CBD Emphasis Area
- 85 — 2015 Parking Demand (10:00 am to 11:00 am)
- 100 — 2015 Effective Parking Supply by Block
- Railroad
- City Streets

Figure 4-2:
2015 Parking Demands - East CBD
Norman Parking Study
October 2015

JACOBS



N

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- CBD Emphasis Area
- Campus Corner Emphasis Area
- 167 — Peak Parking Demand by Block (12:00 pm to 1:00 pm)
- 94 — 2015 Effective Parking Supply by Block
- Railroad
- City Streets

Figure 4-3:
2015 Parking Demands - Campus Corner
Norman Parking Study
October 2015

JACOBS

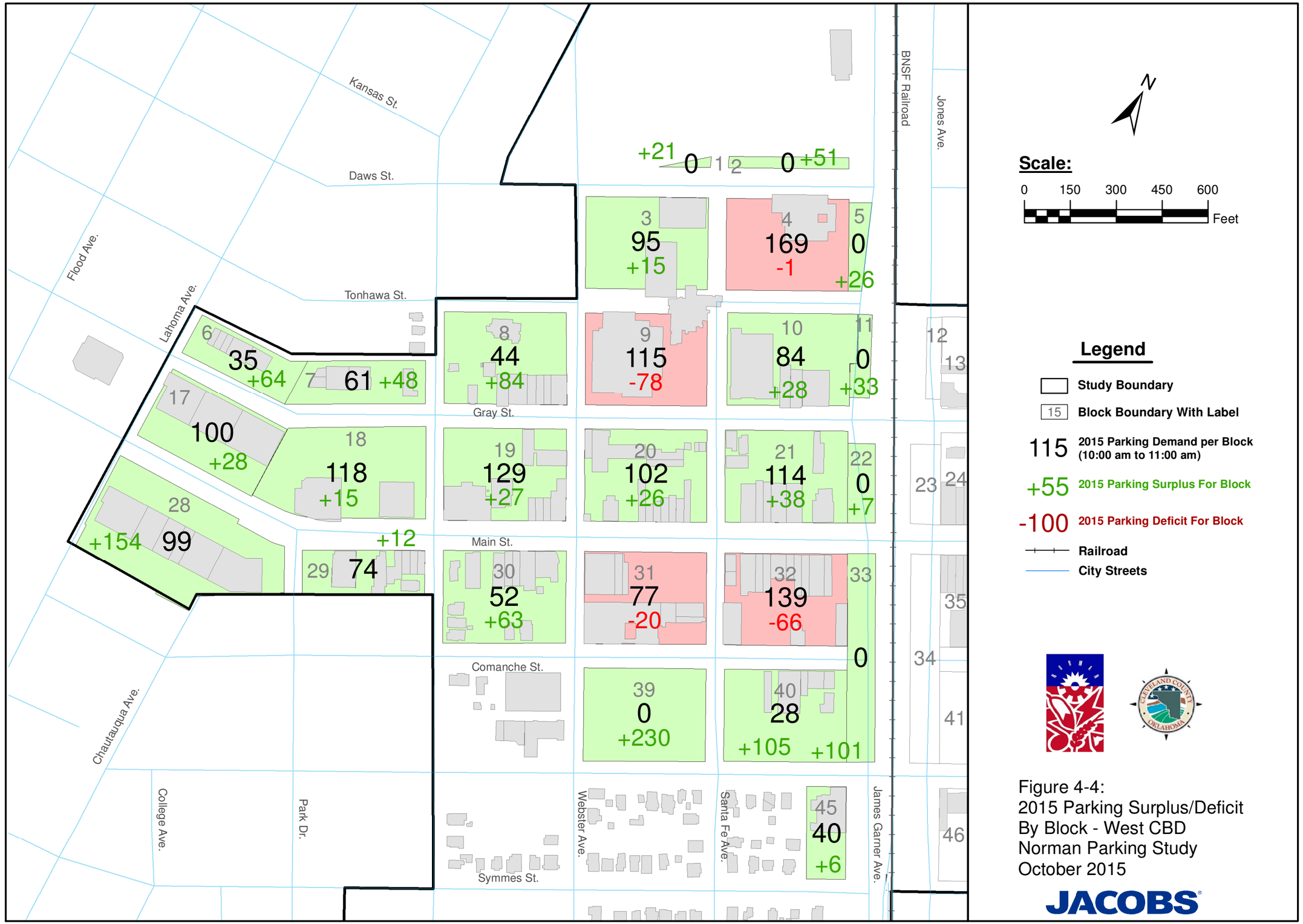


Figure 4-4:
2015 Parking Surplus/Deficit
By Block - West CBD
Norman Parking Study
October 2015

JACOBS

Scale:

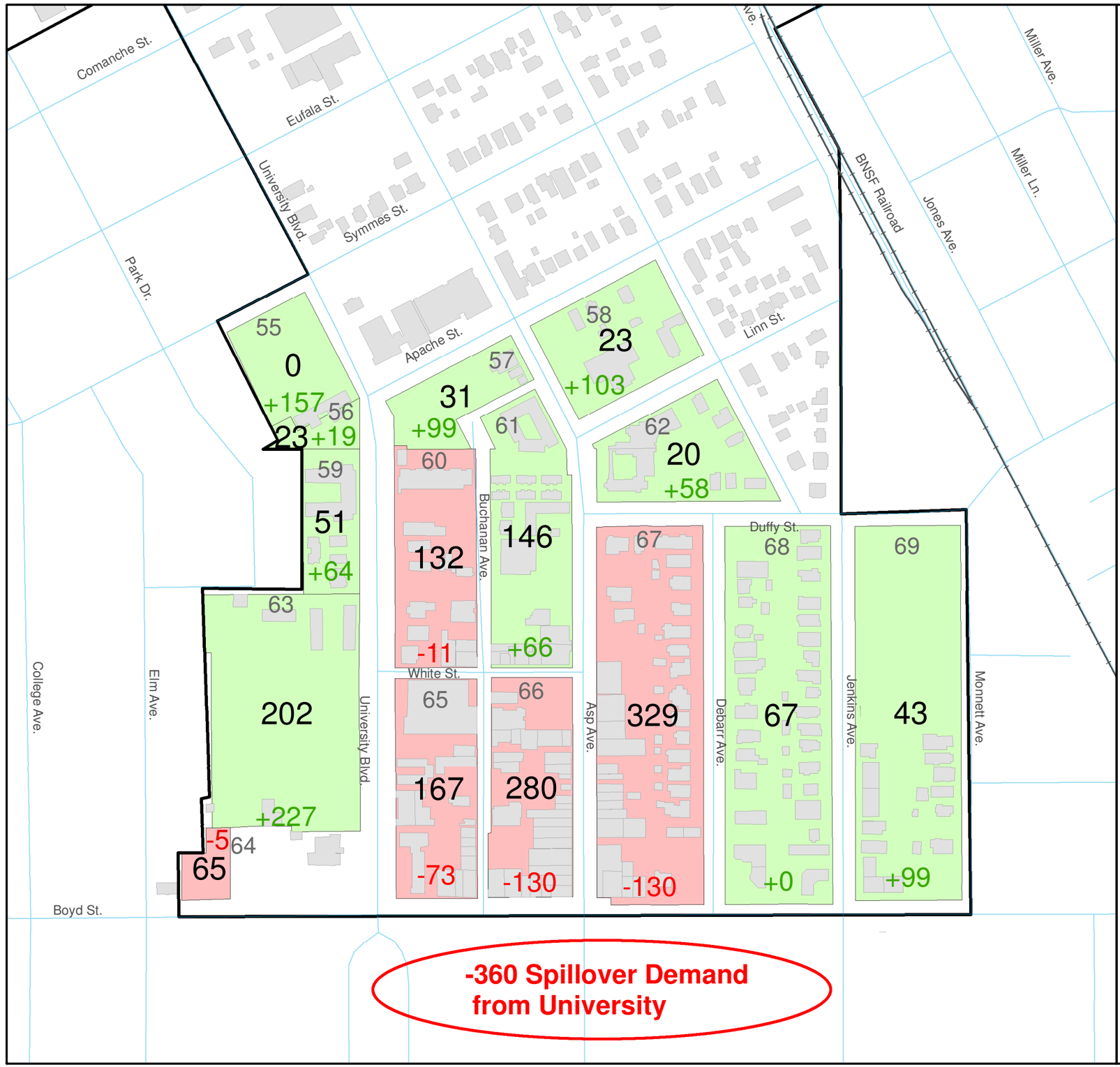
0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- 85 — 2015 Parking Demand (10:00 am to 11:00 am)
- 55 — 2015 Parking Surplus For Block
- 100 — 2015 Parking Deficit For Block
- Railroad
- City Streets

Figure 4-5:
2015 Parking Surplus/Deficit
By Block - East CBD
Norman Parking Study
October 2015

JACOBS



N

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- 167 — 2015 Parking Demand for Block (12:00 pm to 1:00 pm)
- +33 — Parking Surplus for Block
- -20 — Parking Deficit for Block
- Railroad
- City Streets

Figure 4-6:
2015 Parking Surplus/Deficit
By Block - Campus Corner
Norman Parking Study
October 2015

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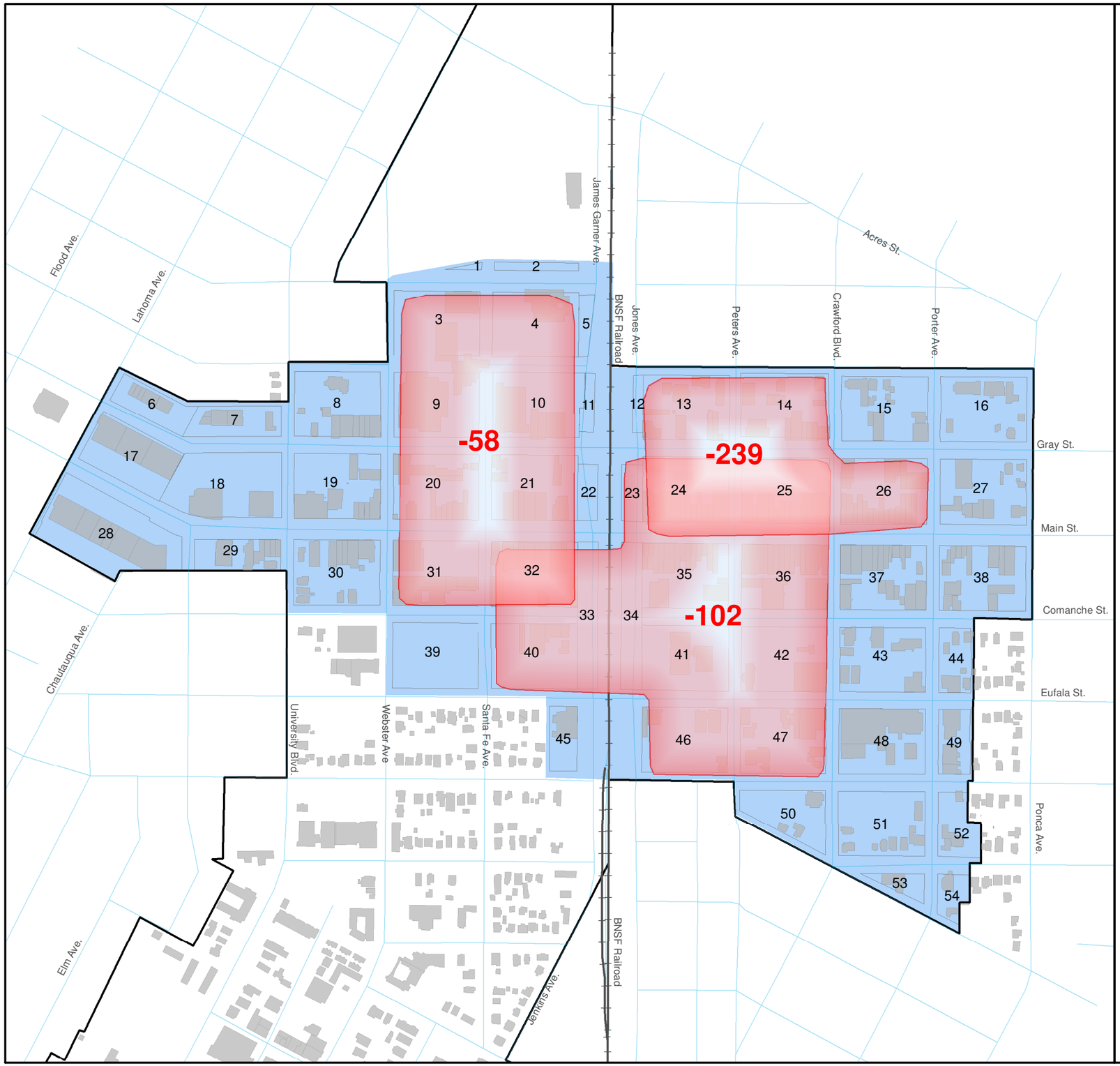
Finally, the combined surpluses and deficits in the core areas of the CBD and Campus Corner are illustrated on **Figures 4-7** and **4-8**. The utilization summaries provided in **Section 3** indicated a high sensitivity of parking patrons to walking distance from a given parking location to their destination. Shorter acceptable walking distances, as compared with national averages, are common to this region of the country. Acceptable walking distances to and from the high activity cores of each district were a key consideration in setting the deficit zone boundaries as indicated on **Figures 4-7** and **4-8**.

The deficit zone figures clearly indicate parking deficits within certain core multi-block areas. In the CBD, 2015 parking deficits are evident in three areas:

- West CBD core area (Blocks 3, 4, 9, 10, 20, 21, 31, & 32): -58 spaces
- County Courthouse area (Blocks 32-36, 40-42, 46, & 47): -102 spaces
- East CBD Main/Gray core area (Blocks 13, 14, & 24-26): -239 spaces

In many cases, excess parking demand in a deficit area can be accommodated by excess parking supply in adjacent blocks, but individuals forced to park further from their destinations will often feel that parking is undersupplied. As difficulty finding a parking space and longer walking distances become enough of a perceived inconvenience, shoppers/patrons, business owners, and developers may choose to do business or locate elsewhere.

In Campus Corner, the deficit zone is in the core area along University Blvd., Buchanan Ave., and Asp Ave. between Boyd St. and White St. Due to the substantial amount of parking supply provided west of University Boulevard and its heavy use by core area patrons, its excess supply was included in the deficit zone as well. For the deficit zone identified in **Figure 4-8**, the peak parking demands exceed the effective parking supply provided by 283, excluding OU's spillover demand. When OU's spillover demand is accounted for, the deficit increases to 643. Excess parking demand can sometimes be accommodated by a parking surplus in adjacent blocks. Spillover parking demands from OU are not as dependent on acceptable walking distance as are demands generated by retail/restaurant customers. Students travelling to OU's campus are more accustomed to longer walking trips to and from their specific destinations on campus.



Scale:

0 250 500 750 1,000 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- CBD Emphasis Area
- Buildings
- Parking Deficit Zone
- Proposed Parking Structure
- Railroad
- City Streets

Figure 4-7:
2015 Parking Deficit Zones - Central Business District
Norman Parking Study
November 2015

JACOBS

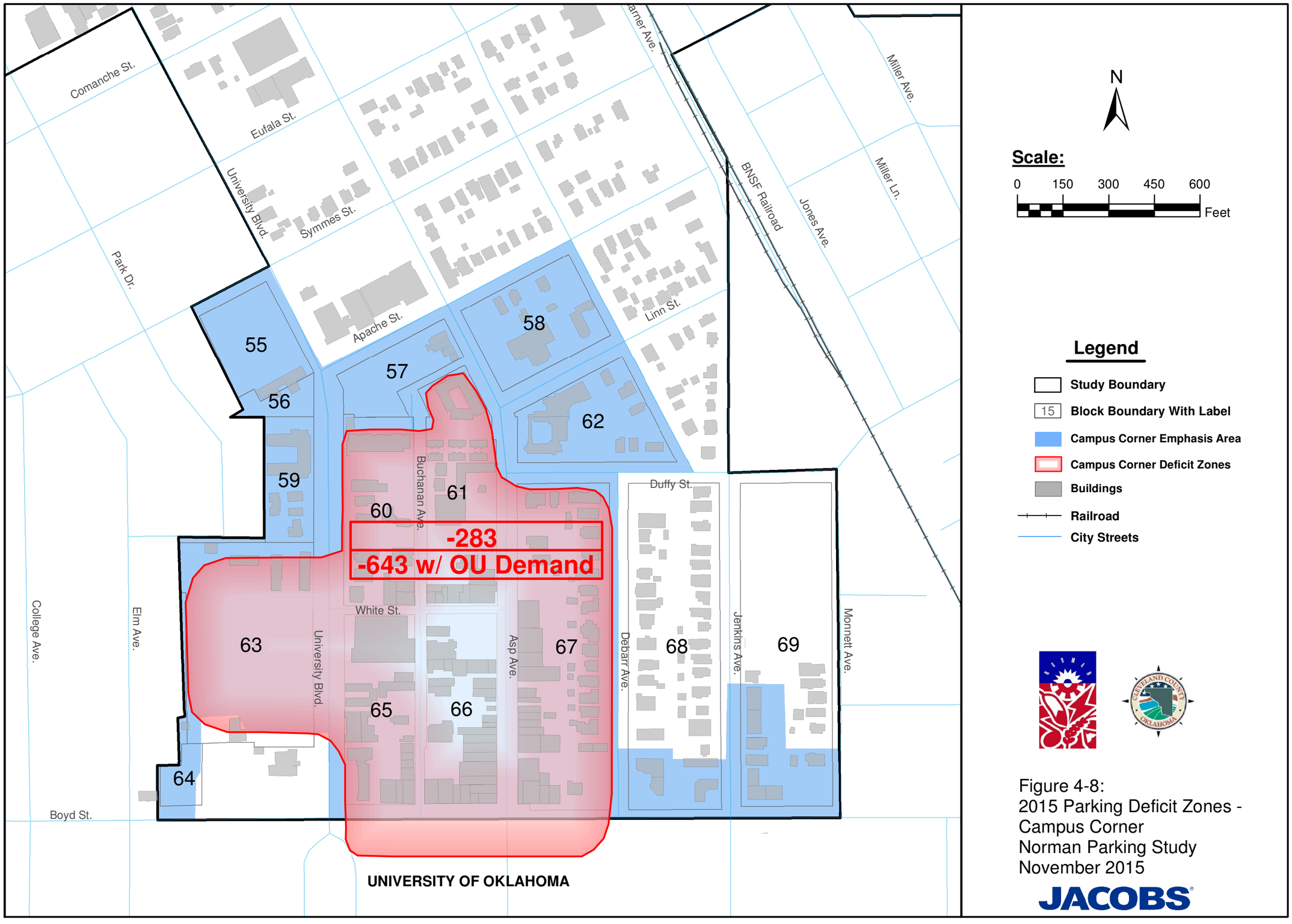


Figure 4-8:
2015 Parking Deficit Zones - Campus Corner
Norman Parking Study
November 2015

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4.4 Summary of 2015 Demands Assessment

While there is an overall parking surplus in the CBD, there are centrally located areas around the County Courthouse and Administration building and along the Main and Gray Street corridors with parking deficits. Campus Corner also has a surplus of parking on the district-wide level, but a deficit at its core where developed uses are most dense. The deficit in Campus Corner is greater when spillover parking from OU is accounted for.

The areas that have the most need for additional parking are the core areas of the CBD and Campus Corner that have a considerable amount of office and/or retail uses, which generally require a combination of short- and long-term parking during normal weekday business hours. In peak periods, there is a current estimated net parking need around the County Courthouse of 102 spaces. In the deficit area generally located along the Main and Gray St. corridors in the East CBD, there is a current estimated parking need of 239 spaces. In the West CBD, there is a current deficit of 58 spaces. In the core area of Campus Corner, there is a deficit of 643 spaces, which includes OU spillover parking demands.

On typical weekdays, the CBD is oriented toward office land uses that generate both long-term parking demands for employees and short-term demands for customers and visitors. Campus Corner is more oriented toward residential, restaurant, and retail uses. Retail and restaurant land uses require more short-term parking than office uses. Campus Corner is also heavily impacted by its proximity to OU's campus and the additional demands for both long- and short-term parking that it generates serving students, faculty/staff, and visitors.

Based on the 2015 parking demand analysis, additional parking in the core areas of the West CBD, East CBD, and Campus Corner is recommended as an early parking strategy. In the CBD, this additional parking needs to serve daytime long-term parking needs of office employees. In addition, the CBD parking could provide some relief for the County Courthouse complex and provide for some supply supporting the commuter rail corridor station planned for Downtown. In the Campus Corner, the additional parking should serve short-term parking needs of shoppers, restaurant patrons, and students.

The assessment of the 2015 parking demands was based on the expected peak hour during a typical weekday. Parking generation rates, time-of-day adjustment factors, building occupancy adjustments, and captive market adjustments were all developed considering statistically relevant data from national sources and local characteristics of the study area. The computed demands are intended to represent peak hour parking conditions for each of the two districts that could be anticipated during a typical day when OU is in session. There will likely be a few days when observed parking utilizations would exceed those predicted, particularly during the first week of classes and during any special events that have a significant impact on travel demand patterns in the area. Demands will be moderately less during off-peak seasons of the year, including over the summer. It should be noted that the primary demand for parking in the CBD is generated by office employees, and would not experience the seasonal fluctuations that can be expected in Campus Corner.

4.5 2025 Projected Parking Demands

While accommodation of current parking demands is important, the City and County should continue their proactive planning approaches for future parking needs. Development expected to occur in the CBD and Campus Corner over a 10-year study horizon was identified during this study and was relied upon to project future parking demands for both districts. The City, County, and members of the steering committee provided estimates of future land use changes that are expected to occur by the year 2025. The identified 2025 land use changes are listed in **Figure 4-9** and **Table 4-3** for the CBD and in **Figure 4-10** and **Table 4-4** for Campus Corner. These land use changes will generate the need for more parking in the CBD and Campus Corner Districts, and in some cases, will result in less parking supply.

A significant land use change is the construction of a Cleveland County owned parking structure in Block 35. This structure is anticipated to be five levels with 590 parking spaces and retail space along the ground floor frontage on Comanche Street.

Much of the time, additional parking supply will be provided along with new developments or redevelopments. However, it may be better from a shared parking perspective to allow development to occur without requiring developers to construct isolated pockets of parking, which is the trend that has prevailed in both the CBD and Campus Corner. This will require additional shared use parking to be constructed in most cases. Shared use parking could be a requirement of developers for specific development proposals; it could come through the use of a public-private partnership (PPP); or it could be paid for by the City and/or County.

Building on **Figures 4-1** through **4-3**, **Figure 4-9** and **Figure 4-10**, 2025 parking demands and surpluses/deficits on a per block basis are reflected on **Figures 4-11** and **4-12** for the West/East CBD and **Figure 4-13** for Campus Corner. Positive numbers printed in green (**+24**) indicate blocks with a parking surplus where the available effective parking supply exceeds projected demands by the number indicated. Negative numbers printed in red (**-37**) indicate blocks with a parking deficit where projected demands exceed the available effective supply. Finally, the combined 2025 surpluses and deficits in the core areas of the CBD and Campus Corner Districts are illustrated on **Figures 4-14** and **4-15**.

Table 4-3: Projected 2025 Land Use Changes in CBD

	LAND USE	DESCRIPTION
01	Retail; Multi-Unit Residential	Redevelopment of old lumber yard with retail on first floor and two additional floors of apartments.
02	Office; Restaurant	+5,000 S.F. GFA Office; +2,500 S.F. GFA Restaurant
03	Retail; Office	+5,000 S.F. GFA Retail; +3,000 S.F. Office
04	Public Parking	+40 Surface Parking Spaces open to the public.
05	Private Parking	+15 Surface Parking Spaces added to bank lot.
06	Office	10-story, +50,000 S.F. GFA Office Development.
07	Government Office; Office	Assume City/Office uses fill in after public library is constructed on James Garner Ave.
08	Commuter Rail (park and ride; TOD)	Commuter Rail Corridor Station added. Could potentially occur by 2025. 150 park & ride spaces needed.
09	Government Office	County Office Growth +20,000 S.F. GFA at old jail site.
10	Restaurant	+6,000 S.F. GFA Restaurant.
11	Government Office	County Office Growth +25,000 S.F. GFA. -87 Parking Spaces.
12	Restaurant/Retail	+10,000 S.F. GFA Restaurants and +14,500 S.F. GFA Retail on ground floor of parking structure. -16,137 S.F. GFA Bank. -16,251 S.F. GFA Government Office. -64 Surface Parking Spaces. +590 Structured Parking Spaces.
13	Office	+15,000 S.F. Office.

Sources: Project Steering Committee, CBD Stakeholder's Meeting.

Table 4-4: Projected 2025 Land Use Changes in Campus Corner

	LAND USE	DESCRIPTION
01	Retail; Multi-Unit Residential	+40,000 S.F. GFA Apartment Building. +64 Dwelling Units.
02	Multi-Unit Residential	+40,000 S.F. GFA Apartments. +64 Dwelling Units.
03	Restaurants	+10,000 S.F. GFA Restaurants.
04	University of Oklahoma	+140 Additional Parking Demand related to OU campus spillover parking in Campus Corner area.

Sources: Project Steering Committee, Campus Corner Stakeholder's Meeting.

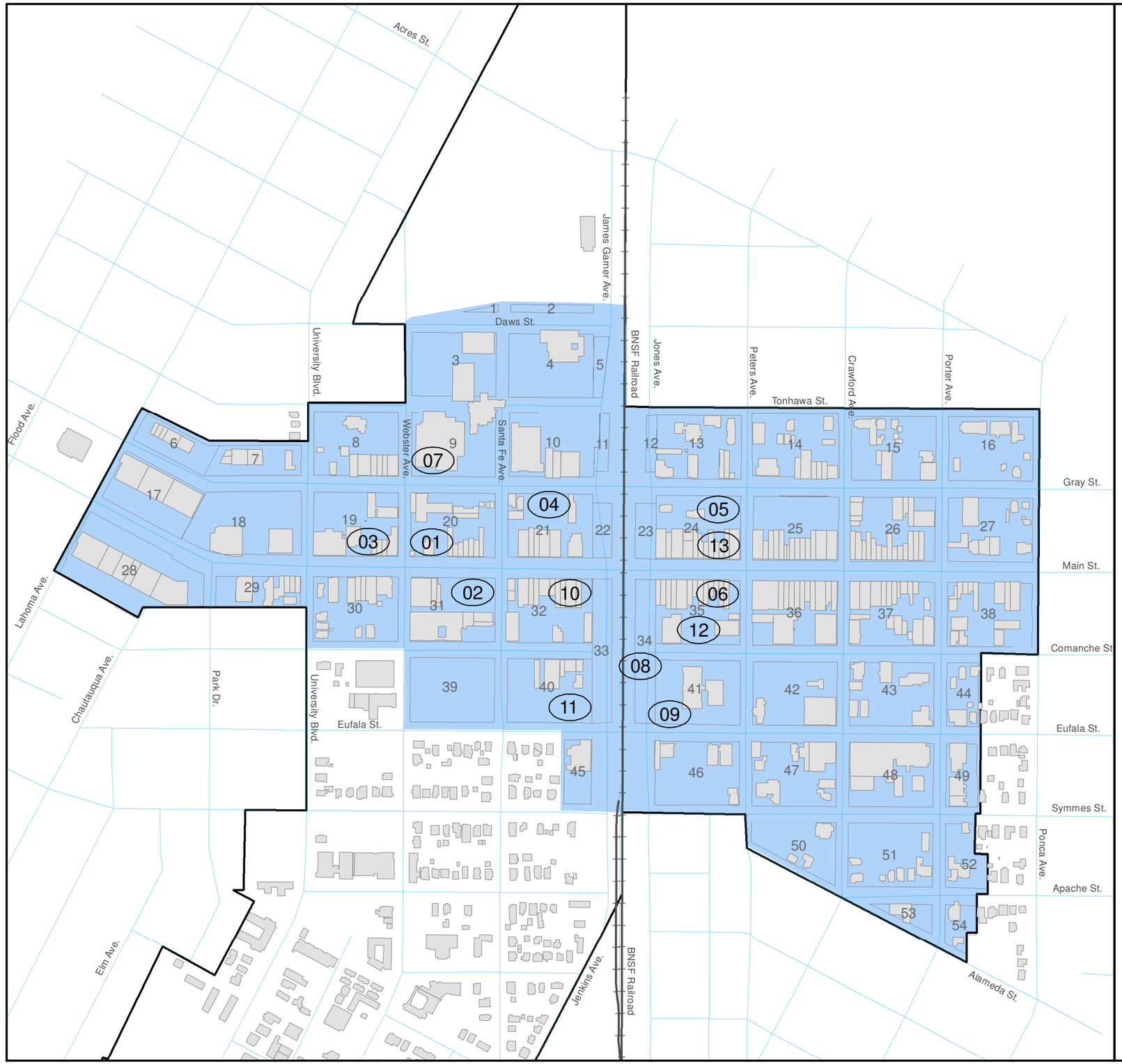

Figure 4-9:
2025 Projected Land Use Changes - Central Business District (CBD)
Norman Parking Study
October 2015

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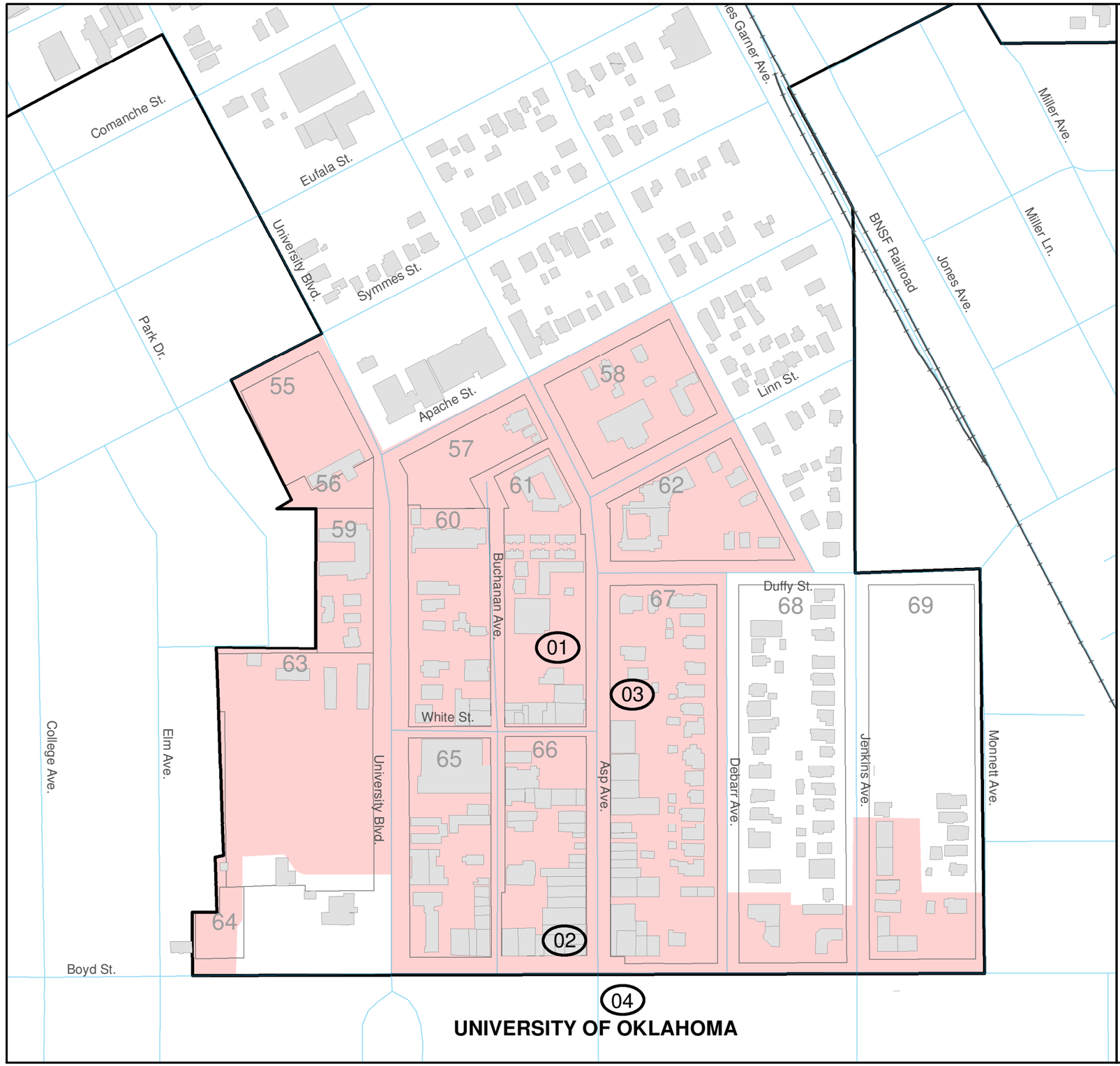

N

Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 — Block Boundary With Label
- Buildings
- Campus Corner Emphasis Area
- 01 — Campus Corner Land Use Changes (See Table for Details)
- Railroad
- City Streets

Figure 4-10:
2025 Projected Land Use Changes - Campus Corner
Norman Parking Study
October 2015

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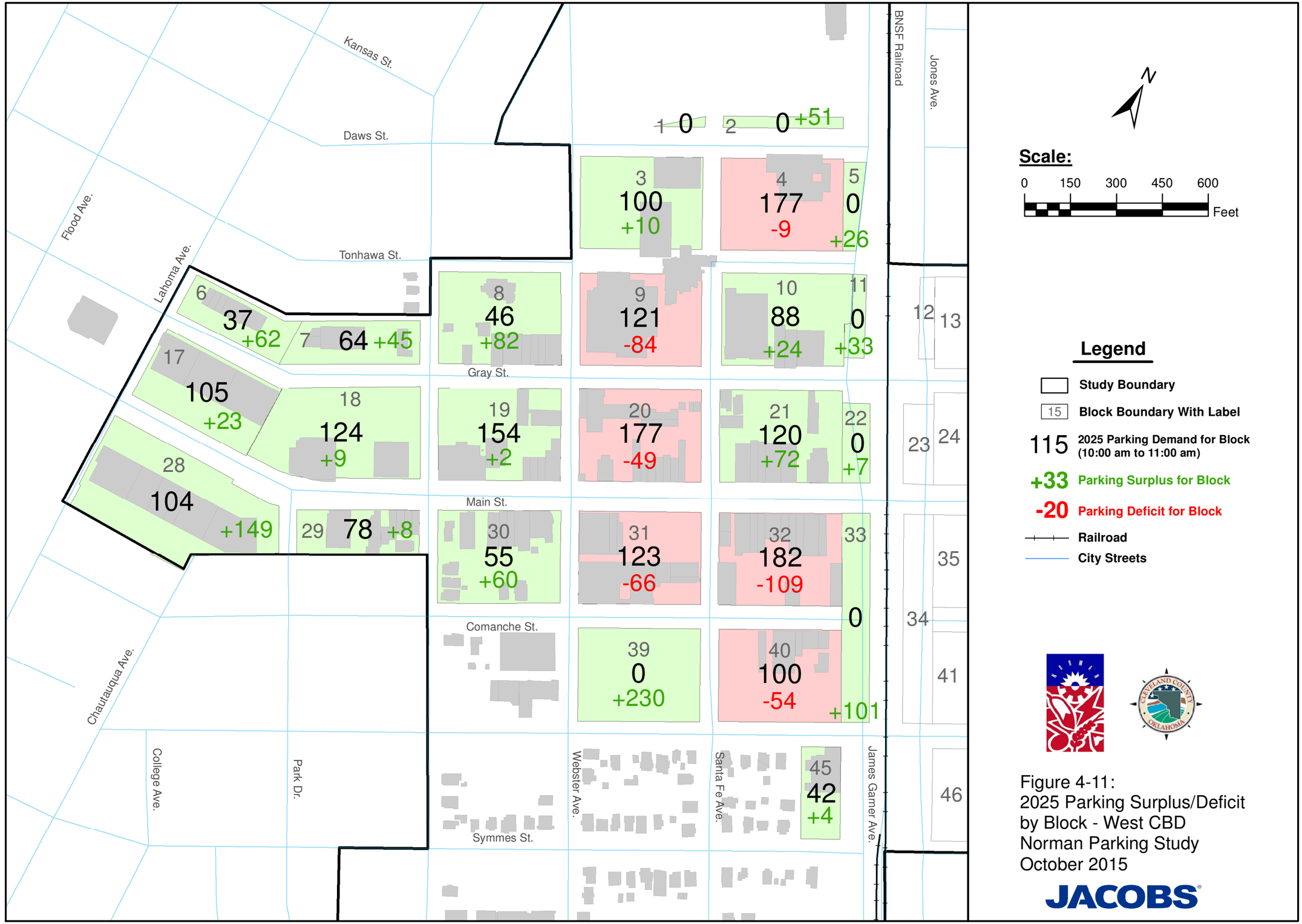

Figure 4-11:
2025 Parking Surplus/Deficit by Block - West CBD
Norman Parking Study
October 2015

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Figure 4-12:
2025 Parking Surplus/Deficit
By Block- East CBD
Norman Parking Study
October 2015

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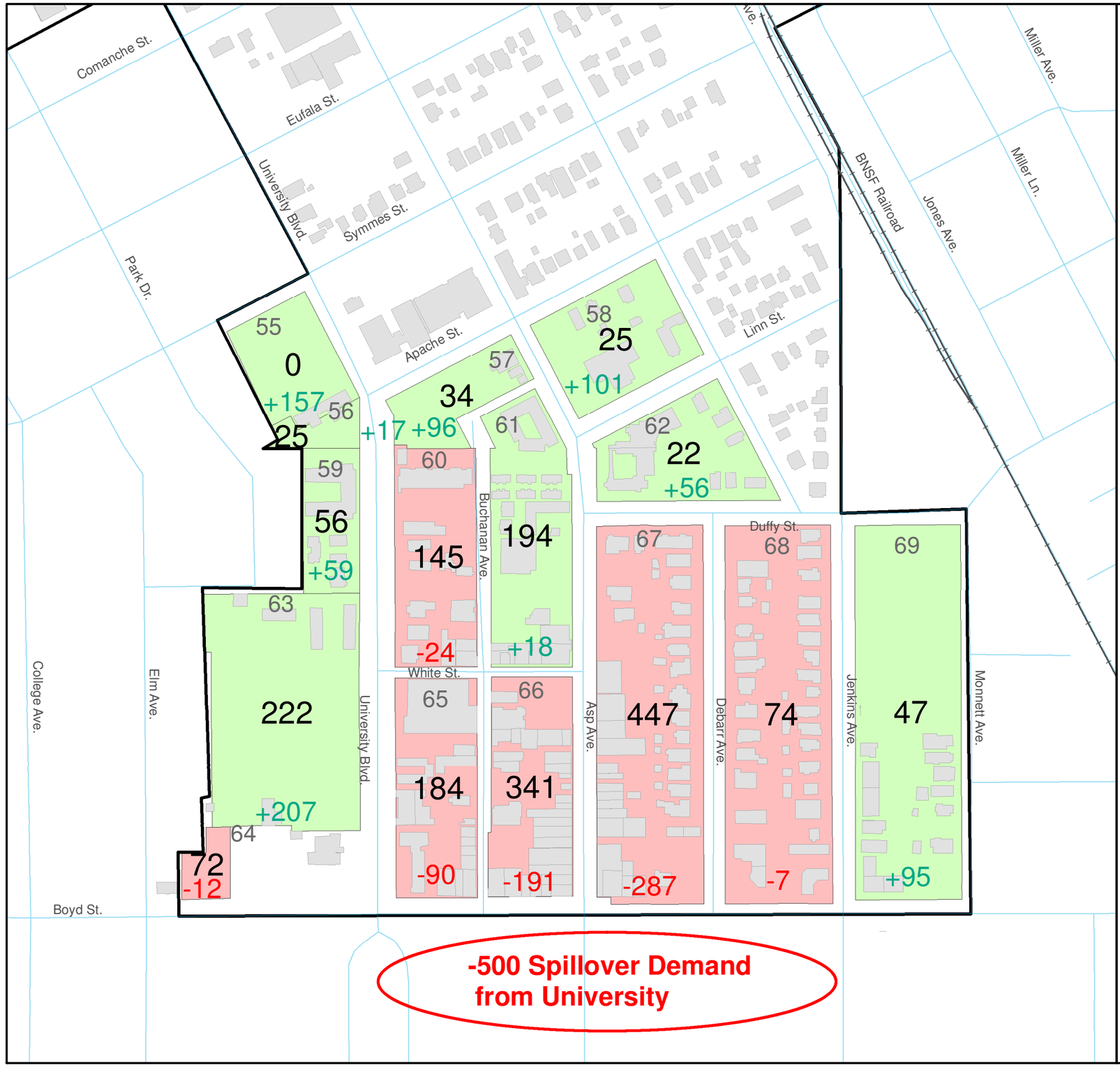

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Scale:

0 150 300 450 600 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- 167 2025 Parking Demand for Block (12:00 pm to 1:00 pm)
- +33 Parking Surplus for Block
- -20 Parking Deficit for Block
- Railroad
- City Streets

Figure 4-13:
2025 Parking Surplus/Deficit By Block - Campus Corner
Norman Parking Study
October 2015

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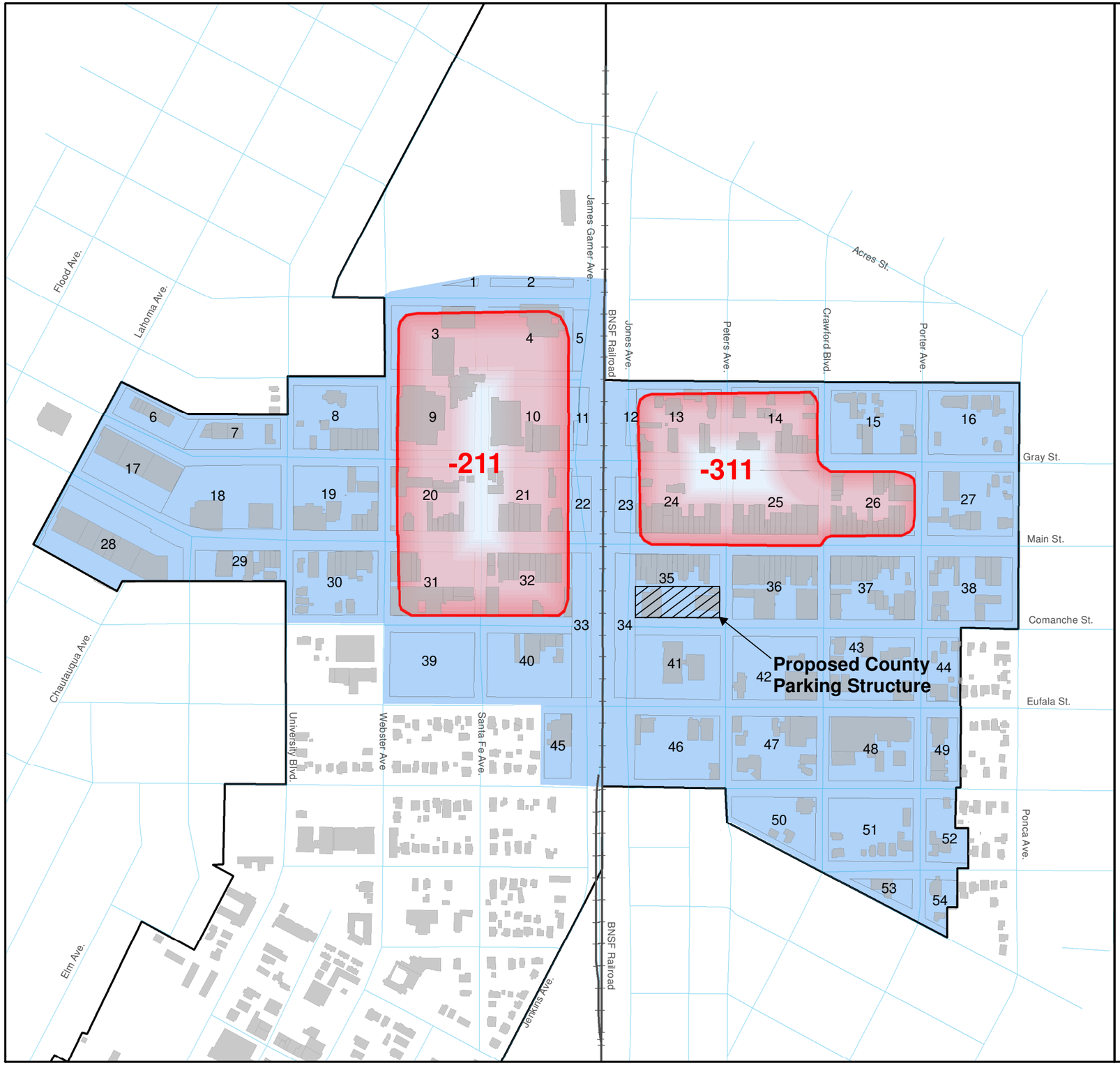

Scale:

0 250 500 750 1,000 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- CBD Emphasis Area
- Buildings
- Parking Deficit Zone
- Proposed Parking Structure
- Railroad
- City Streets

Figure 4-14:
2025 Parking Deficit Zones - Central Business District
Norman Parking Study
October 2015

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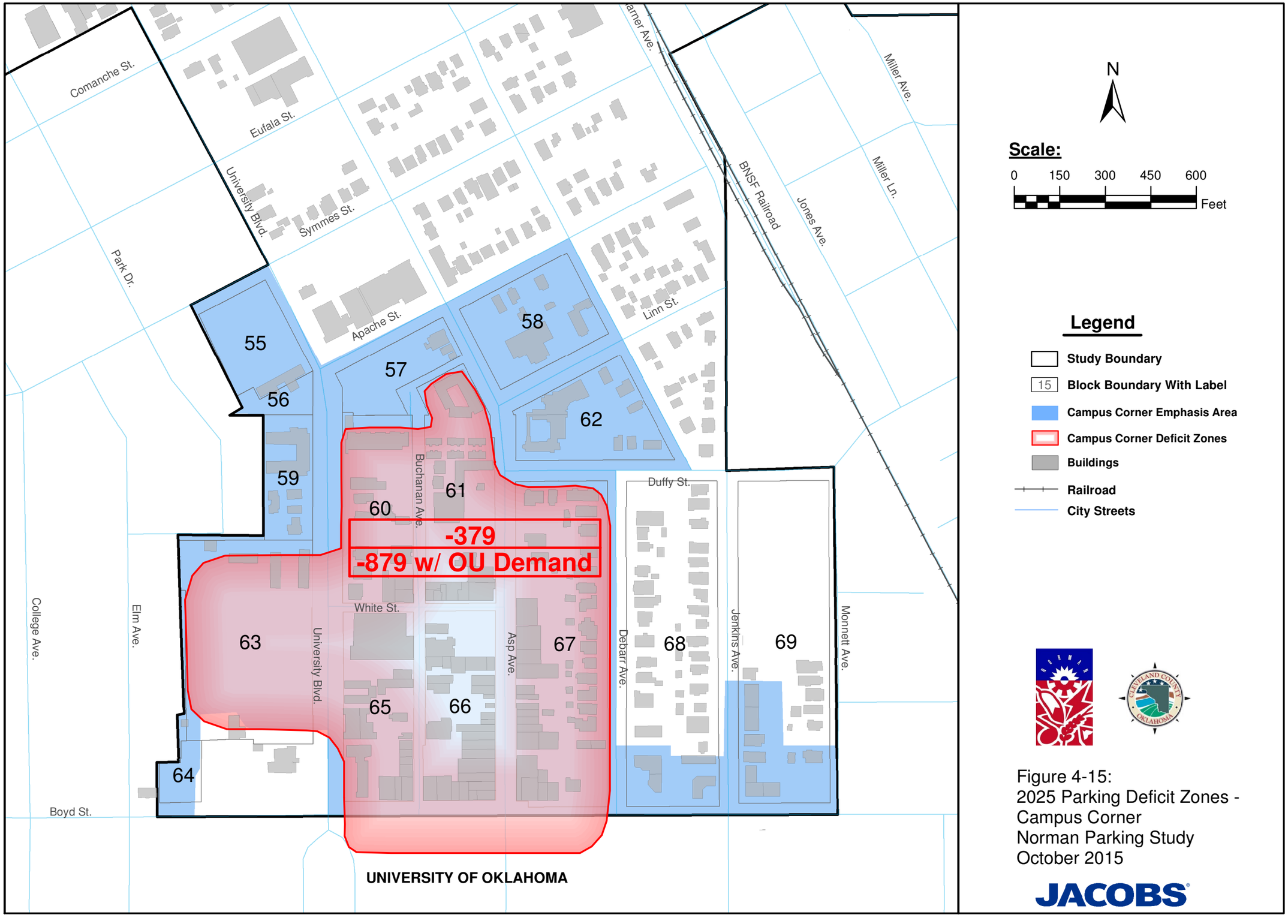

Figure 4-15:
2025 Parking Deficit Zones - Campus Corner
Norman Parking Study
October 2015

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4.6 Summary of 2025 Demands Assessment

While there is an overall parking surplus in the CBD for 2025, there are centrally located areas in the West and East CBD that are expected to have a parking deficit. For the West CBD, the 2025 parking deficit is projected to be 211 spaces. For the East CBD, the 2025 parking deficit is projected at 311 spaces.

Campus Corner also has a surplus of parking on a district-wide level, but a deficit at its core where developed uses are most dense. The 2025 parking deficit for Campus Corner is projected at 879 when OU's spillover parking demand is included.

Cleveland County anticipates construction of a parking garage with retail/commercial use on the ground floor in the south half of Block 35 (just north of the Courthouse). This structure will provide enough parking spaces to meet the needs of what would otherwise be a parking deficit in the area.

It is important for the City to consider where development will occur and whether or not parking can be provided on-site or whether off-site parking will be relied upon. The percentage of shared parking to be provided or used by the development versus that reserved for single properties or individuals is also important. Future redevelopment and revitalization in the CBD and Campus Corner may otherwise exacerbate the existing parking needs, particularly for land uses requiring long-term parking. Future development could also result in more surface parking and continuation of the trend to supply individual reserved use, surface parking lots instead of the higher-intensity vertical construction with shared use parking environments as laid out in the Center City Vision Plan. Actively managing and planning for parking will allow the CBD and Campus Corner to grow and develop in a manner that is consistent with the City's established vision and goals for this area.

Increased retail, restaurant, and entertainment activities in a revitalized Downtown will add to short-term and evening/weekend parking demands, increasing the competition for limited on-street parking and encouraging higher numbers of parkers into off-street parking spaces. The City and County should also consider how growing parking demands might be met with public and/or private parking facilities. In general, proposed developments should include provisions for adequate parking to serve its needs or perhaps include a fee-in-lieu payment made to the City or parking authority so that the parking needs can be met and adequate burden is placed on the developer whose project is generating the additional parking demand. Future development or redevelopment in the core areas identified as having a parking deficit will be of particular importance. All new development and redevelopment should be evaluated by the City with respect to the parking demands created and how these added demands would be accommodated.

5. Evaluation of Parking Alternatives

The data collected and analyses performed in the previous sections provided considerable insight regarding parking conditions in the CBD and Campus Corner. To remain proactive in accommodating the parking needs of Downtown employees and visitors, the City has the opportunity to undertake new programs and projects related to parking. Several improvement alternatives were investigated over the course of this study and are summarized in this chapter. All alternatives were formulated to address shortcomings discovered or recalled during the study process. Many of the alternatives either stemmed from or were reinforced by ideas and comments received during the project's public meetings.

The alternatives for improvements in Norman's CBD and Campus Corner generally fall into three categories:

1. Capital improvements: the development of additional parking supply through the construction of a multi-level parking structure(s) or surface parking lot(s).
2. Parking Management strategies: used to better manage existing parking supply, reduce parking demands, and/or increase shared use parking.
3. Alternative transportation management solutions: better utilize alternative travel modes as a means to access destinations in the CBD and Campus Corner (i.e. public transit).

An important policy decision Norman faces is answering the question of how existing and future parking demands will be accommodated in the CBD and Campus Corner. As noted in **Section 4**, there are the following existing needs in the CBD:

- 58 spaces in the West CBD core area,
- 102 spaces in the County Courthouse area, and
- 239 spaces in the East CBD Main/Gray corridor area.

In Campus Corner, there is a current unmet demand of 643 spaces (including OU's spillover demand). The City and/or County should see that additional parking is constructed to accommodate these demands, while also balancing the need to maintain the unique character of the CBD and Campus Corner. Current City ordinances help ensure that future development will address parking needs, at least in part. In the future, Norman may find that simply constructing new parking or requiring developers to do so in order to gain approval for zoning changes or building permits may not be the best approach. All of the alternatives discussed below and in subsequent sections of this study have merit in meeting current and future parking needs in Norman, and a well thought-out comprehensive approach will have the best chance of success.

A comprehensive parking management approach in Norman must address both the management of parking supply and parking demands. Both pieces are necessary due to the highly variable nature of demands over the course of a week (i.e. high demand during normal business day hours near office space with dramatically reduced demands in the evening hours contrasted with certain bars and restaurants experiencing significant parking demands in the evening hours and even more so on weekends) and throughout the year (greater demands when OU fall and spring classes are in session). Athletic and other special events on campus generate extraordinary parking demands in Campus Corner, but they occur infrequently enough that attempting to fully accommodate parking demands for these events is inadvisable. However, if additional parking supply could better serve typical weekday parking demands and also serve part of the exceptionally high special event and game day traffic, then the additional parking supply becomes all the more valuable.

5.1 Parking Supply/Demand Tradeoffs

Decisions on whether to develop additional parking or provide users with alternatives to parking in the CBD and Campus Corner can be made as a matter of policy or on the basis of cost effectiveness. Development and

operating costs of parking facilities vary by type of facility (surface parking lot, above-ground or underground parking structures) and land costs. Other cost elements and variables include:

- Physical amenities such as landscaping, architectural façades, specialty finishes, and the level of pedestrian accommodations (e.g. number of elevators);
- Architectural and engineering fees;
- Construction engineering and management;
- Builder's risks; and
- Capitalized interest, debt service reserve, and legal and financial fees (for facilities financed through debt).

The combination of these cost variables can add up to between 40% to 70% of the overall cost of construction. Costs for parking facility construction were investigated by type of facility and location for use in developing planning level cost estimates. Basic building costs for parking garages in the Oklahoma City metropolitan area, for example, average about $35 per square foot (exclusive of land) including civil/site construction, average building finishes and amenities, and typical structure accommodations.

The following average construction costs are representative of parking facility construction in Norman:

- Surface Lot: $16 per square foot or approximately $5,000 per space, including civil/site construction and landscaping
- Above-Ground Parking Structure: $25,000 per parking space and includes civil/site construction, landscaping and pedestrian amenities
- Underground Parking Structure: $50,000 per parking space

Land acquisition costs, architectural and engineering design fees, construction engineering and management, and any other costs not specifically referred to above are not included in the cost estimates provided.

Figure 5-1 is a useful tool for considering the tradeoffs among the various types of parking facilities that could be considered. The cost information presented is based on the above locally calibrated cost assumptions and an average surface lot size based on 330 square feet per parking space. Average above-ground and underground parking structure sizes are based on 370 square feet per parking space.

Property acquisition costs have a large impact on overall parking facility costs. In areas where land is relatively inexpensive, surface parking facilities are often the most economical solution. As the cost of land increases, above-ground parking structures become increasingly more favorable compared to surface parking lot solutions. As the cost of land becomes extremely expensive, underground parking facilities begin to become economical, assuming there is a joint development with air rights granted above the parking facility.

As the overall effective purchase price rises above $65 to $75 per square foot, above-ground parking structures become economical based on the assumptions as detailed above and as shown on **Figure 5-1**. Property in Norman's CBD (excluding Main Street frontage) and Campus Corner Districts is estimated to cost approximately $50 to $65 per square foot, including both land and building improvements on the parcel. These average square foot costs are based on County assessed values for a selection of properties located inside the study boundary. Regardless of the type of parking facility, parking improvements are expensive. In addition to the construction costs, there is often a substantial cost associated with financing a parking facility. Operations and maintenance (O&M) costs further increase these costs and have to be paid monthly.

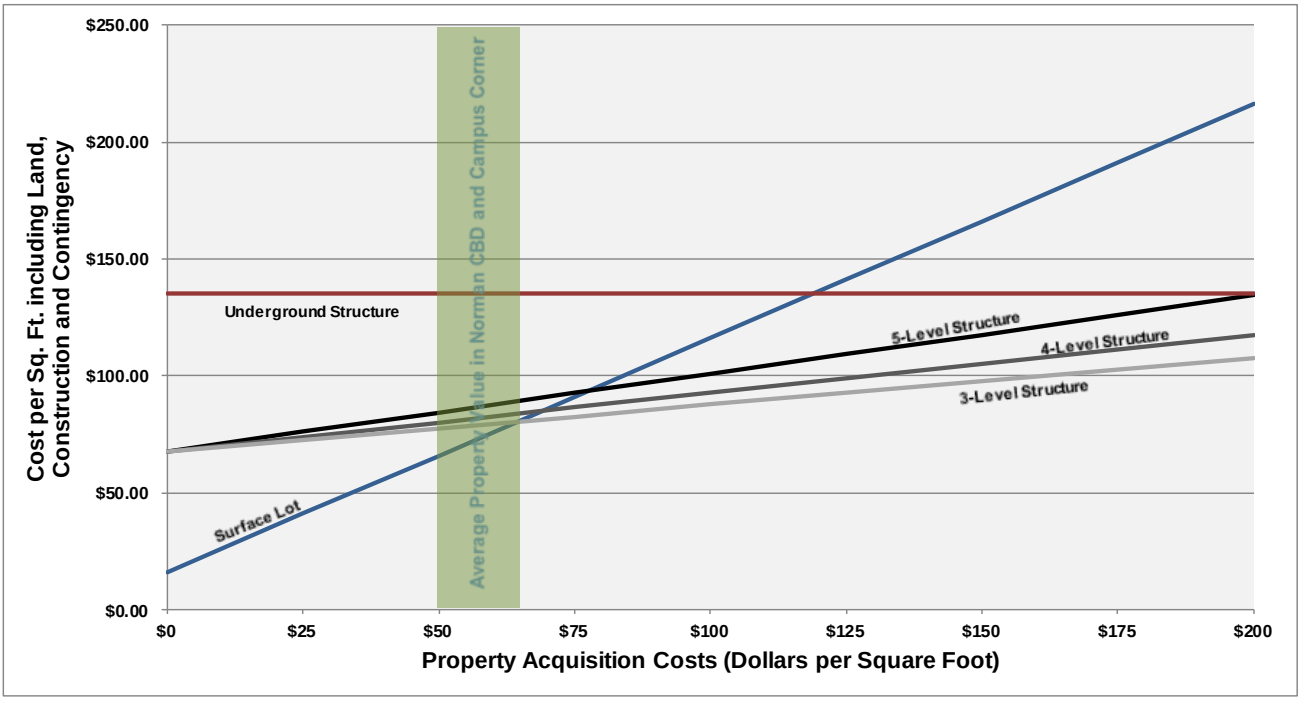


Figure 5-1: Parking Costs Per Square Foot in Norman

Figure 5-1 is also useful for comparing alternatives to vehicular travel and/or parking demand management. For analysis and comparison purposes, the cost per effective parking space eliminated by the alternative must be determined. If the net present value of the alternative per effective space eliminated proves lower than the cost of construction, the measure could be considered economically viable. For example, if a parking management measure costs $240,000 per year to implement, but it eliminates the need to build a 100-space parking facility, the cost per effective space eliminated would be $2,400. Using a discount rate of 6.0%, the net present value of the $2,400/space/year comes out to $17,664 (or $53.53 per Sq. Ft.) for a ten-year period. Referring back to **Figure 5-1**, if the property costs more than about $38 per square foot, the parking management measure would be more economical than construction of the parking infrastructure. If property costs were less than $37 per square foot however, then the infrastructure improvements would be more economical.

5.2 Parking Site Selection Parameters

To determine potential sites for parking improvements, a number of parameters were selected that allow for an objective evaluation and comparison of sites. A suitable site for a parking facility will score high in the following four areas:

1. Consumer friendly: Parking needs to accommodate patrons in a logical and easy-to-understand manner. Proximity is required to primary destinations with convenient, visible points of access provided and a motorist/pedestrian-friendly internal circulation pattern.

2. Good neighbor: A parking facility needs to incorporate well with the surrounding environment. The facility should complement existing land uses and not detract from other neighborhood uses. It should be compatible with the community's vision and plan for the neighborhood/district.

3. Operationally efficient: A good site will have dimensions that allow a facility to be built with a high parking efficiency. Parking efficiency increases when minimal space is taken by parking aisles, ramps, and other non-parking areas. Ingress and egress should be provided in a logical and efficient manner as the facility relates to the greater street network.

4. Ease of implementation: A site that has multiple owners, unwilling sellers, etc. is not desirable. Ideally, the municipality or parking authority will already own the site or the site will be owned by a single owner who is willing to sell for a fair market price. Preferred sites have little to no environmental cleanup/mitigation or other issues that will delay construction.

These four parameters were used in selecting and evaluating sites in the CBD and Campus Corner.

5.3 Central Business District (CBD) Alternative Sites

The parking demand analysis summarized in **Section 4** clearly indicates a peak period parking deficit in the core of Norman's CBD. The problem areas were: the County Courthouse vicinity and both the East CBD and West CBD along the Main and Gray Street corridors. All three areas, as discussed in **Section 4**, have a concentration of retail, office, and government office uses and are located in the core of the district where additional redevelopment and higher use intensities would be most appropriate and most anticipated in the future. The concentration of office employees need long-term parking during normal weekday business hours, but have very limited needs in the evenings and on weekends. Conversely, customers and visitors need short-term parking located as close as possible to their destinations.

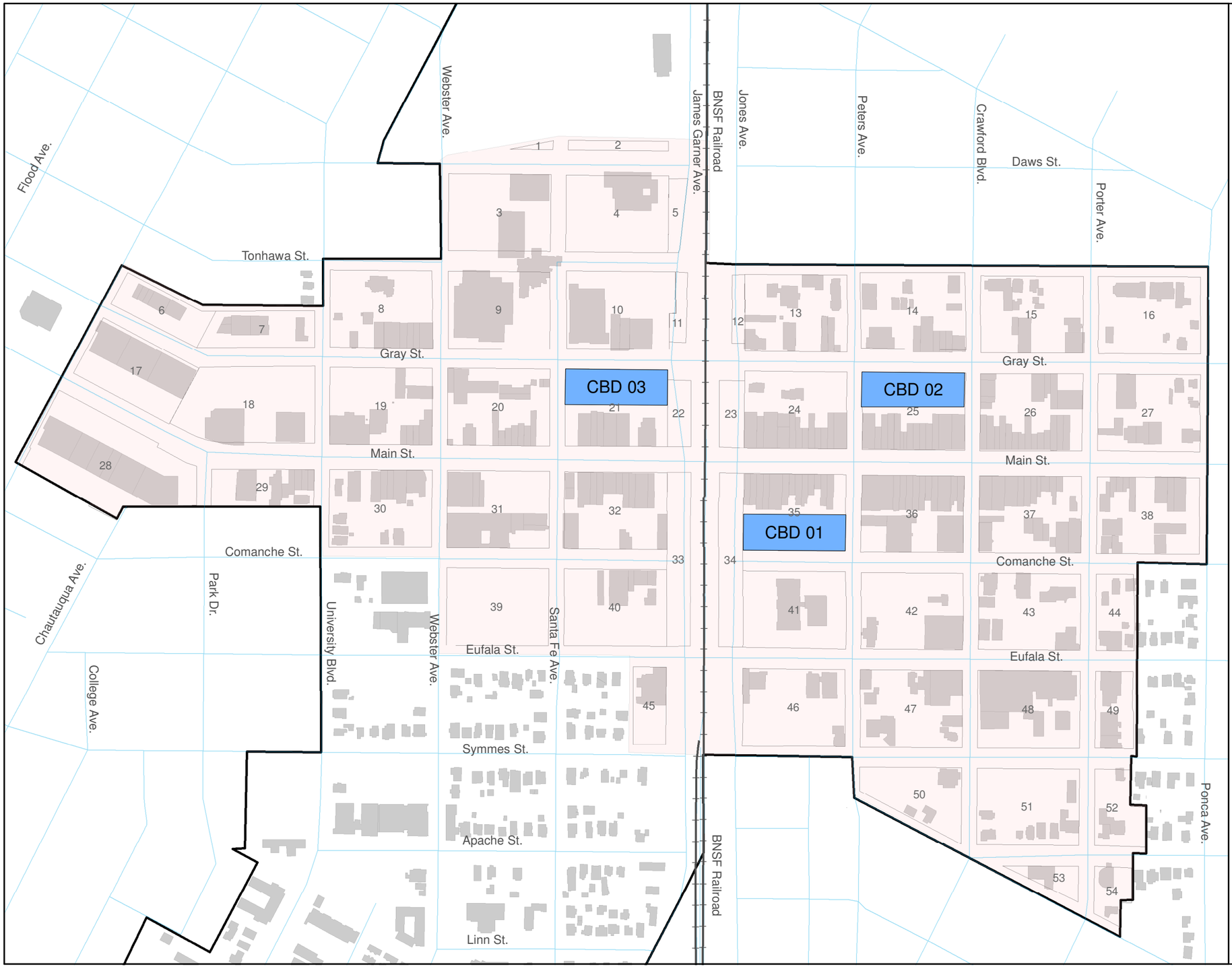
Steering committee meetings, public stakeholder meetings, the Community Forum meeting, and several site visits by consultant staff were conducted to identify and reach consensus on candidate sites for parking improvements in the CBD. **Figure 5-2** shows the three candidate sites that were considered for additional parking. All three sites, CBD-01 through CBD-03, were considered for a parking structure. Surface parking lot improvements were only considered for Site CBD-03 because the other two sites already provide a significant amount of surface parking.

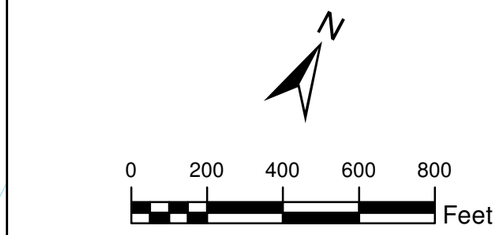
5.3.1 County Courthouse Site (CBD-01)

The County already owns the south half of Block 35 (just north of Comanche St. between Jones Ave. and Peters Ave.) and is interested in building a parking structure open to the public at this location. The site has good exposure to Peters Ave. and is a prime location to serve the Main St. corridor. It is at the center of many of the office and retail uses in the East CBD and is very close to the County Courthouse and Administration building and the Norman Depot. The half block area has dimensions that could easily support an efficient parking structure layout.

Additionally, there will likely be opportunity for increased transit oriented development (TOD) (related to both future bus and commuter rail trips) and even some "park and ride" potential for this part of the CBD due to the future location of the commuter rail station to be located just west of the County Courthouse building. This location was also previously considered in the 2003 Parking Study.[1] This makes Site CBD-01 an easy selection for the first candidate site.

[1] City of Norman, "Norman Parking Study", 2003.





Legend

- CBD Alternative Site
- 15 Block
- Building
- CBD Emphasis Area
- Streets
- Railroad

Figure 5-2:
Parking Improvement Candidate Sites - Central Business District (CBD)
Norman Parking Study
October 2015

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5.3.2 East Gray Street Site (CBD-02)

The City owns the north half of Block 25 (just south of Gray St. between Peters Ave. and Crawford Ave.), which is covered entirely by a surface parking lot. This location, Site CBD-02, was identified as the preferred alternative in the 2003 Parking Study.[1] Construction of the surface lot was ultimately completed in two phases:[2]

- Phase 1 included 104 spaces that were open to the general public for no cost. It was completed on January 30, 2007.
- Phase 2 added 40 additional parking spaces and was completed in November 2012.

In 2013, the City installed a multi-space parking meter system in the lot with an hourly rate of $0.25. The existing lot is well utilized on typical weekdays and has provided some much needed supply to better serve local office and dining/entertainment uses during evening and weekend hours. One of the key advantages of this site is its location in the East CBD area, central to both the Main Street and Gray Street corridors. The location is just far enough away from Site CBD-01 to begin to serve different destinations, so Site CBD-02 provides a suitable candidate location to serve the East CBD, even with the likelihood of a parking structure being constructed at Site CBD-01.

5.3.3 West Gray Street Site (CBD-03)

Site CBD-03 is located on the north half of Block 21 (just south of Gray St. between Santa Fe Ave. and James Garner Ave.), and is centrally located between the Main and Gray Street corridors near the Norman city offices. A key advantage of this site is that the City already owns part of the half block area. This site is less preferable, as compared to Sites CBD-01 and CBD-02, however, since there would be several property acquisitions that would have to take place for the City to gain ownership of the remainder of the half block. The West CBD core area is expected to have enough redevelopment occur by 2025 that parking improvements will be needed, and Site CBD-03 was ultimately selected as the best location to serve this need.

5.3.4 Discussion of additional CBD Sites

Another West CBD location that was given some consideration is the north half of Block 39. This site would be advantageous because of its proximity to the Main Street corridor, its current use as a surface parking lot, and because it is under single ownership. Reducing the amount of private-use surface parking and increasing shared use parking was recommended in the 2003 Parking Study and in the Center City Vision document, and conversion of this site to structured parking that also serves other uses integrally (ground floor retail or upper floors with residential) would be an impactful change toward both of these outcomes. One disadvantage as compared with Site CBD-03 is that it is much further away from the Gray Street corridor and the City offices. Ultimately depending on how and where redevelopment occurs in the West CBD, this site could end up being a better fit than Site CBD-03. At this time, the anticipated parking deficits in the West CBD only warrant improvements at one location, and Site CBD-03 is currently the better of the two sites.

5.4 Campus Corner Alternative Sites

The parking demand analysis summarized in **Section 4** indicates an even greater need for parking improvements in Campus Corner than in the CBD. The core area of Campus Corner corresponds with the parking deficit area, and is generally bounded by University Blvd. on the west, White St. on the north, Asp Ave. on the east, and Boyd St. on the south.

[2] City of Norman - Department of Public Works, "Downtown Parking Lot Management Business Plan", August 2013.

Figure 5-3 shows the three candidate sites (CC-01 through CC-03) that were considered for a parking structure. Surface parking lot improvements are not appropriate at any of these locations because Site CC-01 is currently dominated by surface parking, and Sites CC-02a/CC-02b and CC-03 are part of the core of Campus Corner where land is simply too valuable to devote to surface parking use.

5.4.1 University Boulevard Site (CC-01)

This site is located along the west side of University Blvd., north of the OU President's house and just west of the First Presbyterian Church. The site is currently devoted to surface parking for the church, OU commuters, OU faculty/staff, and Campus Corner employees and customers. There are a number of OU students and others who have passes to park in the church owned lot based on an hourly, daily, or monthly fee basis. Development of a multilevel parking structure on this site presents a beneficial opportunity for the City of Norman, the University of Oklahoma, and the First Presbyterian Church, not to mention the tremendous benefits that would be realized by Campus Corner business owners and customers. A unique advantage of this site is that it is large enough to support a highly efficient parking structure layout that would include retail use along University Boulevard and enough parking to address at least some of the OU spillover parking problem.

5.4.2 Asp Avenue North Site (CC-02a and/or CC-02b)

The site is located between Asp Ave. and Buchanan Ave. north of White St. and is currently occupied by the closed Orient Express Restaurant and some surface parking (CC-02a) on the south and the emerging Technology entrepreneurial center (eTec) Building with parking (CC-02b) on the north. Centrally located in Campus Corner, it offers convenient walking distance to a large number of primary core area destinations. Vehicular access could be provided off of Buchanan Ave., reserving the Asp Ave. frontage for commercial use on the ground floor. Either site individually is just large enough to accommodate a parking garage on its own, but the limited size makes parking efficiency a challenge for the design of the structure's layout. If both sites were able to be acquired, a more efficient structural layout would be achievable.

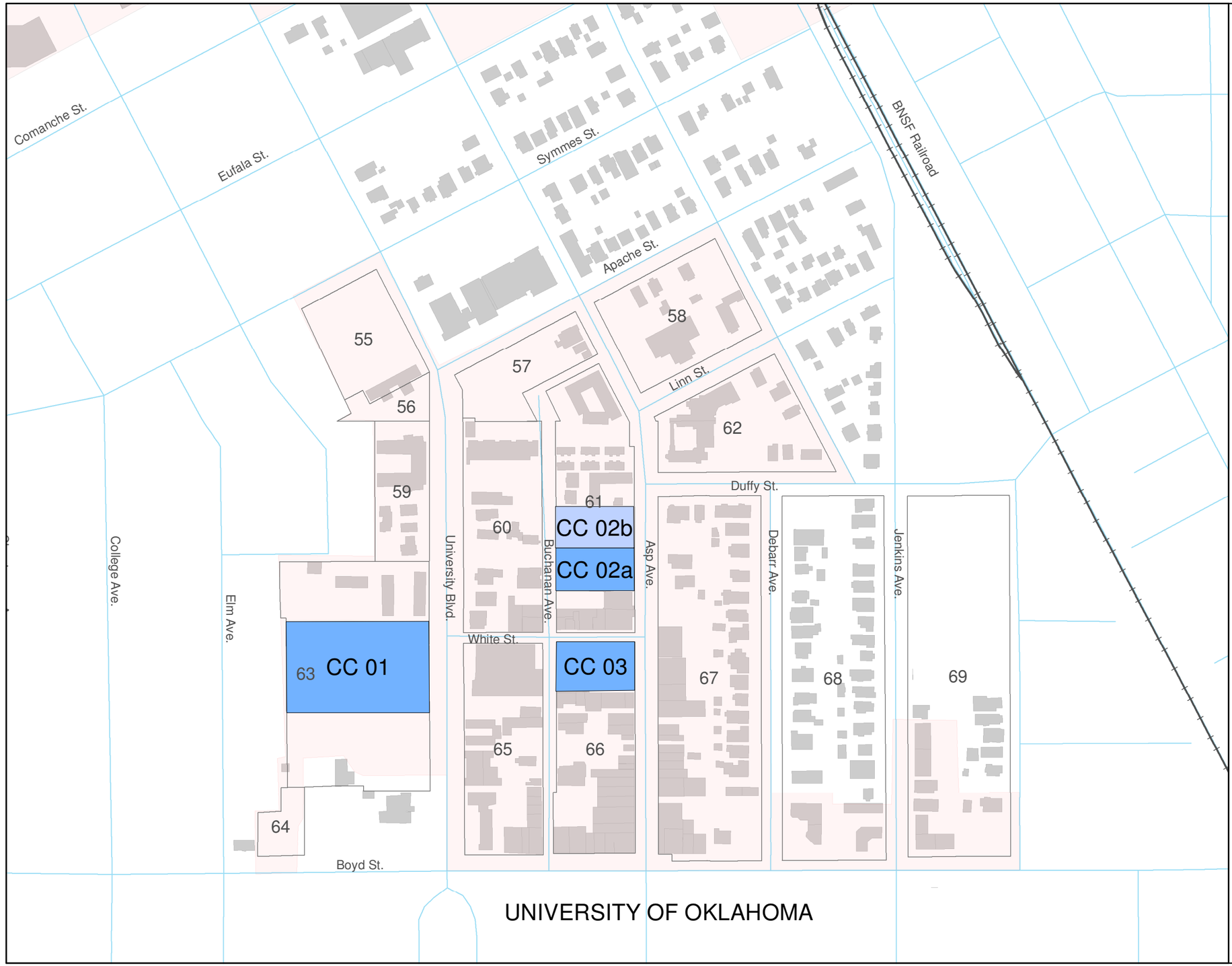
5.4.3 Asp Avenue South Site (CC-03)

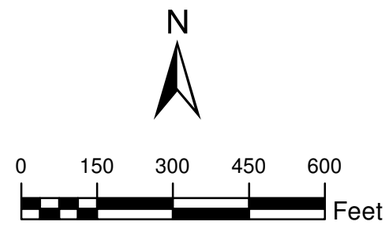
This site is located between Asp Ave. and Buchanan Ave., fronting White St. to its north. The site is currently occupied by a large surface parking lot and several buildings that would have to be razed along Buchanan Ave. This site is even more centrally located in Campus Corner than the previous two sites and offers convenient walking distance to all Campus Corner core area destinations. Vehicular access would preferably be provided off of Buchanan Ave., reserving the White Street and Asp Avenue frontage areas for other uses. The site is just large enough to accommodate a parking structure and would have the same basic footprint as a structure for Site CC-02. One key disadvantage is that devoting this site to structured parking may exclude it from being developed as a key retail and/or residential development that would ultimately better serve Campus Corner.

5.5 Summary

While the focus of this section has been on consideration of candidate sites where additional parking supply is in highest demand, there is no single solution for the parking issues in either the CBD or Campus Corner. Additional investments in parking supply infrastructure are recommended, but provide only a partial solution. A well thought out comprehensive approach including several parking management strategies (refer to **Section 8**) will best serve the parking needs in the CBD and Campus Corner.

Detailed recommendations for improvements to be made at each of the candidate sites are provided in **Section 6**, including timelines for when the improvements are anticipated to be necessary. **Section 7** provides detailed financial analyses and information for the recommended improvements at each of the City parking structure sites.





Legend

- Campus Corner Candidate Site
- 15 Block
- Building
- Campus Corner Emphasis Area
- Streets
- Railroad

Figure 5-3:
Parking Improvement Candidate Sites - Campus Corner
Norman Parking Study
March 2016

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6. Detailed Parking Improvement Plan

Parking concept plans (functional layouts) were developed for all six candidate sites introduced in **Section 5**. The layouts provided in this document are preliminary concepts based on a high-level vantage point for potential parking improvement options. The scope of this study is to determine what the parking needs are in the CBD and Campus Corner and to evaluate the general feasibility of a parking structure or surface lot improvements for each location. The preliminary concepts illustrate possible solutions for each site including the recommended number of parking spaces and lay the foundation for planning-level cost estimates and a financial pro forma analysis (see **Section 7** for the detailed financial analyses).

Joint development space for retail, office, or other uses is included on the street level to provide lease income and to maintain a more pedestrian-friendly and walkable street environment. Detailed design development is not included for any of the improvements recommended herein and would have to be accomplished in a future design phase(s).

6.1 County Courthouse Area Parking Structure ("CBD-01")

6.1.1 Short-term Improvements at CBD-01

Short-term improvements (1 to 3 year time horizon) should include the construction of a parking structure at this location as warranted by the 2015 demand deficit of 102 spaces and the increased deficit that would be present for this core area in the East CBD through 2025. **Figure 6-1** provides a schematic layout for a parking structure at this location that would have 590 total spaces on five levels. **Table 6-1** provides a summary for the recommended short-term improvements at this site.

The design concept is a sloping-floor garage that provides two-way traffic flow and 90-degree parking spaces. Two-way traffic flow allows easier navigation through the structure by drivers, and the two parking aisles provided on continuous grade provides the simplest layout for the size of structure attainable at this location. The primary entrance and exits would be off Jones Ave., with additional access provided off the alley to the north to accommodate special event traffic conditions when the structure is expected to be at full capacity.

Van accessible and handicap parking spaces should be provided for the facility, and are typically located adjacent to elevator access. Pedestrian circulation could be provided via two stairwells with one on the northeast corner of the structure and the other on the southwest corner. Elevators would be located adjacent to the stairwells. Much of the first floor area, 25,000 square feet of the 48,750 square feet building footprint, would be available for leased space.

The module width (stall-aisle-stall) shown is 65 feet. The building footprint dimensions would measure approximately 375 feet by 130 feet. The conceptual design would accommodate 590 total parking spaces, including a minimum of 12 handicap accessible spaces. The overall parking efficiency is 322 square feet per parking space.

Revenue control for the structure would utilize smart card technology for monthly permit parking. Revenue collection for hourly and daily parking would utilize electronic parking pay stations accepting coins or smart cards installed on the lower three levels. Adequate space was incorporated at the ingress/egress points of the structure to accommodate most forms of modern revenue control or to allow for enough room for a cashier to collect funds and provide receipts.

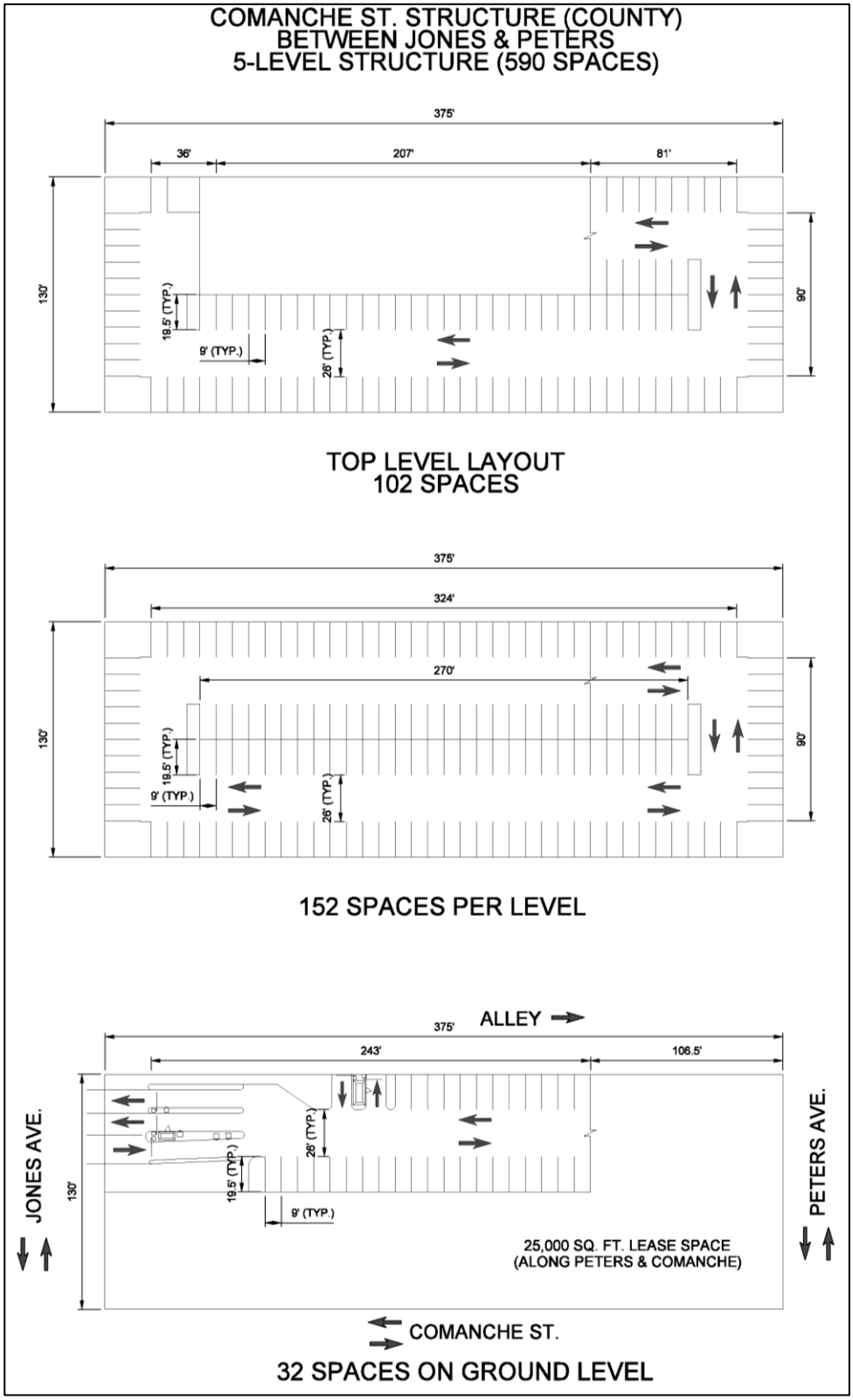


Figure 6-1: Schematic Structure Layout - CBD-01

Table 6-1: Summary of Short-Term Improvements for the CBD

Location	CBD-01	CBD-02	CBD-03
North Boundary	Alley	Gray St.	Gray St.
East Boundary	Peters Ave.	Crawford Ave.	Parcel w/ Offices
South Boundary	Comanche St.	Alley	Alley
West Boundary	Jones Ave.	Peters Ave.	Exist. Parcels
Ingress/Egress	1 in/2 out (Jones) 1 in/1 out (Alley)	1 in/2 out (Peters)	1 in/1 out (Gray St.)
No. of Levels	Five	Four	Surface Only
Building Height	50 ft.	40 ft.	N/A
No. of Parking Spaces	590	460	44
Parking Sq. Footage	190,300 SQ. FT.	149,430 SQ. FT.	15,120 SQ. FT.
Building Footprint	48,750 SQ. FT.	48,750 SQ. FT.	N/A
Retail Sq. Footage	25,000 SQ. FT.	30,000 SQ. FT.	N/A
Parking Efficiency	322 SQ. FT. per space	325 SQ. FT. per space	343 SQ. FT. per space
Circulation Pattern	Single Helix	Single Helix	N/A
Traffic Flow	Two-Way	Two-Way	Two-Way
Parking Angle	90°	90°	90°
Est. Acq. & Demo. Costs	$350,000	$0	$0
Est. Base Construction Cost	$14.75M	$11.48M	$200,000
Const. Cost per S.F.	$77.51 / SQ. FT.	$76.83 / SQ. FT.	$13.23 / SQ. FT.
Joint Development Area	25,000 SQ. FT.	30,000 SQ. FT.	N/A
Joint Dev. Space Cost	$2.75M	$3.31M	N/A
Contingency	$0	$1.49M	$0
Total Est. Construction Cost	$17.85M	$16.28M	$200,000
Total Est. Cost	$19.33M	$19.82M	$200,000

Notes:

The "Base Construction Cost" is for construction of the parking structure itself and does not include finishing out the commercial lease space.

The " Total Est. Construction Cost" includes the parking structure and lease space.

Architectural/engineering design services, financing costs where appropriate, Builder's Risk, and Construction Management costs are included in the "Total Est. Cost" provided above.

6.1.2 Long-term Improvements near CBD-01

The County anticipates that additional parking may be necessary over the longer-term horizon (greater than 10 years). Since the County already owns much of Block 46, this would seem to be the ideal location for additional long-term parking improvements. Due to the significant costs associated with adding on to an existing parking structure and with the significant increases in the initial cost to build the foundation and structural support system to accommodate additional floors of parking (initial costs would be 20% to 25% higher just for the foundation/supports), adding on to the structure at Site CBD-01 is not advised. Construction of a new structure would be more cost effective than plans to add on to the existing structure.

6.2 East Gray Street Parking Structure ("CBD-02")

6.2.1 Mid-term Improvements at CBD-02

Mid-term improvements (3 to 10 year time horizon) should include the construction of a parking structure at this location as warranted by the 2015 demand deficit of 239 spaces and a 2025 demand deficit of 311 spaces. With the 144 parking spaces provided in the existing surface lot, the 2025 parking need would be 455 spaces. **Figure 6-2** provides a 3D corner perspective view of the conceptual design. **Figure 6-3** provides a schematic layout for a parking structure at this location that

would have 460 total spaces on four levels. **Table 6-1** provides a summary for the recommended short-term improvements at this site. **Figures 6-4** through **6-7** provide various 3D renderings of what the conceptual structure might look like at this location.

Due to the expense associated with this parking structure, a parking utilization study should be conducted around the year 2020 to verify that parking demands are high enough to warrant its construction and that the presence of a parking structure at Site CBD-01 does not make the additional parking at this site unnecessary. The study should include Blocks 11 through 16, 22 through 27, and 33 through 38 and would ideally be conducted in late August or September.

The design concept is synonymous with the design previously described for the structure at Site CBD-01, except that it is smaller in size. The design includes a sloping-floor garage that provides two-way traffic flow and 90-degree parking spaces. Two-way traffic flow allows easier navigation through the structure by drivers, and the two parking aisles provided on continuous grade provides the simplest layout for the size of structure attainable at this location. The primary entrance and exits would be off of Peters Avenue.

Van accessible and handicap parking spaces should be provided for the facility, and are typically located adjacent to elevator access. Pedestrian circulation could be provided via two stairwells with one on the northwest corner of the structure and the other on the southeast corner. Elevators would be located adjacent to the stairwells. Much of the first floor area, 30,000 square feet of the 48,750 square feet building footprint, would be leasable as retail space.

The module width (stall-aisle-stall) shown is 65 feet. The building footprint dimensions would measure approximately 375 feet by 130 feet. The conceptual design would accommodate 460 total parking spaces, including a minimum of 10 handicap accessible spaces. The overall parking efficiency is 325 square feet per parking space.

Revenue control for the structure would utilize smart card technology for monthly permit parking. Revenue collection for hourly and daily parking would utilize electronic parking pay stations accepting coins or smart cards installed on the lower three levels. Adequate space was incorporated at the ingress/egress points of the structure to accommodate most forms of modern revenue control or to allow for enough room for a cashier to collect funds and provide receipts.

Figure 6-2: Corner Perspective View of East Gray St. Structure (looking SE)

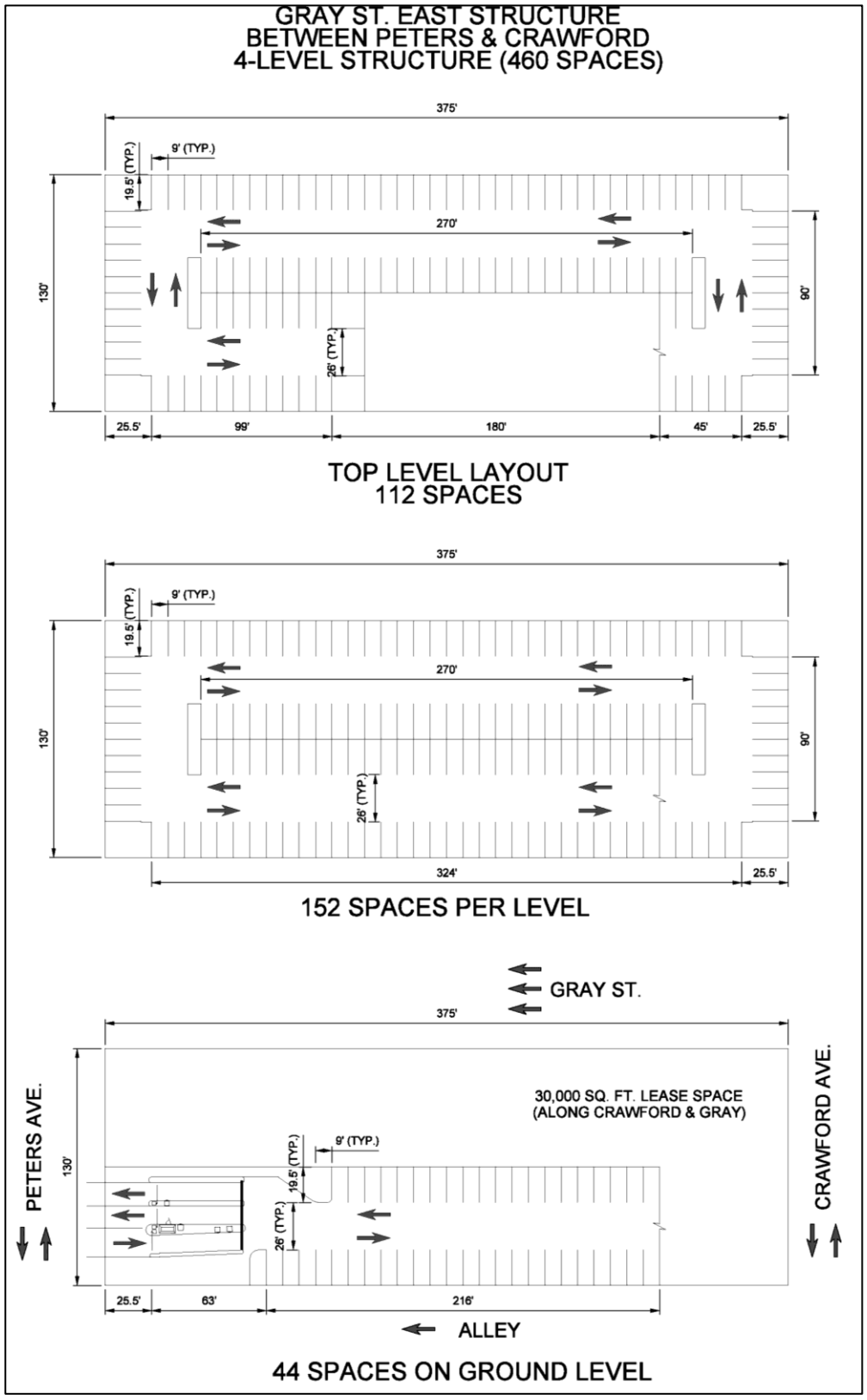


Figure 6-3: Schematic Structure Layout - CBD-02

Figure 6-4: Plan View Rendering - CBD-02

Figure 6-5: Elevation View - CBD-02

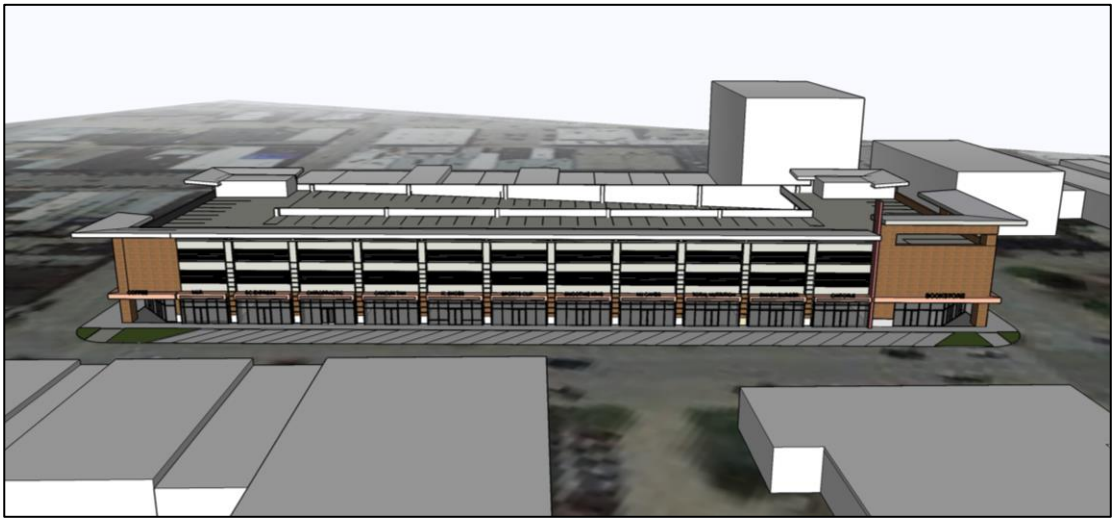


Figure 6-6: Perspective View - CBD-02

Figure 6-7: Street View Perspective - CBD-02 (looking SW)

6.3 West Gray Street Surface Lot ("CBD-03")

6.3.1 Short-term Improvements at CBD-03

Short-term improvements (1 to 3 years) are recommended at this site, including construction of a surface parking lot with 44 parking spaces on the land that is already owned by the City of Norman. The 2015 demand deficit for the general area that would be serviceable by this parking structure is 58 spaces, and the 2025 demand deficit is 211 spaces. The dramatic deficit increase indicates the large potential along the Main Street and Gray Street corridors; however, there are a lot of unknowns in the West CBD. With the City library site moving, the one-way to two-way conversion of Main St. and Gray St. and a number of currently vacant building space in the area, there is certainly potential for redevelopment and higher-intensity of uses. Nevertheless, the timeline for when the development occurs is unknown and ten years out may be overly optimistic.

In anticipation of additional parking demands and redevelopment occurring in the West CBD, the City can begin to acquire the other properties in the north half of Block 21. The general suggested timeline for acquisition of the entire half block is around the year 2025 so a parking structure could be constructed soon after that time if development occurs at the rate projected.

A conceptual design layout of the surface parking lot is provided in **Figure 6-8**. Two two-way aisles are provided with 90-degree spaces. This layout was found to be more efficient at this location than alternatives with one-way aisles and angled spaces.

6.3.2 Long-term Improvements at CBD-03

A parking garage in the West CBD core area is anticipated to be needed sometime around 2025 or later. Design and construction of a parking structure is recommended as a long-term improvement (greater than 10 years out) at this location. A 4-level, 460-space structure should meet the parking demand needs at this location. The layout of the structure would be very similar to the layout provided for the structure at CBD-02, with access provided off of Santa Fe Ave. or James Garner Ave.

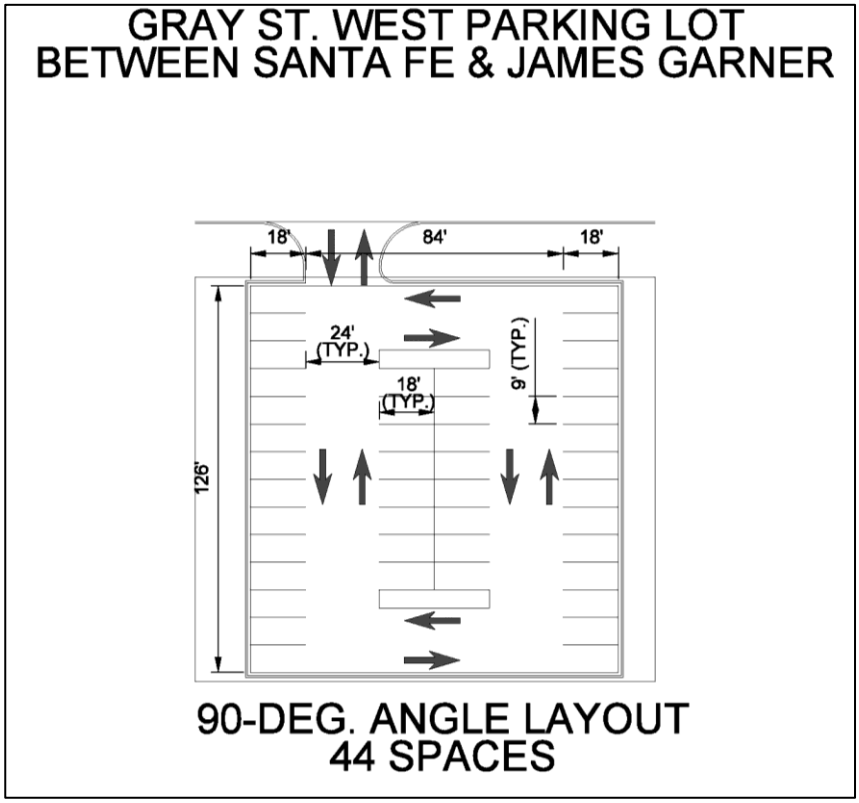


Figure 6-8: Schematic Surface Lot Layout - CBD-03

6.4 University Boulevard Parking Structure ("CC-01")

6.4.1 Short-term Improvements at CC-01

Short-term improvements (1 to 3 year time horizon) at this location are recommended to include the construction of a parking structure as warranted by the 2015 and 2025 Campus Corner demand deficits of 643 and 879 spaces, respectively. The needs for additional parking supplies in Campus Corner are significant, and improvements to increase the amount of parking supply should be designed and constructed as soon as practicable. **Figure 6-9** provides the plan view rendering of what a 1,100 space, three-level parking structure might look like at this site. **Table 6-2** provides a summary of the recommended short-term improvements at this site and its associated construction cost estimate.

Access points would be from the northeast and from the southeast, both off of University Boulevard. Traffic circulating on the north side of the structure would be allowed to travel through the first floor area of the structure to access the additional surface parking currently located to the north and owned by the First Presbyterian Church. Agreements will have to be reached with both OU and the First Presbyterian Church to move forward with a shared parking solution at this location, and the City should initiate these coordination efforts as soon as possible. Alternatively, OU could potentially take the lead on developing and constructing a parking structure at this location that would ideally include an adequate parking supply to satisfy the underserved needs of Campus Corner employees and customers as well as some of OU's student parking demands. Specific recommendations on how much parking would be required for OU students and faculty/staff, the church, and general public use

are beyond the scope of this study and would be a key piece of the agreement that would have to be reached among the three parties.

Providing parking spaces reserved for use by the First Presbyterian Church on Sundays should be achievable because parking demands related to OU and shopping/dining uses should be generally reduced on Sundays as compared with weekdays. The existing church lot located just west of the church's thrift store building would remain open for use by the church at all times based on the layout provided.

While the proposed three-level parking structure would be very compatible with the commercial uses at the core of Campus Corner, this site is somewhat on the fringe of the district with the church located across University Boulevard, the President's House located to the south, and the residential neighborhood located to the west. According to the draft Center City form-based code, 75 feet of separation is required between the north edge of the OU President's House and the nearest edge of any adjacent building or structure (including the proposed parking structure). To accommodate this buffer space, the conceptual layout included a landscaped area that could potentially be made into a small garden space or pocket park. Landscaping buffers should be utilized along the west edge of the property as well between the surface parking and the residences.

Surface parking includes approximately 150 spaces with the three-level parking structure carrying a total of 950 spaces in addition to commercial lease space located along the University Blvd. frontage. The design concept is a sloping-floor garage that provides two-way traffic flow and 90-degree parking spaces, but only two of the five drive "bays" would have to be constructed on a slope. The other three bays could be constructed level, resulting in lower relative structural support system costs as compared with what would be required if all five of the bays were constructed on a slope.

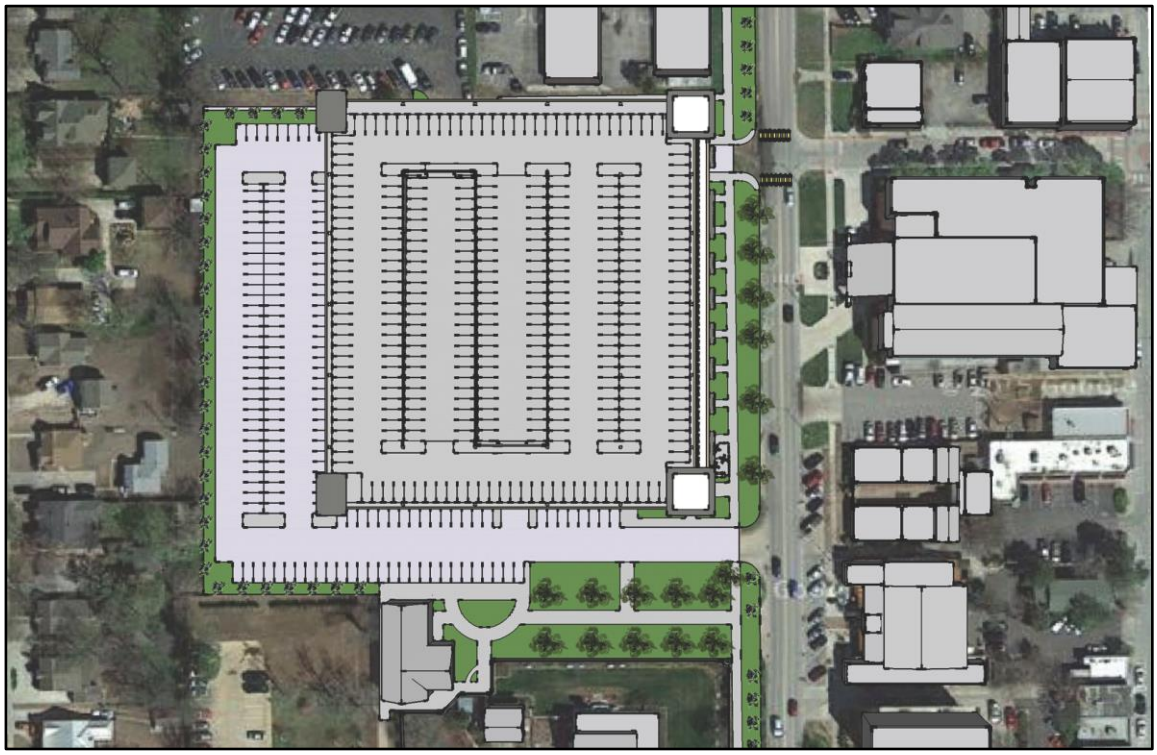


Figure 6-9: Plan View of University Blvd. Structure - CC-01

Van accessible and handicap parking spaces should be provided for the facility, and are typically located adjacent to elevator access. Pedestrian circulation could be provided via two stairwells with one on the northeast corner of the structure and the other on the southeast corner. Additional stairwells may be beneficial depending on the detailed design layout of the structure due to the structure's large size. If the stairwells are both located on the east corners as described, pedestrian walkability from west to east within the structure will be a vitally important design consideration. Elevators would be located adjacent to the stairwells. On the ground floor, 24,000 square feet of the 85,000 square feet building footprint, would be leasable space.

The module width (stall-aisle-stall) shown is 68 feet. The conceptual design would accommodate 1,100 total parking spaces, including a minimum of 22 handicap accessible spaces. The overall parking efficiency is about 275 square feet per parking space.

Revenue control for the structure would utilize smart card technology for monthly permit parking. Revenue collection for hourly and daily parking would utilize electronic parking pay stations accepting coins or smart cards installed on the lower three levels. Adequate space was incorporated at the ingress/egress points of the structure to accommodate most forms of modern revenue control or to allow for enough room for a cashier to collect funds and provide receipts.

Table 6-2: Recommendations for Campus Corner Summary Table

Location	CC-01	CC-02a
North Boundary	Apartments/Res.	eTEC
East Boundary	University Blvd.	Asp Ave.
South Boundary	University	Apartments/Retail
West Boundary	Residential	Buchanan Ave.
Ingress/Egress	2 in/ 2 out (North Dr.) 2 in/2 out (South Dr.)	1 in/2 out (Buchanan)
No. of Levels	Three	Five
Building Height	32 ft.	50 ft.
No. of Parking Spaces	1,100	388
Parking Sq. Footage	300,000 SQ. FT.	126,160 SQ. FT.
Building Footprint	85,000 SQ. FT.	30,096 SQ. FT.
Retail Sq. Footage	24,000 SQ. FT.	15,000 SQ. FT.
Parking Efficiency	275 SQ. FT. per space	325 SQ. FT. per space
Circulation Pattern	5-Bay Double-Threaded Single Helix	Single Helix
Traffic Flow	Two-Way	Two-Way
Parking Angle	90°	90°
Est. Acq. & Demo. Costs	$427,500	$260,000
Est. Base Construction Cost	$24.50M	$11.64M
Const. Cost per S.F.	$79.17 / SQ. FT.	$92.26 / SQ. FT.
Joint Development Area	24,000 SQ. FT.	15,000 SQ. FT.
Joint Dev. Space Cost	$2.64M	$1.65M
Contingency	$2.71M	$1.33M
Total Est. Construction Cost	$30.28M	$14.88M
Total Est. Cost	$37.28M	$18.31M

Notes: The "Base Construction Cost" is for construction of the parking structure itself and does not include finishing out the commercial lease space.

The " Total Est. Construction Cost" includes the parking structure and lease space.

Architectural/engineering design services, financing costs where appropriate, Builder's Risk, and Construction Management costs are included in the "Total Est. Cost" provided above.

Figure 6-10: Elevation View - CC-01

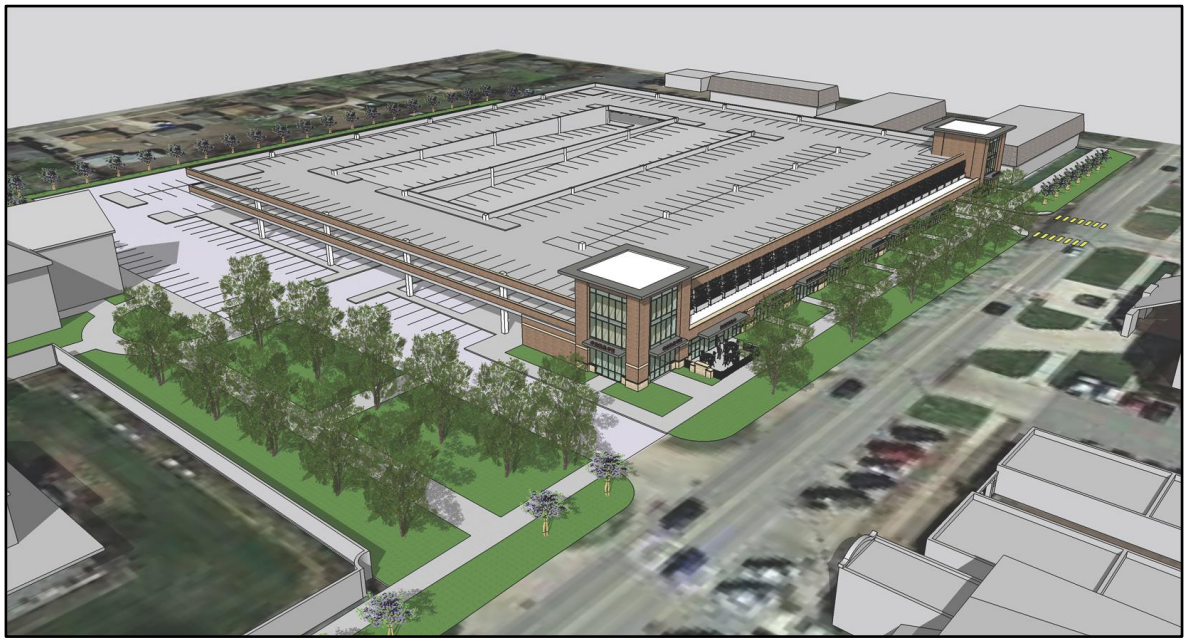


Figure 6-11: Perspective View - CC-01 (looking NW)

Figure 6-12: Cafe View - CC-01

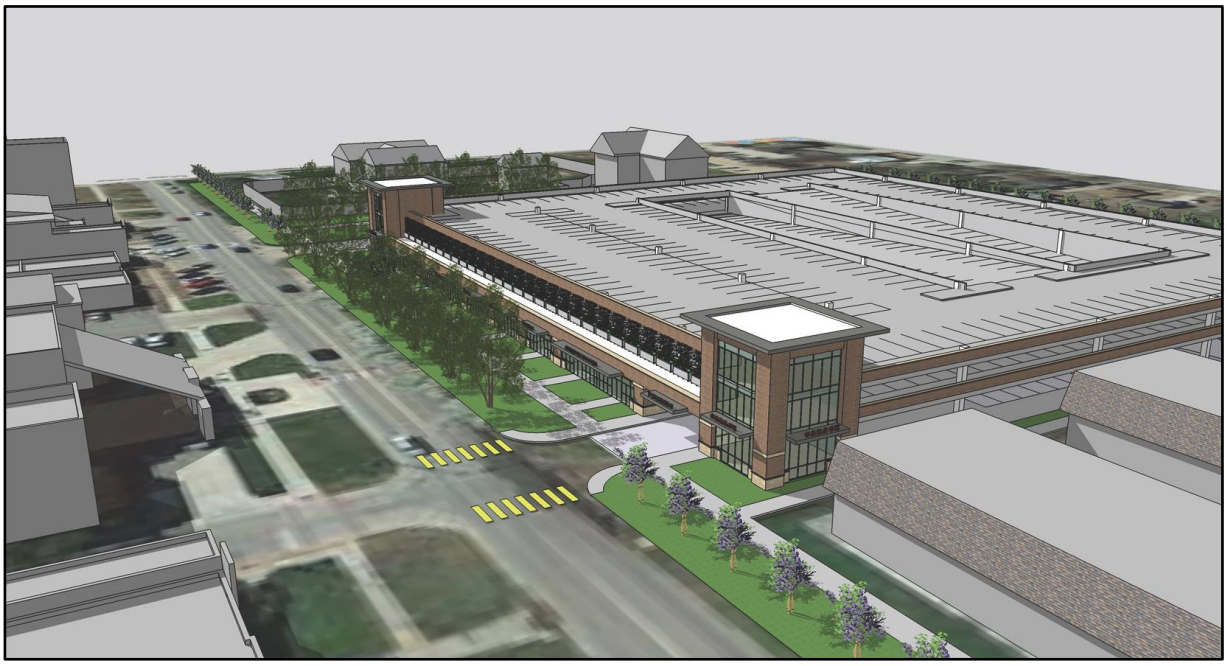


Figure 6-13: Perspective View - CC-01 (looking SW)

Figure 6-14: Street View - CC-01 (looking SW)

6.5 Alternative Improvements at Asp Avenue North Parking Structure ("CC-02a" / "CC-02b")

6.5.1 Short-term Improvements at CC-02a/CC-02b

Due to the parking inefficiencies that a structure at this location would have to overcome and the inability of a smaller structure to address OU spillover parking demands in the district, improvements at CC-02a or CC-02b as individual sites are not recommended unless it is determined that an agreement cannot be reached for the parking structure proposed at Site CC-01. If both sites are able to be acquired, then the combined site would allow for an efficient structural layout. If and when it is determined that an agreement would not be possible for Site CC-01 or if it is determined that both sites CC-02a and CC-02b can be acquired from current owners, then property acquisitions should be initiated as soon as possible for acquisition of properties required to construct improvements at Site CC-02a and/or CC-02b.

A five-level, 388 space parking structure could be provided at either Site CC-02a or CC-02b with access off of Buchanan Ave. and about 15,000 square feet of retail along the Asp Ave. frontage. **Figure 6-10** provides the schematic plan layout for what this structure might look like. **Table 6-2** provides a summary of the conditionally recommended short-term improvements at this site and its associated construction cost estimate.

6.6 Alternative Improvements at Asp Avenue North Parking Structure ("CC-03")

6.6.1 Short-term Improvements at CC-03

Due to the same parking inefficiencies noted in **Section 6.5**, improvements at CC-03 are not recommended unless it is determined that an agreement cannot be reached for the parking structure improvements recommended for Sites CC-01, CC-02a, or CC-02b. If and when this is determined to be the case, then property acquisitions should be initiated as soon as possible to address the parking supply shortage for Campus Corner.

A five-level, 388 space parking structure could be provided at this location with preferred access off of Buchanan Avenue and about 15,000 square feet of retail along Asp Ave. and White St. The recommended conceptual layout would look very similar to the layout shown for the Asp Ave. North parking structure (see **Figure 6-10**), and the estimated construction costs would be similar.

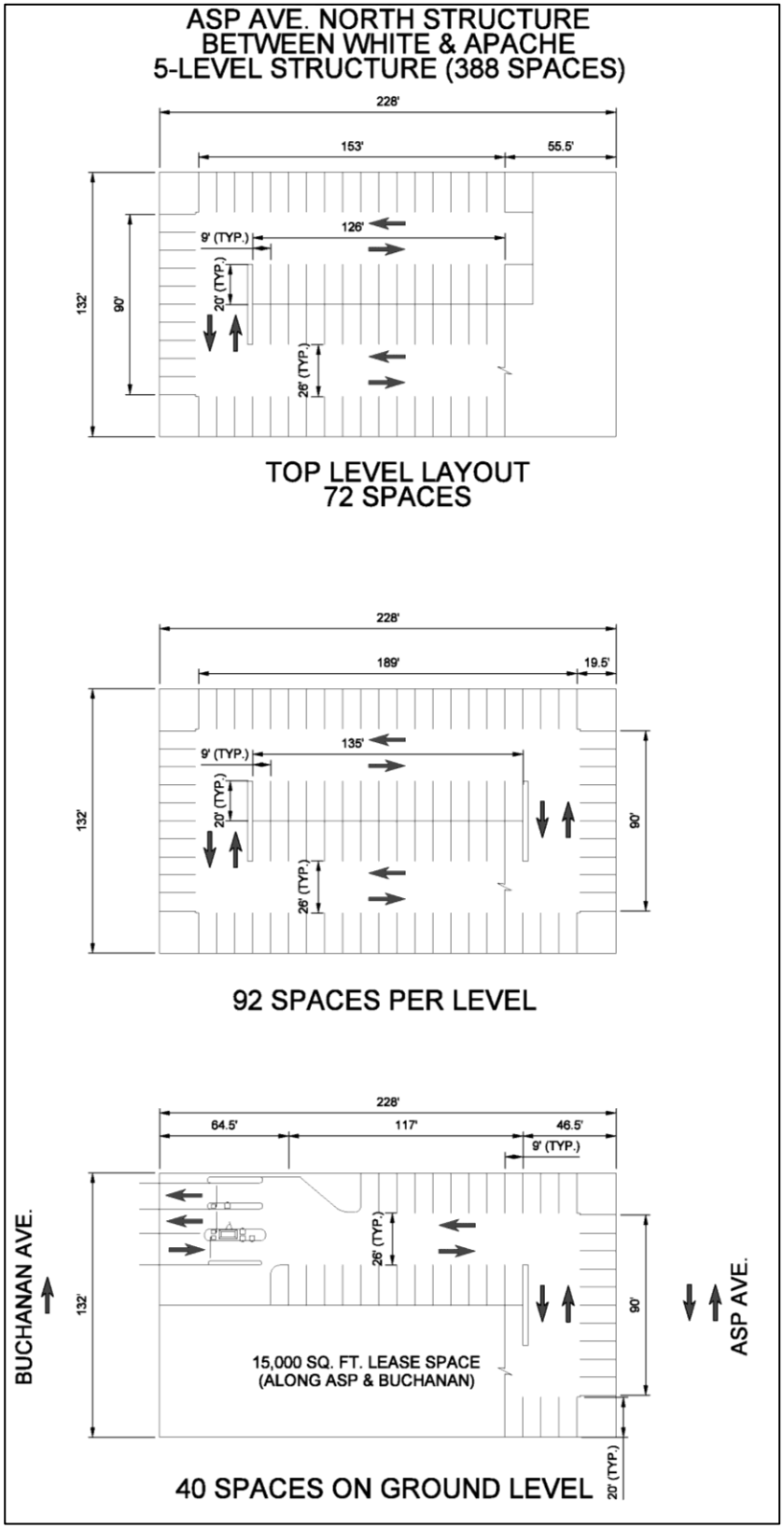


Figure 6-15: Schematic Structure Layout - CC-02a or CC-02b

7. Financial Considerations

This section contains the financial considerations for the construction of the parking improvements recommended in **Section 6**. Because the County has its own unique needs and approach to the planning, financing, and ultimate construction of their planned structure, the analysis performed for the County Structure was prepared and submitted separately from this study document. A copy of the County letter report is included as **Appendix A**.

The financing of parking improvements and parking programs can be complex, depending on the City's plan for implementation. Constructing a parking garage in Norman's Central Business District (CBD) or in the Campus Corner District is a major undertaking from several perspectives:

- The capital investment required is large;
- The operating and maintenance expenses of a new parking garage will be substantial; and
- While the City would have a revenue stream from parking fees, other revenue sources may be needed.

Many other elements of an overall parking program are less capital intensive but may have a major impact on the need for a new parking structure. By installing on-street parking meters in the CBD, increasing parking rates and parking fines, and selling monthly parking permits, the City may generate the additional revenue to help pay for a new public parking facility. Parking should be an enterprise system operated with income received from on-street and off-street revenues, parking user fees, fines, penalties and permits covering, at least the expenses for operation and maintenance. Continued enforcement will be important to prevent illegal use of available on-street spaces in high demand areas.

The City might choose to undertake a phased program of parking improvements, first to develop additional surface parking and add more metered on-street parking, followed later by development of a multi-level parking garage after a positive revenue stream is established and surplus funds accumulate to support additional parking improvements.

As with most municipal projects and programs, either it is best to obtain revenue from the users of the facilities, or those individuals or businesses that stand to gain the most from the improvements. Because of the magnitude of the investment, the City will need to rely on multiple sources of revenue to finance the capital development of a parking structure. Several means of financing parking improvements are discussed in the following paragraphs. The types and amounts of revenue from potential parking sources is also presented. Finally, a planning-level financial pro forma analysis is presented for both the East Gray Street Structure in the CBD and the University Boulevard Structure in the Campus Corner District. A pro forma analysis is not presented for the two alternative structures located in the Campus Corner District near Asp Avenue North and Asp Avenue South, but the financial performance of a garage at either of these sites could be prepared utilizing many of the same assumptions used in the analysis of the University Boulevard Structure.

7.1 Framework of Parking Financing

Building a new parking facility is a real estate development activity and is subject to many of the risks associated with that industry. As with any real estate activity, risk increases as a property becomes specialized and as capital-intensive features are added. Developing a parking facility that not only meets the current needs of users but is flexible enough to adapt to future needs and demands is a critical consideration to lenders. The more unusual or specialized a structure becomes, the more the credit of the borrower will be needed to secure debt financing.

The City of Norman is a municipality and has the advantage of being able to use tax-free financing. Enactment of the 1986 Federal tax law and subsequent amendments have had a direct influence on the financing of

parking facilities. The laws provide clear guidelines that must be met for the tax-exempt financing of parking facilities, including the following:

- At least 90 percent of the spaces must be available for public monthly, daily, or hourly parking;
- Not less than 95 percent of the total proceeds must be spent for construction, including related costs;
- Not more than 10 percent of annual debt service may be paid or guaranteed by a non-public entity; and
- Any management agreements for operation with a private contractor cannot exceed five years, with the ability of the owner to cancel at the end of any two-year period.

It is assumed the guidelines above will be present and that tax-exempt financing will be the primary vehicle to finance a parking structure in Norman.

Several tax-exempt instruments have traditionally been used to finance parking facilities:

- General Obligation (GO) Bonds;
- Special Assessment Bonds;
- Tax Increment Bonds; and
- Parking Revenue Bonds.

Any of these options individually or in combination would require a bond election for approval by voters.

7.1.1 General Obligation (GO) Bonds

General obligation bonds involve pledging the full faith and credit of the municipality, making the General Fund available to meet debt obligations. GO Bonds would require approval by the electorate, which is a major consideration regarding the use of this option. The City would legally issue Certificates of Participation to the municipal entity responsible for the parking program, and this entity would be obligated through a lease or installment agreement to pay investors back. Debt service for GO Bonds would be paid from revenues earmarked as part of the parking program; it is likely the General Fund would never have to be used. The primary advantage to GO financing is that pledged revenues need not exceed debt service requirements. In addition, financing costs are relatively low compared to other forms of financing.

7.1.2 Special Assessment Bonds

This form of financing involves bonds that are secured by property owners and businesses that stand to benefit from the improvements. The special assessment is levied as an added increment of property tax or sales tax in a special tax district. Usually property tax assessments are based on the degree of benefit according to an agreed-upon formula. A sales tax assessment is based on benefit distributed among commercial businesses. The advantage of this method of financing is that costs are borne based on benefits received. Because of the lack of certainty of collection of assessments (compared to property taxes), interest rates will be higher than with GO bonds.

7.1.3 Tax Increment Bonds

This type of financing has been used in Oklahoma and other states such as Arizona, California, Colorado, Texas, and Utah. The financing is derived from a highly segregated form of ad valorem property taxes. A Tax Increment Financing (TIF) District must be established by the City and approved by a vote of the property owners within the District. Usually, properties in the vicinity of the improvements are included making this somewhat similar to the special assessment district.

Under this form of financing, the municipality establishes a base-year property assessment in the area served by the improvement. Increases in property assessments over the base year form the tax levy for payment of the bonds. In many instances, the full faith and credit of the issuing municipality is

required for security. If not enhanced by the full faith and credit, it is preferable that the project be well under construction to minimize risk to the investor. In addition, without the enhancement, the pledged revenues required are likely to be well above debt service.

A Tax Increment Finance (TIF) District was previously established for the Campus Corner area in Norman, but does not have bonding authority and is no longer collecting taxes. A TIF District would need to be established for the CBD. Tax increment bonds might be used as a potential revenue source to help pay for parking improvements in the Campus Corner TIF District, in combination with other potential revenue sources, but the District's TIF would have to be repurposed to collect new taxes and to allow revenues to be used as a pledge against bonded indebtedness.

7.1.4 Parking Revenue Bonds

Under this form of financing, revenue generated by the enterprise would be pledged to secure the revenue bonds. The city would perform an investor-grade financial feasibility study to show irrefutable evidence that the proposed parking garage will generate sufficient parking revenue to provide a debt service coverage ratio in the range of 1.25 to 1.5 (ratio of projected annual revenues to annual debt service plus average annual O&M costs). For this type of financing, the entire net revenues produced by the city's parking system would likely need to be pledged.

Revenue bond financing has been used for over 100 years and has been used by Norman to fund utility and recreational improvements. The City of Norman's most recently-rated General Obligation bonds were rated A2 by Moody's Investor's Service, confirming their previous rating. The most recent General Obligation Bond issue (dated June 1, 2015), with a 20-year final maturity, was sold at a competitively bid True Interest Cost of 2.8435%. Bond market trends change constantly, but a G.O. Bond issuance in the current environment would be expected to be sold at or slightly below that rate.

Market interest rates for Revenue Bond issues vary more widely, depending on the quality (reliability) of the underlying revenue stream pledged for repayment of the bonds. The City has never marketed revenue bonds based on a parking facility's revenue stream. The City's most recent utility revenue bonds (secured by the revenue stream of the Norman Water and Wastewater Utilities, rated A1 by Moody's and dated March 10, 2015), a refunding issuance (re-financing of previously-issued bonds) with a final maturity of 5.7 years, was sold at a True Interest Cost of 2.13%. Note that the City's utility revenue bond ratings are negatively impacted by the City's Charter restriction against raising utility rates without a vote of the people.

We would expect that given current market conditions and a reasonably secure revenue stream to present to bond investors, a tax-exempt parking facility revenue bond could be marketed at a rate of around 3.25%. If the bonds were sold on a taxable basis (bond and tax counsel opinions would be required as to the public purposes of the facility to qualify for tax-exempt bond status), the interest rate would be closer to 4%.

As discussed above, the City would be unlikely to attain a high investment rating on the merits of projected garage parking revenue alone, given the absence of a history for generation of municipal parking system revenues. Bond insurance might be used to improve the bond rating, at additional cost.

7.2 Current Sources of Parking Revenue

The City currently receives revenue from parking meters, fines, and penalties. Parking meter revenue goes into the City's General Fund, and parking fines and penalties are collected by the Municipal Court. We recommend the City create a Parking Enterprise fund and implement a municipal parking program to operate the existing parking facilities and develop any new parking improvements. The funds from existing parking meters can be placed in this fund as well as parking fines and penalties. Parking and loading zone permit fees are other potential sources of revenue.

According to estimates provided by the City, the existing parking meters in Campus Corner and the CBD currently generate a net income of approximately $60,000 per year. Most of the existing on-street parking in the CBD is non-metered. Additional parking revenue could be generated by the installation of additional parking meters, increased parking meter rates, and increased fines for parking violations.

7.3 Pro Forma Analysis for Proposed Parking Developments

To illustrate the financial considerations for one or more parking developments, planning-level pro forma financial analyses were performed for the parking structures discussed in **Section 6**. The parking developments selected for pro forma analysis include the multilevel parking garage on the East Gray Street site in the CBD, as well as the multilevel parking garage for the University Boulevard site in the Campus Corner District. The analysis is based on numerous assumptions and estimates, which are discussed further in **Section 7.4**.

7.4 Basic Assumptions

It was assumed that the City would use long-term debt for financing the parking improvements. The following assumptions were made in the development of the pro forma financial analysis:

1. The City would establish a parking enterprise fund and use any surplus revenues (after paying operating and maintenance expenses) to support development of the parking structures.
2. The City would install on-street parking meters, or multi-space pay stations, in the CBD consistent with the parking meter plan provided in **Section 8** of this report.
3. The City would use bonds secured by parking revenues and with private credit enhancement in the form of municipal bond insurance or a letter of credit.
4. The interest rate on the tax-exempt bonds is conservatively estimated to be 2.8435 percent although current market rates are lower.
5. The payback period on the bonds would be 20 to 25 years.
6. The construction period is assumed to be one year with operating revenues and expenditures beginning the second year for the entire twelve-month period.
7. Site acquisition costs would not differ significantly from the average market values assumed in the pro forma analysis.
8. Construction costs for a multilevel parking structure would average $25,000 per parking space, including civil/site construction, landscaping, and normal pedestrian amenities.
9. Construction costs for a surface parking lot would average $16 per square feet including civil/site work, landscaping, and normal pedestrian amenities.
10. Land costs, architectural & engineering design, construction engineering and management fees, builder's risk insurance, and legal/financial fees would be in addition to the construction costs.
11. The CBD parking structure would include joint development space for commercial use on the ground level of the garage with a lease rate of $12 per square foot. The potential for joint development is the combination of a parking structure with other public or private development for retail, office, multifamily residential, or other uses. The proposed sites are conducive to potential joint development.
12. The Campus Corner parking structure would include joint development space for commercial use on the ground level of the garage with a lease rate of $16 per square foot. The potential for joint development is the combination of a parking structure with other public or private development for retail, office, multifamily residential, or other uses. The proposed sites are conducive to potential joint development.
13. No competing parking facilities would be developed to serve the same market demands intended to be served by the proposed parking facility.

14. Continued revitalization and growth in employment and retail activity will occur in the CBD and Campus Corner Districts. There will be no downturn in the economy of Norman or the State of Oklahoma that would detrimentally effect future parking demands.

The analysis assumes that market characteristics of the proposed parking facilities will be similar to the existing conditions observed in the parking inventory and utilization survey. The estimated parking development costs are based on average costs for similar facilities. Projected operating and maintenance costs for the new facilities are based on costs for similar facilities experienced in other communities and include costs for personnel, contractual services, commodities, and other costs including allocated expenses and overhead.

7.5 Pro Forma Analysis for East Gray Street Parking Structure

The proposed parking development for the East Gray Street Structure is a four-level, 460-space parking structure. Concept plans are provided in **Section 6**. The pro forma analysis includes projections for the operating and maintenance expenses, operating revenue, and development costs.

7.5.1 Operating and Maintenance Costs – East Gray Street Structure

The projected pro forma operating and maintenance expenses are shown in **Table 7-1**. Operating and maintenance (O&M) costs cover such ongoing expenses as personnel, utilities, custodial services, maintenance, administration and management, repairs, and other related items. Allocated expenses and overhead include supervision, maintenance, and administrative support services provided by the City. The estimated total costs and average cost per space are shown for each year.

For planning purposes, it was assumed that annual O&M costs would total approximately $385 per space for a new parking structure and increase at varying percentages over the 25-year life of the bonds. The average annual O&M costs for the East Gray Street parking garage would be approximately $215,508 per year.

7.5.2 Operating Revenue – East Gray Street Structure

To determine the city's ability to finance a new parking development, several parking revenue sources were investigated:

- Estimated annual surplus from the proposed City parking enterprise fund including installation of additional parking meters downtown and increased parking meter rate;
- Sale of parking permits for the new structure, based on proposed monthly parking permit fees;
- Parking revenues for daily and hourly parking in the proposed parking facility; and
- Revenue from lease of joint development space on street level of the new parking structure for retail, office, or other uses.

The projected revenues for the proposed 460-space parking garage are shown in **Table 7-2**. The monthly parking, daily parking, and hourly parking revenues are projected based on the recommended parking rates. Monthly parking permit cost is assumed to be $40 per month and $60 for a reserved parking space. No oversell is assumed for parking permits. Daily parking revenue is based on a $2.00 per hour rate with an $8.00 maximum daily fee. Hourly parking is also $2.00 per hour and assumes a turnover rate of three parkers per space and an average parking duration of two hours. The revenue projections assume that approximately one-third of the spaces will be used for monthly parking, one-third for daily parking, and one-third for hourly parking. Based on the utilization survey, an average occupancy rate of 75 percent is assumed.

Table 7-1: Operating and Maintenance Costs - East Gray St. Structure

Year	Operating & Maintenance Costs	Total O&M Costs Per Space
Increase:	2.0%	
Base	$177,100	$385.00
2016	$0	$0.00
2017	$177,100	$492.65
2018	$180,642	$500.35
2019	$184,255	$508.20
2020	$187,940	$516.21
2021	$191,699	$551.29
2022	$195,533	$559.63
2023	$199,443	$568.13
2024	$203,432	$576.80
2025	$207,501	$585.65
2026	$211,651	$621.58
2027	$215,884	$630.78
2028	$220,202	$640.17
2029	$224,606	$649.74
2030	$229,098	$659.51
2031	$233,680	$701.76
2032	$238,353	$711.92
2033	$243,120	$722.28
2034	$247,983	$732.85
2035	$252,942	$743.64
2036	$258,001	$793.39
2037	$263,161	$804.60
2038	$268,425	$816.05
2039	$273,793	$827.72
2040	$279,269	$839.62
Total	$5,387,712	
Average Annual	$215,508	$630

In addition to the parking revenues produced by the proposed parking garage, the recommended installation of parking meters in the CBD is projected to provide net income of approximately $145,000 per year beginning in the third year of operation. Ultimately, this additional parking meter revenue was not included in the financial analysis presented in this Section, but it could be used, in whole or in part, to assist in funding construction of the East Gray Street Parking Garage and/or its associated annual expenses.

Increases in parking rates are projected every five years beginning in 2021. Lease space of 30,000 square feet in the parking garage is projected to provide additional revenues of $306,000 based on a $12 per square foot rental rate and 85 percent occupancy. The lease space rental rate is also projected to increase every five years beginning in 2021.

Table 7-2: Operating Revenue - East Gray St. Structure

Year	Percent Fee Increase	Total Revenues	Average Parking Revenue Per Space
Base		$990,336	$2,153
2016	0%	$0	$0
2017	0%	$990,336	$2,153
2018	0%	$990,336	$2,153
2019	0%	$990,336	$2,153
2020	0%	$990,336	$2,153
2021	25%	$1,237,920	$2,691
2022	0%	$1,237,920	$2,691
2023	0%	$1,237,920	$2,691
2024	0%	$1,237,920	$2,691
2025	0%	$1,237,920	$2,691
2026	20%	$1,485,504	$3,229
2027	0%	$1,485,504	$3,229
2028	0%	$1,485,504	$3,229
2029	0%	$1,485,504	$3,229
2030	0%	$1,485,504	$3,229
2031	20%	$1,782,605	$3,875
2032	0%	$1,782,605	$3,875
2033	0%	$1,782,605	$3,875
2034	0%	$1,782,605	$3,875
2035	0%	$1,782,605	$3,875
2036	20%	$2,139,126	$4,650
2037	0%	$2,139,126	$4,650
2038	0%	$2,139,126	$4,650
2039	0%	$2,139,126	$4,650
2040	0%	$2,139,126	$4,650
Totals		$37,187,117	
Average Annual		$1,487,485	
Average Annual Revenue Per Space		$3,233.66	

7.5.3 Development Costs – East Gray Street Structure

Estimated development costs for the parking garage on East Gray St. are shown in **Table 7-3**. Total project costs are estimated at $19,822,535 for the parking garage. The two categories of project costs include development costs and finance costs.

Development cost includes land cost and demolition, construction, design, contingencies, and construction supervision. The parking garage construction cost is estimated to be $25,000 per parking space for 460 spaces or $11,500,000. Estimated cost for constructing the lease space (shell space) included in the structure is $110 per square foot for 30,000 square feet or $3,300,000. The design cost is estimated to be $690,000. Contingencies are estimated at 10 percent of construction cost or $1,480,000. Construction supervision is estimated at 3 percent of construction cost or $444,000. Total development cost is $17,471,500.

Finance cost includes debt service reserve, capitalized interest, bond discount, legal fees, and consultant fees. The annual debt service is estimated assuming equal payments at an interest rate of 2.8435 percent per annum for a 25-year term. The bond issue amount includes capitalized interest costs of $563,654 for the first year while the facility would be constructed. Full payments of principal and interest would begin when the structure was able to generate parking revenue and continue for the remaining 24 years. Interest earned on bond funds during construction is subtracted from the other finance costs as a credit of $152,386.

The debt service reserve is estimated at one year's principal and interest payment of $1,118,607. Bond discount is estimated to be 2 percent of the development costs. Legal fees and consultant fees are estimated to amount to 2.7 percent of the development costs or $471,731. The total finance cost is estimated to be $2,351,035.

7.5.4 Financial Summary – East Gray Street Structure

The economic viability of a parking development is assessed by comparing the net annual operating revenue to the annual O&M cost and annual debt service, which is referred to as a coverage test. For a positive assessment of revenue bond financing, a feasible program will provide average annual net operating income sufficient to provide a coverage ratio in the range of 1.25 to 1.5 times the average annual cost for O&M and debt service payments.

Annual costs for the new parking structure include both the annual payments to retire the debt and the annual O&M costs. As indicated in **Table 7-3**, the annual debt service for the East Gray Street Structure is estimated to be $1,118,607. Combining debt service with average O&M costs of $215,508 per year, the total average annual cost to the City would be approximately $1,334,115. Compared to average annual operating revenues of $1,487,485 the coverage ratio is calculated to be 1.14 times coverage. The estimated annual operating revenue is more than the annual debt service and operating costs for the proposed parking structure. The average annual shortfall would be $182,213 to meet a feasibility coverage test of 1.30.

A detailed 25-year analysis of the estimated annual costs and revenues for the proposed parking development program at the East Gray Street Structure is contained in **Table 7-4**. The summary shows the net operating income per year based on the previously stated information and assumptions. Over the 25-year term, the projected total operating costs amount to $5,387,712 and the operating revenues are $37,187,712. This represents net operating income (NOI) of $31,799,405. Subtracting the annual debt service payments from the NOI yields a total surplus of $3,834,230. The annual NOI after debt service remains negative until Year 11 (2026). The cumulative NOI after debt service remains negative until Year 20 (2035).

Additional sources of funding would be needed to finance, build, and operate the proposed parking garage. The parking garage would need a series of further parking rate increases for the project to meet a test coverage ratio of 1.30 as a stand-alone project. As shown in **Table 7-4**, the needed annual rate increases vary from 65 percent for the initial period to 13 percent in Year 15 (2030). Beginning in Year 16 (2031), the facility is projected to meet the 1.30 test coverage ratio.

As an alternative to increasing the proposed parking rates, the City might seek to utilize other potential sources of funds such as economic development funding, capital bond funds, special assessment district revenues, tax increment district revenues, or other potential funding sources.

Table 7-3: Pro Forma Cost/Revenue Analysis - East Gray St. Structure

			Per Space		Overall	Percent of Construction Costs
Development Cost:						
Land Acquisition & Demolition			$0		$0	
Construction Cost -			$25,000		$11,500,000	
Joint Development Space	30,000	Sq Ft	$110	per Sq Ft	$3,300,000	
Design Cost -					$690,000	6.0%
Contingencies -					$1,480,000	10.0%
Builder's Risk -					$57,500	0.5%
Construction Administration and Management					$444,000	3.0%
Total Development Costs			$38,064		$17,471,500	
Finance Costs:						
Debt Service Reserve (1 yr P+I)			$2,432		$1,118,607	
Capitalized Interest (2.84% per year for 1 year)			$1,225		$563,654	
Bond Discount (% of Development Cost)			$760		$349,430	2.0%
Costs of Issuance (estimated)			$1,026		$471,731	2.7%
Interest Earned During Construction (@2.25% per year)			($331)		($152,386)	
Total Finance Costs			$5,111		$2,351,035	
Total Project Costs			**$43,175**		**$19,822,535**	
Annual Debt Service (Principal + Interest):						
25 Years @	2.8435%	Interest	$2,432	per year	$1,118,607	per year
Average Annual Costs of Operations and Maintenance:			$468	per year	$215,508	per year
AVERAGE ANNUAL COSTS:						
25 Year Bond			$2,900	per year	$1,334,115	per year
Average Operating Revenues			$3,234		$1,487,485	per year
Coverage Ratio:						
Average Revenue - Average O&M Cost			$1,487,485 - $215,508			
Annual Debt Service		=	$1,118,607	=	1.14	Times Coverage

Table 7-4: Pro Forma Financial Summary - East Gray St. Structure

Year	Operating and Maintenance Costs	Operating Revenues ***	NOI *	Required Coverage Amount **	Coverage Ratio	NOI * After Debt Service	Cumulative NOI* After Debt Service	Rate Increase Needed for Reqd. Coverage **
2016	$0	$0	$0	$0	0.00	($1,118,607)	($1,118,607)	N / A
2017	$177,100	$990,336	$813,236	$1,454,189	0.73	($305,371)	($1,423,978)	65%
2018	$180,642	$990,336	$809,694	$1,454,189	0.72	($308,913)	($1,732,891)	65%
2019	$184,255	$990,336	$806,081	$1,454,189	0.72	($312,526)	($2,045,417)	65%
2020	$187,940	$990,336	$802,396	$1,454,189	0.72	($316,211)	($2,361,628)	66%
2021	$191,699	$1,237,920	$1,046,221	$1,454,189	0.94	($72,386)	($2,434,014)	33%
2022	$195,533	$1,237,920	$1,042,387	$1,454,189	0.93	($76,220)	($2,510,233)	33%
2023	$199,443	$1,237,920	$1,038,477	$1,454,189	0.93	($80,130)	($2,590,364)	34%
2024	$203,432	$1,237,920	$1,034,488	$1,454,189	0.92	($84,119)	($2,674,483)	34%
2025	$207,501	$1,237,920	$1,030,419	$1,454,189	0.92	($88,188)	($2,762,671)	34%
2026	$211,651	$1,485,504	$1,273,853	$1,454,189	1.14	$155,246	($2,607,425)	12%
2027	$215,884	$1,485,504	$1,269,620	$1,454,189	1.14	$151,013	($2,456,412)	12%
2028	$220,202	$1,485,504	$1,265,302	$1,454,189	1.13	$146,695	($2,309,716)	13%
2029	$224,606	$1,485,504	$1,260,898	$1,454,189	1.13	$142,291	($2,167,425)	13%
2030	$229,098	$1,485,504	$1,256,406	$1,454,189	1.12	$137,799	($2,029,625)	13%
2031	$233,680	$1,782,605	$1,548,925	$1,454,189	1.38	$430,318	($1,599,307)	0%
2032	$238,353	$1,782,605	$1,544,252	$1,454,189	1.38	$425,645	($1,173,663)	0%
2033	$243,120	$1,782,605	$1,539,484	$1,454,189	1.38	$420,877	($752,785)	0%
2034	$247,983	$1,782,605	$1,534,622	$1,454,189	1.37	$416,015	($336,770)	0%
2035	$252,942	$1,782,605	$1,529,662	$1,454,189	1.37	$411,055	$74,285	0%
2036	$258,001	$2,139,126	$1,881,125	$1,454,189	1.68	$762,518	$836,803	0%
2037	$263,161	$2,139,126	$1,875,964	$1,454,189	1.68	$757,357	$1,594,160	0%
2038	$268,425	$2,139,126	$1,870,701	$1,454,189	1.67	$752,094	$2,346,254	0%
2039	$273,793	$2,139,126	$1,865,333	$1,454,189	1.67	$746,726	$3,092,980	0%
2040	$279,269	$2,139,126	$1,859,857	$1,454,189	1.66	$741,250	$3,834,230	0%
Totals	$5,387,712	$37,187,117	$31,799,405			$3,834,230		

* Note: NOI = Net-Operating Income

** Note: Required Debt Service Coverage of 1.30 times annual debt service.

*** Note: Operating Revenues 25% in Year 6 and 20% every 5 years thereafter.

7.6 Pro Forma Analysis for University Boulevard Parking Structure

The proposed parking development for the University Boulevard Structure consists of a three-level, 950-space parking structure and a 150 space surface lot. Concept plans are provided in **Section 6**. The pro forma analysis includes projections for the operating and maintenance expenses, operating revenue, and development costs.

7.6.1 Operating and Maintenance Costs – University Boulevard Structure

The projected pro forma operating and maintenance expenses are shown in **Table 7-5**. Operating and maintenance (O&M) costs cover such ongoing expenses as personnel, utilities, custodial services, maintenance, administration and management, repairs, and other related items. Allocated expenses and overhead include supervision, maintenance, and administrative support services provided by the City. The estimated total costs and average cost per space are shown for each year.

For planning purposes, it was assumed that annual O&M costs would total approximately $385 per space for a new parking structure and increase at 2 percent each year over the 25-year life of the bonds. The average annual O&M costs for the University Boulevard Structure would be approximately $515,346 per year.

Table 7-5: Operating and Maintenance Costs - University Blvd. Structure

Year	Operating & Maintenance Costs	Total O&M Costs Per Space
Increase:	2.0%	
Base	$423,500	$385.00
2016	$0	$0.00
2017	$423,500	$385.00
2018	$431,970	$392.70
2019	$440,609	$400.55
2020	$449,422	$408.57
2021	$458,410	$416.74
2022	$467,578	$425.07
2023	$476,930	$433.57
2024	$486,468	$442.24
2025	$496,198	$451.09
2026	$506,122	$460.11
2027	$516,244	$469.31
2028	$526,569	$478.70
2029	$537,100	$488.27
2030	$547,842	$498.04
2031	$558,799	$508.00
2032	$569,975	$518.16
2033	$581,375	$528.52
2034	$593,002	$539.09
2035	$604,862	$549.87
2036	$616,960	$560.87
2037	$629,299	$572.09
2038	$641,885	$583.53
2039	$654,722	$595.20
2040	$667,817	$607.11
Total	$12,883,659	
Average Annual	$515,346	$468.50

7.6.2 Operating Revenue – University Boulevard Structure

The projected revenues for the proposed 1,100-space parking garage are shown in **Table 7-6**. The monthly parking, daily parking, and hourly parking revenues are projected based on the recommended parking rates. Monthly parking permit cost is assumed to be $40 per month and $60 for a reserved parking space. No oversell is assumed for parking permits. Daily parking revenue is based on a $2.00 per hour rate with an $8.00 maximum daily fee. Hourly parking is also $2.00 per hour and assumes a turnover rate of three parkers per space and average parking duration of two hours. The revenue projections assume that approximately one-third of the spaces will be used for monthly parking, one-third for daily parking, and one-third for hourly parking. Based on the utilization survey, an average occupancy rate of 75 percent is assumed.

Increases in parking rates are projected every five years beginning in 2021. Lease space of 24,000 square feet in the parking garage is projected to provide additional revenue of $326,400 based on a $16 per square foot rental rate and 85 percent occupancy. The lease space rental rate is also projected to increase every five years beginning in 2021.

7.6.3 Development Costs – University Boulevard Structure

Estimated development costs for the University Boulevard Structure are shown in **Table 7-7**. Total project costs are estimated at $37,281,547 for the parking garage. The two categories of project costs are development costs and finance costs.

Development cost includes land cost and demolition, construction, design, contingencies, and construction supervision. The parking facilities construction cost is estimated to be $25,000 per parking space for the 950 space structure and $5,000 per space for each of the 150 surface lot spaces or $24,500,000, excluding the lease space. Estimated cost for constructing the lease space (shell space) included in the structure is $110 per square foot for 24,000 square feet or $2,640,000. The design cost is estimated to be $1,628,400. Contingencies are estimated at 10 percent of construction cost or $2,714,000. Construction administration is estimated at 3 percent of construction cost or $814,200. Total development cost is $32,859,800.

Finance cost includes debt service reserve, capitalized interest, bond discount, legal fees, and consultant fees. The annual debt service is estimated assuming equal payments at an interest rate of 2.8435 percent per annum for a 25-year term. The bond issue amount includes capitalized interest costs of $1,060,101 for the first year while the facility would be constructed. Full payments of principal and interest would begin when the structure was able to generate parking revenue and continue for the remaining 24 years. Interest earned on bond funds during construction is subtracted from the other finance costs as a credit of $286,603.

The debt service reserve is estimated at one year's principal and interest payment of $2,103,838. Bond discount is estimated to be 2 percent of the development costs. Legal fees and consultant fees are estimated to amount to 2.7 percent of the development costs or $887,215. The total finance cost is estimated to be $4,421,747.

Table 7-6: Operating Revenue - University Blvd. Structure

Year	Percent Increase	Total Parking and Lease Space Revenues	Average Revenue Per Space
Base		$1,790,460	$1,628
2016	0%	$0	$0
2017	0%	$1,790,460	$1,628
2018	0%	$1,790,460	$1,628
2019	0%	$1,790,460	$1,628
2020	0%	$1,790,460	$1,628
2021	25%	$2,238,075	$2,035
2022	0%	$2,238,075	$2,035
2023	0%	$2,238,075	$2,035
2024	0%	$2,238,075	$2,035
2025	0%	$2,238,075	$2,035
2026	20%	$2,685,690	$2,442
2027	0%	$2,685,690	$2,442
2028	0%	$2,685,690	$2,442
2029	0%	$2,685,690	$2,442
2030	0%	$2,685,690	$2,442
2031	20%	$3,222,828	$2,930
2032	0%	$3,222,828	$2,930
2033	0%	$3,222,828	$2,930
2034	0%	$3,222,828	$2,930
2035	0%	$3,222,828	$2,930
2036	20%	$3,867,394	$3,516
2037	0%	$3,867,394	$3,516
2038	0%	$3,867,394	$3,516
2039	0%	$3,867,394	$3,516
2040	0%	$3,867,394	$3,516
Totals		$67,231,773	
Avg. Annual Revenue		$2,689,271	
Average Annual Revenue Per Space		$2,444.79	

Table 7-7: Pro Forma Cost/Revenue Analysis - University Blvd. Structure

			Per Space		Overall	Percent of Construction Costs
Development Cost:						
Land Cost and Demolition					$427,500	
Construction Cost -						
Parking Str. Const. Cost -	950	spaces	$25,000		$23,750,000	
Surface Lot Const. Cost -	150	spaces	$5,000		$750,000	
Joint Development Space -	24,000	Sq Ft	$110	per Sq Ft	$2,640,000	
Design Cost -					$1,628,400	6.0%
Contingencies -					$2,714,000	10.0%
Builder's Risk -			$123.36		$135,700	0.5%
Construction Administration and Management			$740.18		$814,200	3.0%
Total Development Costs			$29,872.55		$32,859,800	
Finance Costs:						
Debt Service Reserve (1 yr P+I)			$1,912.58		$2,103,838	
Capitalized Interest (2.84% per year for 1 year)			$963.73		$1,060,101	
Bond Discount (% of Development Cost)			$597.45		$657,196	2.0%
Costs of Issuance (estimated)			$806.56		$887,215	2.7%
Interest Earned During Construction (@2.25% per year)			($260.55)		($286,603)	
Total Finance Costs			$3,845.00		$4,421,747	
Total Project Costs			**$33,892.32**		**$37,281,547**	
Annual Debt Service (Principal + Interest):						
25 Years @ 2.8435% Interest			$1,912.58	per year	$2,103,838	per year
Average Annual Costs of Operations and Maintenance:			$468.50		$515,346	
AVERAGE ANNUAL COSTS:						
25 Year Bond			$2,381.08	per year	$2,619,184	per year
Average Operating Revenues			$2,444.79	per year	$2,689,271	per year
Coverage Ratio:						
Average Revenue - AverageO&M Cost / Annual Debt Service			$2,689,271 - $515,346 / $2,103,838		1.03	Times Coverage

7.6.4 Financial Summary – University Boulevard Structure

The economic viability of a parking development is assessed by comparing the net annual operating revenue to the annual O&M cost and annual debt service, which is referred to as a coverage test. For a positive assessment of revenue bond financing, a feasible plan will provide average annual net operating income sufficient to provide a coverage ratio in the range of 1.25 to 1.5 times the average annual cost for O&M and debt service payments.

Annual costs for the new parking structure include both the annual payments to retire the debt and the annual O&M costs. As indicated in **Table 7-7**, the annual debt service for the University Boulevard Structure is estimated to be $2,103,838. Combining debt service with average O&M costs of $515,346 per year, the total average annual cost to the city would be approximately $2,619,184. Compared to average annual operating revenues of $2,689,271, the coverage ratio is calculated to be 1.03 times coverage. The estimated operating revenue is slightly more than the annual debt service and operating costs for the proposed parking structure. The average annual shortfall would be $561,065 to meet a feasibility coverage test of 1.30.

A detailed 25-year analysis of the estimated annual costs and revenues for the proposed parking development program at the University Boulevard Structure is contained in the **Table 7-8**. The summary shows the net operating income per year based on the previously stated information and assumptions. Over the 25-year term, the projected total operating and maintenance costs amount to $12,883,659 and the operating revenues are $67,231,773. This represents a 25-year net operating income (NOI) of $54,348,114. Subtracting the annual debt service payments from the NOI yields a total surplus of just $1,752,164. The annual NOI after debt service remains negative until Year 11 (2026). The cumulative NOI after debt service remains negative until Year 24 (2039).

Additional sources of funding would be needed to construct, finance, and operate the proposed parking improvements at this site. The parking facility would need a series of larger parking rate increases for the project to meet a test coverage ratio of 1.30 as a stand-alone project. As shown in **Table 7-8**, the needed annual rate increases vary from 76 percent for the initial period to 4 percent in Year 20 (2035). Beginning in Year 21 (2036), the facility is projected to meet the 1.30 test coverage ratio.

As an alternative to increasing the proposed parking rates, the City might seek to utilize other potential sources of funds such as economic development funding, capital bond funds, special assessment district revenues, tax increment district revenues, or other potential funding sources.

Table 7-8: Pro Forma Financial Summary - University Blvd. Structure

Year	Operating and Maintenance Costs	Operating Revenues ***	NOI *	Required Coverage Amount **	Coverage Ratio	NOI * After Debt Service	Cumulative NOI * After Debt Service	Rate Increase Needed for Reqd. Coverage **
2016	$0	$0	$0	$2,734,989	0.00	($2,103,838)	($2,103,838)	N/A
2017	$423,500	$1,790,460	$1,366,960	$2,734,989	0.65	($736,878)	($2,840,716)	76%
2018	$431,970	$1,790,460	$1,358,490	$2,734,989	0.65	($745,348)	($3,586,064)	77%
2019	$440,609	$1,790,460	$1,349,851	$2,734,989	0.64	($753,987)	($4,340,051)	77%
2020	$449,422	$1,790,460	$1,341,038	$2,734,989	0.64	($762,800)	($5,102,851)	78%
2021	$458,410	$2,238,075	$1,779,665	$2,734,989	0.85	($324,173)	($5,427,024)	43%
2022	$467,578	$2,238,075	$1,770,497	$2,734,989	0.84	($333,341)	($5,760,365)	43%
2023	$476,930	$2,238,075	$1,761,145	$2,734,989	0.84	($342,693)	($6,103,058)	44%
2024	$486,468	$2,238,075	$1,751,607	$2,734,989	0.83	($352,231)	($6,455,289)	44%
2025	$496,198	$2,238,075	$1,741,877	$2,734,989	0.83	($361,961)	($6,817,250)	44%
2026	$506,122	$2,685,690	$2,179,568	$2,734,989	1.04	$75,730	($6,741,520)	21%
2027	$516,244	$2,685,690	$2,169,446	$2,734,989	1.03	$65,608	($6,675,912)	21%
2028	$526,569	$2,685,690	$2,159,121	$2,734,989	1.03	$55,283	($6,620,629)	21%
2029	$537,100	$2,685,690	$2,148,590	$2,734,989	1.02	$44,752	($6,575,877)	22%
2030	$547,842	$2,685,690	$2,137,848	$2,734,989	1.02	$34,010	($6,541,868)	22%
2031	$558,799	$3,222,828	$2,664,029	$2,734,989	1.27	$560,191	($5,981,677)	2%
2032	$569,975	$3,222,828	$2,652,853	$2,734,989	1.26	$549,015	($5,432,662)	3%
2033	$581,375	$3,222,828	$2,641,453	$2,734,989	1.26	$537,615	($4,895,047)	3%
2034	$593,002	$3,222,828	$2,629,826	$2,734,989	1.25	$525,988	($4,369,059)	3%
2035	$604,862	$3,222,828	$2,617,966	$2,734,989	1.24	$514,128	($3,854,932)	4%
2036	$616,960	$3,867,394	$3,250,434	$2,734,989	1.55	$1,146,596	($2,708,336)	0%
2037	$629,299	$3,867,394	$3,238,095	$2,734,989	1.54	$1,134,257	($1,574,079)	0%
2038	$641,885	$3,867,394	$3,225,509	$2,734,989	1.53	$1,121,671	($452,408)	0%
2039	$654,722	$3,867,394	$3,212,671	$2,734,989	1.53	$1,108,833	$656,425	0%
2040	$667,817	$3,867,394	$3,199,577	$2,734,989	1.52	$1,095,739	$1,752,164	0%
Totals	$12,883,659	$67,231,773	$54,348,114			$1,752,164		

* Note: NOI = Net-Operating Income

** Note: Required Debt Service Coverage of 1.30 times annual debt service.

*** Note: Operating Revenues increase 25% in year 6 and 20% every 5 years thereafter.

7.7 Sensitivity Analysis of Cost Assumptions

The cost assumptions utilized in this Study are purposefully conservative due to the preliminary nature of the basis for these costs, the lack of a detailed design being available for the proposed facility, and the lack of a definitive timeline having been set for design and construction. Actual costs for parking improvements at the East Gray St. site and at the University Blvd. site may be closer to $20,000 per space depending on the efficiency of the design, the economy of all façade materials that are specified, and the year that the improvements are constructed. In order to gain a better appreciation for the sensitivity of the total project costs and the anticipated coverage ratios as they relate to key construction cost assumptions, two less conservative scenarios were evaluated for both parking improvement sites as detailed below. These alternative scenarios were evaluated for information only and should not be used or relied upon for budgeting/planning purposes going forward.

7.7.1 East Gray St. Structure Sensitivity Analysis - $20,000 per space

If the East Gray St. Structure were able to be constructed at $20,000 per space instead of $25,000 per space, the total development cost would be reduced to approximately $14,723,000 (down from $17,451,000). The total project costs would be $16,704,186 (down from $19,822,535), and the coverage ratio would improve to 1.35.

7.7.2 East Gray St. Structure Sensitivity Analysis - $20,000 per space and no contingency

If the entire 10% contingency were removed from the estimated construction costs and the structure were able to be constructed at $20,000 per space, the total development cost would be reduced to $13,473,000 (down from $17,451,000 in **Table 7-3**). The total project costs would be $15,285,981 (down from $19,822,535), and the coverage ratio would improve to 1.47.

7.7.3 University Blvd. Structure Sensitivity Analysis - $20,000 per space

If the University Blvd. Structure were able to be constructed at $20,000 per space instead of $25,000 per space, the total development cost would be reduced to approximately $27,183,550 (down from $32,859,800). The total project costs would be $30,841,477 (down from $37,281,547), and the coverage ratio would improve to 1.25.

7.7.4 University Blvd. Structure Sensitivity Analysis - $20,000 per space and no contingency

If the entire 10% contingency were removed from the estimated construction costs and the structure were able to be constructed at $20,000 per space, the total development cost would be reduced to $24,944,550 (down from $32,859,800 in **Table 7-7**). The total project costs would be $28,301,188 (down from $37,281,547), and the coverage ratio would improve to 1.36.

7.8 Disclaimer Statement for Pro Forma Financial Analysis of Proposed Parking Development

The projections included in this planning level pro forma analysis were prepared based on information and assumptions set forth in various sections of this study document. The projections are based on assumptions concerning future events and circumstances. These assumptions are significant to the projections and are key factors on which the results depend. Although the information and assumptions are considered to constitute a reasonable basis for preparation of the projections, the achievement of any financial projection may be affected by fluctuating economic conditions and is dependent upon the occurrence of events that cannot be assured. Therefore, actual results may vary from the projections and such variation could be material. The terms of engagement do not obligate the preparer to update this study or to revise the prospective results because of events and transactions that may occur subsequent to the date the document is submitted.

8. Parking Management

To solve the parking problems in the CBD and in Campus Corner, parking supply increases described in **Sections 5** through **7** provide only part of the solution. Parking management measures should be implemented as well. Used in combination with other improvements, parking demand reduction strategies could result in dramatic parking improvements within the City of Norman. A number of parking management measures are worth consideration because most of them can be implemented quickly and with little cost (particularly relative to new lots/structures). One challenge with most parking management measures is that they require careful planning and often significant time resources from municipal staff.

Parking management is defined as a set of programs and/or regulations that affect the supply, demand, location, and pricing of parking resources.[1] Parking management can lead to parking systems that support economic vitality and make districts more livable. Conversely, poor parking management can hinder development, jeopardize neighborhood livability, squander public assets, and make it more difficult to achieve aspirational visions such as Norman's Center City Vision. Parking management strategies should be carefully considered and developed to directly support the community's goals.

A comprehensive parking management program must be concerned with actions that address both parking supply and demand. Actions affecting parking demand include measures that influence the use of available parking, such as:

- Parking charges and fees;
- Parking regulations and restrictions;
- Parking enforcement and adjudication;
- Availability and convenience of transit;
- Marketing and public information programs; and
- Transportation Demand Management (TDM) measures that result in decreases of single occupant vehicle use.

Currently, the city parking code provides a good framework in its parking regulations and restrictions. The adoption of the proposed Center City form-based code would more fully address parking issues as they relate to redevelopment occurring in the CBD and Campus Corner. Similarly, parking enforcement in Norman appears to be effective, but could be improved with the planned additional staff and expanded enforcement hours. While it is recommended that overtime parking violations be enforced in accordance with the law, overtime parking is an indication that long-term parking may be in short supply.

Some employers in the CBD and Campus Corner are proactive in encouraging employees to use alternative modes of transportation. While the City can encourage business support of parking demand management measures, the employers and business owners will have a critical role to play in the implementation and ultimate success of many of the measures. The Chamber of Commerce, the Norman Downtowners Association, the Campus Corner Merchants Association, and other organizations/individuals can work toward effectively building cooperation among property owners and businesses in support of key parking management measures.

The following parking management strategies are recommended to curb the growth of future parking demands and to make more efficient use of existing supply:

[1] Todd Litman, *Parking Management Best Practices*, 2006.

- Establish and fund a parking authority to better address ongoing parking needs and demand management in the CBD and Campus Corner.
- Increase shared parking in both districts to put parking resources to better use and to begin reducing the large amount of surface parking that is required when each business owner has their own reserved and isolated parking supplies that sit empty during off-peak hours.
- Manage on-street parking supply.
- Neighborhood Parking Validation Program.
- Continue Smart Growth Policy Implementation.
- Implement a Parking Meter Replacement Plan.
- Adopt a flexible approach to enforcement.
- Develop Parking Overflow Plans.
- Establish Procedural Guidelines for Public-Private Partnerships (PPPs).
- Revise the current Loading Zone Regulations.
- Install parking meters in the CBD to increase availability and encourage turnover of short-term parking while also generating a revenue stream for public parking improvements.
- Establish a parking validation program for shoppers and business patrons.
- Increase both parking fees and fines to make driving/parking for long-term use by employees less desirable as compared to alternative modes of transportation.
- Increase public transit service to make it more convenient by providing shorter headways, flexibility in accommodating bicycles, etc.

Each of these options is discussed further in the following sections.

8.1 Establish and Fund a Parking Authority

Parking authorities are beneficial because they are dedicated to addressing parking needs and confronting parking problems. An authority should be formed to handle the ongoing management of parking assets and address future parking issues that will arise, effectively removing these responsibilities from the public works department allowing them to remain focused on their other important responsibilities.

The authority would have the following responsibilities:

- Coordinate parking planning for CBD and Campus Corner.
- Establish and operate public parking facilities.
- Maintain an inventory of parking facilities.
- Perform regular utilization surveys.
- Help finance parking improvements.
- Coordinate shared parking implementation plans.
- Produce and distribute information for the overall benefit of the public.
- Monitor and address parking problems.

An authority could be created as a Trust, governed by a Board of Trustees appointed by the City and/or County. Creation of a trust could be advantageous if the City and County want to jointly develop and operate public parking to serve Downtown and Campus Corner.

The authority could be funded, in whole or in part, by dedicated revenues collected from parking meter fees and parking fines collected. Given the location of the County Courthouse and Administration Buildings in the CBD and the close proximity of the OU campus to the Campus Corner district, the City is encouraged to engage with both Cleveland County and the University of Oklahoma regarding the formation of a parking authority. If a

mutually beneficial agreement can be arranged with one or both of these parties, the parking management approach in both the CBD and Campus Corner will be more effective.

Creation of a multi-jurisdictional parking authority would have several potential benefits for the City of Norman, Cleveland County, and the University of Oklahoma. Potential benefits include:

1. Shared cooperative visioning, planning, policy-making, O&M, and implementation to address parking and transportation needs in Norman's core.
2. Improved quality of service to the public realized through fewer duplicative roles and responsibilities, providing economies of scale in common shared functions for parking management.
3. Cooperative planning, policy-making and decisions on where to make future parking improvements.
4. Reduced costs of infrastructure investments by sharing costs between agencies.
5. Reduced operating and maintenance cost for public parking facilities in the future.

A parking authority would manage public parking in Downtown Norman and Campus Corner, providing a system approach for funding and operating both on-street and off-street parking. System revenue would be utilized to support current operation and future parking improvements, with revenue from existing facilities able to support investment in needed future facilities.

8.2 Develop a Parking Management Plan

8.2.1 Increase Shared Parking in Both Districts

As noted previously, off-street parking restricted for private use makes up the majority of the existing supply. Much of the time, there is a large quantity of parking supply that goes unused depending on the uses that the private parking serves (e.g. office-related parking on nights and weekends). Increasing the supply of shared use parking must be a priority for both districts and has considerable potential to much more efficiently meet the parking demands of the district as a whole. Shared use parking agreements between/among existing businesses, churches, residential, and other developments should be encouraged and perhaps even incentivized to some degree. Clustered development should be encouraged in both districts so that shared parking supplies can be more effectively incorporated into the development's design or designed separately to serve the development's needs (perhaps through a PPP).

The City could require cross access agreements, or justification for not doing them, as part of the City's construction permit review process in the CBD and Campus Corner. This approach would be particularly appropriate where existing properties are adjacent to one another with both having separate parking lots and one of the properties is having minor to moderate building modifications done. The City, or the parking authority, could potentially provide incentive fund for property owner provided information indicating that a new shared parking arrangement has been made between/among owners or for the provision of shared parking by a private developer that is open for public use.

8.2.2 Manage On-Street Parking Supply

The City should install parking meters in the CBD to encourage turnover of short-term parking spaces and to make pay parking in public garages/lots more competitive with on-street parking. The competitiveness of the public parking facilities will be enhanced by allowing longer duration parking to occur in the off-street garages and lots and setting a consistent two-hour time restriction on on-street metered spaces. Adopting two-hour time restrictions across the board for on-street spaces with commercial frontage should reduce the confusion that is created by a mixture of one-hour and two-hour restrictions.

A “Parking Information Guide” could be developed for citizens and community groups to assist them in managing their neighborhoods/commercial districts.

8.2.3 Neighborhood Parking Validation Program in Campus Corner

A Neighborhood Parking Validation Program may be beneficial in a number of areas across the City, but it would immediately benefit the neighborhoods in and adjacent to Campus Corner. Such a program would limit the use of on-street parking in residential neighborhoods by commuters and non-residents. The success of this program is dependent on the development of coalitions and citizen involvement and would not be easy to implement or manage. The program should be carefully thought out prior to attempting implementation.

Important features include:

- Development of processes and eligibility criteria for residential parking permit areas.
- Use of signs and possibly pavement markings to indicate residential parking permit areas.
- Selection of restrictions/prohibitions (including times of day and/or days).
- Establishing the number of permits allowed per household.
- Setting the annual cost of permits.
- Consideration of residences with no off-street parking.
- Evaluation of the potential need for short-term (less than a day or weekly/monthly) parking versus long-term parking (annual) permits.
- Accommodation of service visitors (repairmen, utility providers, etc.).
- Accommodation for special events (weddings, funerals, etc.).
- Development of permit application and verification procedures.
- Enforcement including fines and penalties.
- Periodic audits of residential permit areas.
- Development of a process and criteria for withdrawal of designation of residential parking permit areas.

8.2.4 Continued Smart Growth Policy Implementation

The Center City Vision and the 2014 Norman Comprehensive Transportation Plan both address several smart growth principles. Generally, “smart growth” describes development that is:

- Higher density;
- Clustered around activity centers;
- Promotes infill development;
- Promotes mixed uses;
- Promotes walking and multimodal transportation systems;
- Emphasizes the public realm; and
- Involves careful planning.

Development consistent with these principles is particularly beneficial to parking in the CBD and Campus Corner. These principles should continue to serve as a foundation for the City’s future planning efforts and the type of development encouraged in the City of Norman.

8.2.5 Parking Fee Management

Parking costs can become lost in a list of reoccurring public infrastructure construction and maintenance costs. The goal of improving an agency's parking fee management approach is to require users to pay as directly and as completely as possible for the parking that they are using. In contrast, parking costs are often paid for primarily through indirect payments in the form of property rental rates, taxes, or employee wages.

Parking rates during higher-demand periods when parking utilizations are near or above capacity should be set higher than those in off-peak times. Higher rates during peak times require users to pay directly for the critical resources that they are consuming. In addition, the increased rates encourage turnover and increased use of nearby spaces that may be more appropriate for the type of parking that is being provided (i.e. employees using off-street lots who will be occupying the space for the entire workday).

The City or its Parking Authority should periodically reconsider parking fees as appropriate to adapt to changing utilization patterns, ongoing property development/redevelopment, and seasonal demand patterns. If the City continues to operate its public parking as an Enterprise under the City's Department of Public Works, revenue derived from parking should be dedicated to the Parking Enterprise Fund. Fines for parking citations should be dedicated to the Parking Enterprise Fund as well. Recommended parking fee rates for public off-street parking are shown in **Table 8-1** below.

Table 8-1: Recommended Off-Street Parking Fees

Garage Parking Rates	Parking Duration	Recommended Parking Fee
Hourly	1 hour	$2.00
	2 hours	$4.00
	3 hours	$6.00
	4 hours	$7.00
Daily	Standard Daily	$7.00
	Event (flat rate)	$7.00
	Early Bird	$6.00
	Hotel Valet	$11.00
	Validated	2 Hours Free
	Tues. after 5pm	Free
Monthly	Standard Monthly	$40.00
	Reserved Space (24 hr)	$60.00

8.2.6 Parking Meter Replacement Plan

The City or its Parking Authority should continue to replace parking meters as they near the end of their design life and from time to time consider upgrading the meters if doing so results in a more convenient system for parking customers and the management agency. Newer parking meter systems are typically more convenient, accurate, flexible, and cost effective when compared with older legacy systems/units. Users often find the newer systems more equitable, accessible, and easier to use. In addition, it would be easier for the City to manage multiple facilities if they were part of a coordinated system.

8.2.7 Flexible Approach to Enforcement

With increased parking supply, additional meters, and other active parking management policies, enforcement will likely need to increase to support the other strategies. Most cities find that the cost of enforcement pays for itself. Parking citations and fines should be adjudicated as an administrative function of the City Parking Enterprise or a Parking Authority.

There may be areas where the City's enforcement efforts could be made more efficient as well. One potential opportunity is the use of existing vehicle license plate recognition technology to enforce time restrictions for on-street parking. Updated detection technology would likely be more efficient than the current tire-marking procedures. With increased efficiency, the installation cost of a new detection system may be found to be more cost effective than current procedures.

8.2.8 Parking Overflow Plans

Parking overflow plans can be very beneficial in managing the perceived parking and traffic congestion issues that are common during special events in busy downtown areas. Parking overflow plans may be worth considering for:

- Specific special events, concerts, or festivals;
- During peak shopping periods;
- Peak university-related activities;
- Football gamedays; and
- Mitigation of issues caused by temporary reductions in parking supply (related to construction or street closures for events).

8.2.9 Establish Procedural Guidelines for PPPs

If the City is open to the use of public-private partnerships (PPPs), procedures and public information should be established to inform potentially interested parties that a PPP may be an option. The procedures should allow the receipt of both solicited and non-solicited applications for PPP consideration and lay out how and by what measures the applications would be evaluated. Guidelines allowing rejection of applications and the formal procedures appropriate to all applications should be clearly and completely documented.

The City may find the use of PPPs to be an effective means to affect real change to the parking environments of both districts. Effectively established PPPs may relieve a portion of the burden of the parking management efforts.

8.2.10 Business Patron Validation Program

A parking validation program for shoppers and business patrons, similar to the program that previously existed in Campus Corner is recommended for downtown merchants. Merchants would validate parking for customers providing them one-hour "free" parking at on-street meters or in proposed public parking facilities. Merchants could reimburse the city or parking operator for the value of validations issued. A validation program would provide incentive for visitors to choose to more frequently shop and dine in Downtown and Campus Corner.

8.2.11 Loading Zone Accommodations

Currently, commercial vehicles are loading and unloading outside of the designated loading zones and often outside of the preferred time range from 6:00 am to 10:00 am. There are currently three loading zone areas in Campus Corner; one on the east side of Asp Ave. between Boyd St. and White St. and two on the west side of Buchanan Ave. between Boyd St. and White St. The two on Buchanan Ave. are not large enough to accommodate large trucks.

One difficulty with loading operations in Campus Corner is that sometimes other vehicles are already occupying the area designated for loading/unloading upon their arrival. This often results in loading/unloading vehicles parking in the middle of the street while their cargo is unloaded. Because there is only one northbound travel lane for both Asp Ave. and Buchanan Ave. adjacent to the designated loading zone areas, this effectively shuts down the northbound side of the street until loading/unloading has been completed.

Another issue is that trucks frequently arrive outside of the allowed 6:00 am to 10:00 am loading/ unloading time window. Revisions to the city ordinances for both of these issues are recommended, and parking citations increased to provide ample penalty to motivate route managers to adapt to the restrictions in place.

9. Summary of Recommendations

The analysis performed over the course of this study yielded considerable insight regarding parking conditions in Norman's CBD and Campus Corner. In the preceding sections, we first presented the data and trends, and their relevance to real and perceived parking problems within the study emphasis areas. The data and descriptions of the parking problems enabled detailed considerations of where and how improvements could be made. This section consolidates the results of the study outlining the recommended improvements to core area parking in Norman over the next several years.

Ever increasing traffic congestion and inadequate parking supplies are detrimental to the economic health of the community. Providing convenient and affordable parking is necessary to sustain and improve the vitality of the CBD and Campus Corner. Providing greater availability or supply of parking is certainly not the only factor that helps stimulate new development and redevelopment, but there is clear evidence that the absence of adequate parking can deter investment in downtown areas.

The primary parking problem in the CBD and Campus Corner is not a shortage in the total number of parking spaces for the district as a whole; rather, it is that available parking spaces are located in areas that are not within a locally acceptable walking distance from destinations at the core of these areas. Much of the core area parking is restricted for private use and the remaining public parking is too often occupied by employees who arrive early and stay through the end of the workday, resulting in a limited supply of convenient, short-term parking for use by business customers.

The ultimate solution to the parking problems in the CBD and Campus Corner requires the adoption of a multi-faceted parking management approach, involving both parking supply infrastructure investments and proactive parking management solutions. Due to the scope of the recommended parking management strategies, implementation will best be achieved over time allowing adequate investment of time and resources assigned during each stage to maximize the probability of success for each implementation effort. A number of the recommendations included can be implemented with minimal costs, making them obvious choices for the short-term horizon (1 to 3 years) and allowing them to be considered in conjunction with other improvement measures. Other recommendations will require time and are dependent upon the development of a capital improvement plan and associated financing.

The City alone cannot solve the parking problem. Cooperation and coordination with business and property owners, the University of Oklahoma, employees, churches, and Cleveland County will be key to the overall effectiveness of the various strategies applied to the parking issues with which the community is faced.

The recommendations presented herein should be viewed as guidelines and an initial step toward a parking management plan for future parking development in Norman. There is not a single solution to satisfy the need for parking. Many factors should be regularly considered and programs implemented to meet the City's and County's ever changing parking needs. There are many parallel approaches that the City and the various stakeholders could take in solving parking problems. Some of these are dependent on policy decisions (e.g. the amount of parking the City wishes to provide, the extent to which the City desires to adopt some of the more active parking management strategies, the degree in which policy decisions impact not only parking but other important community goals and services, etc.) and others are dependent on costs and the availability of funding.

The recommendations provided are based on a snapshot of the CBD and Campus Corner. There is no doubt that the districts will continue to change over time including changes that would be quite difficult to predict today. As conditions change, many of the recommendations included in this study will likely become either more or less beneficial. In addition, many of the recommendations for improvement will address some of the same key parking demand, supply, enforcement, or financial management issues as other recommendations. The City may find that certain implemented improvements result in enough of a change that other measures can be postponed, either briefly or perhaps even indefinitely.

Whenever changes are considered to the status quo, a combination of public concern and public support occur, which requires the need for community discussion among residents, business, landowners, employees, and decision makers. During the course of the study, several meetings were held with the project steering committee to disseminate information and receive input. In addition, public stakeholder meetings were held for both the CBD and Campus Corner early on in the process. Finally, a Community Forum, open to the public, was held to solicit input and review comments at a late stage in the process, but prior to finalizing any recommendations. The meetings held were certainly a good start, but it is expected that implementation efforts will generate new and additional interest from the public and key stakeholder groups. Additional public involvement should be utilized, to the degree possible, as implementation stages occur.

9.1 Framework for Recommendations

Meeting parking needs in Norman's Central Business District and Campus Corner is an ongoing process. While certain recommendations should be implemented sooner than others, the recommendations are most appropriately viewed as a continuum. Some measures are dependent on preceding programs. As an example, investing in additional public parking infrastructure (i.e. a multilevel parking structure) would not be feasible without also addressing the need for increased parking revenues.

A summary of the recommendations are presented below by topic. Where appropriate, timeframes (near-term, mid-term, and long-term) are provided along with the recommendations.

9.2 Summary of Findings – Both Districts

There are existing shortages of parking in Norman's CBD and Campus Corner districts that occur during peak periods of typical weekdays. Parking utilization surveys conducted for this study indicated that a significant number of individuals choose to drive and park in free, conveniently located on-street spaces and parking lots. However, much of the available parking supply in both districts is private use and is not available to the public at large. The parking shortage stems from the limited number of available public and/or shared use spaces during the peak periods that are also conveniently located in the core areas.

The shortage of convenient parking in the CBD and Campus Corner will only increase in the future because of planned development anticipated to occur by 2025. The revitalization of the CBD will generate additional parking demand for both long-term parking to serve employees and short-term parking to serve shoppers, restaurant patrons, and other visitors. The continued growth of business activity will add to traffic congestion and to existing parking shortages.

Demands for parking are not uniform throughout the CBD and Campus Corner. In general, there is a surplus of parking in outlying areas of the district, but in each of the central cores, there is an observed deficit of parking spaces. The core areas in both districts experience higher utilization and have significantly higher demands due to concentrated activity occurring therein.

The City's current parking requirements were found to be appropriate with the exceptions noted here. The changes made to parking requirements for developers based on adoption of the Center City form based code appear to be well thought out and beneficial toward achieving the long-term goals of the Center City area which includes the West CBD and Campus Corner. The shared parking requirements should be particularly helpful toward affecting long-term change in these areas. The draft form based code also includes much needed guidance on bicycle parking requirements. Similar code revisions should be considered for the East CBD area. Also recommended are the development of parking management strategies requiring in-lieu fees in support of public, shared parking solutions and the encouragement of public-private partnerships (PPPs) that include shared parking solutions.

9.3 Summary of CBD Parking Supply Findings and Recommendations

In the CBD, peak parking utilization extends between 9:00 am and 5:00 pm on typical weekdays, with the peak overall parking occupancy rate exceeding 43 percent of the total available spaces. An overall surplus of parking exists because many of the area's parking spaces are located on the fringes of the district and not the core where they are most needed. There are several individual blocks in the core area that experience a peak utilization that exceeds the effective parking supply (85% of the total supply) provided in those blocks. In addition, much of the private parking is reserved for specific individuals or uses and is not available for public use.

There were three multi-block areas in the CBD core that have parking deficits in 2015. One of these deficit areas is centered around the County Courthouse and Administration buildings. The County has short-term plans to construct a parking structure to meet the parking needs identified at this location.

The CBD has two areas of parking deficit: one located in the East CBD and one located in the West CBD with both centered around the Main Street and Gray Street corridors. The deficit area in the East CBD is the more pronounced of the two, with an overall 2015 deficit of 239 parking spaces and a projected deficit of 311 spaces in 2025. The area is generally bounded by Jones Ave. on the west, Tonhawa St. on the north, Peters Ave. on the east, and Main St. on the south. To address this deficit, a 4-level parking structure with a capacity of 460 spaces is recommended to replace the existing surface parking lot on Gray Street. The construction of this parking structure is recommended as a mid-range improvement, defined as being constructed in the next 3 to 10 years. Due to the level of investment involved, it is recommended that the City perform a parking utilization survey in approximately 5 years to confirm the need for additional parking has grown as projected. The new County parking structure is expected to be operational at that time. With the new County structure and the implementation of the various proposed parking management strategies, the parking demand may not warrant the capital investment and may be appropriately postponed to a later date.

Recommended improvements within the West CBD, are located on City-owned land located in the north half of Block 21. The proposed short-term improvement (1 to 3 years) is a 44-space surface parking lot. Parking demand is anticipated to grow in the West CBD, resulting in the need for an additional 211 parking spaces by 2025. In **Section 6**, the case is made for ultimately planning for the construction of a parking structure in the north of Block 21 by acquiring property in this half-block as it becomes available and as funds are allocated for this purpose over the next ten years. It is anticipated that a parking structure will be warranted at this location around 2025 or shortly thereafter. To verify the supply shortage in the future, parking utilization counts are recommended to demonstrate the need prior to investing public funds toward design and/or construction of this facility.

A pro forma financial analysis for the parking garage on the East Gray St. site was presented in **Section 7**. **Table 9-1** summarizes the analysis and includes the expected costs and the annual funds needed to pay for the structure. The construction of a parking garage at the East Gray St. site will require additional funding sources. Part of the funds would come from additional revenues generated by parking fees in the new structure. However, other funding sources such as increased parking permit fees, increased parking meter revenue from on-street parking, and increased parking fine revenue will be necessary. It is likely that the City would need to dedicate other revenue sources, such as capital bond funds, economic development funds, special assessment taxes, or tax increment financing district funds, toward financing this parking structure. An election would be required prior to obtaining bond financing. The additional funds may only be necessary for the first few years of the structure's life. Based on the analysis performed, the East Gray Street structure should begin to be able to support itself after ten years in operation.

Table 9-1: Financial Analysis Summary for East Gray St. Structure

Item	East Gray Street Parking Structure
Number of Parking Spaces	460
Project Cost	
Development Cost	$17,471,500
Finance Cost	$2,351,035
Total Project Cost	$19,822,535
Annual Needs	
Annual Debt Service	$1,118,607
Average O&M Costs	$215,508
Average Annual Cost (Debt Service + O&M)	$1,334,115
Estimated Annual Revenues	
Average Parking Revenue	$946,784
Average Revenue from Lease Space on Street Level of Structure	$540,701
Total Estimated Average Annual Revenues	$1,487,485
Coverage Ratio (Revenue minus O&M / Debt Service)	**1.14**
Average Annual Surplus / (Shortfall)	$153,369
Avg. Additional Needed Annually for Coverage Ratio of 1.00	$0
Avg. Additional Needed Annually for Coverage Ratio of 1.30	$182,213

Average annual amounts over 25-year term. Costs include contingency, architect and engineering fees, construction administration, and builder's risk. Debt service costs assume a 2.8435% interest rate, 25-year term, and include capitalized interest, debt service reserve, and legal and financial fees.

9.4 Summary of Campus Corner Parking Supply Findings and Recommendations

For Campus Corner, parking occupancy peaks between 1:00 pm to 2:00 pm on typical weekdays with 65% of the districtwide supply being occupied. Overall parking occupancy rates remain above 55% between 11:00 am and 4:00 pm. Like the CDB, an overall surplus of parking exists because many of the parking spaces are located in the fringe areas of the district instead of in core where they are most needed. There are several individual blocks in the core area that experience peak utilizations that are very near the effective parking supply (85% of the total supply) provided in those blocks. In addition, much of the private parking is reserved for specific individuals or uses and is not available for public use.

There is a significant parking demand deficit at the Campus Corner District's core. This core deficit area is generally bounded by University Blvd. on the west, White St. on the north, Asp Ave. on the east, and Boyd St. on the south. The 2015 demand deficit for this area was computed at 643 spaces, and the 2025 demand deficit

is anticipated to be 879 spaces. To address this need, a 3-story parking structure with 1,100 spaces is recommended west of University Boulevard, replacing part of the existing surface lots owned by OU and the First Presbyterian Church. The parking structure is recommended to be constructed within the short-term horizon (1 to 3 years). Two alternative sites were evaluated as well, but the site on University Boulevard has the most potential to meet the additional parking needs within the district's core and allows for the most efficient structure layout with its larger available footprint.

A pro forma financial analysis for the parking garage on the University Blvd. site was presented in **Section 7**. **Table 9-2** summarizes the analysis and includes the expected costs and the annual funds needed to pay for the structure. The construction of a parking garage at University Blvd. will require additional funding sources. Part of the funds would come from additional revenues generated by parking fees in the new structure. However, other funding sources such as increased parking permit fees, increased parking meter revenue from on-street parking, and increased parking fine revenue will be necessary. It is likely that the City would need to dedicate other revenue sources, such as capital bond funds, economic development funds, special assessment taxes, or tax increment financing district funds, toward financing this parking structure. An election would be required prior to obtaining bond financing. The additional funds may only be necessary for the first few years of the structure's life. Based on the analysis performed, the University Blvd. structure should begin to be able to support itself after fifteen years in operation.

Table 9-2: Financial Analysis Summary for University Blvd. Structure

Item	University Blvd Parking Structure and Surface Lot
Number of Parking Spaces	1,100
Project Cost	
Development Cost	$32,859,800
Finance Cost	$4,421,747
Total Project Cost	$37,281,547
Annual Needs	
Annual Debt Service	$2,103,838
Average O&M Costs	$515,346
Average Annual Cost (Debt Service + O&M)	$2,619,184
Estimated Annual Revenues	
Average Parking Revenue	$2,112,422
Average Revenue from Lease Space on Street Level of Structure	$576,849
Total Estimated Annual Revenues	$2,689,271
Coverage Ratio (Revenue minus O&M / Debt Service)	**1.03**
Estimated Average Annual Surplus / (Shortfall)	$70,087
Avg. Additional Needed Annually for Coverage Ratio of 1.00	$0
Avg. Additional Needed Annually for Coverage Ratio of 1.30	$561,065

Average annual amounts over 25-year term. Costs include contingency, architect and engineering fees, construction administration, and builder's risk. Debt service costs assume a 2.8435% interest rate, 25-year term, and include capitalized interest, debt service reserve, and legal and financial fees.

9.5 Establish and Fund a Parking Authority

Parking authorities are beneficial because they are dedicated to addressing parking needs and confronting parking problems as compared with public works departments which typically have a variety of responsibilities in addition to parking. A parking authority could be formed to handle the ongoing management of parking assets and addressing various parking issues that will arise, effectively removing these responsibilities from the public works department allowing staff to focus instead on other important responsibilities. A multi-jurisdictional parking authority is recommended to best manage parking services in the CBD and Campus Corner, including the City of Norman, Cleveland County, and potentially the University of Oklahoma. The authority would have a number of key responsibilities as outlined in **Section 8.1**.

9.6 Additional Parking Management Strategies

Additional parking management strategies recommended include:

- Increase shared parking in both districts to put parking resources to better use and to begin reducing the large amount of surface parking that is required when each business owner has their own reserved and isolated parking supplies that sit empty during off-peak hours.
- Manage on-street parking supply.
- Neighborhood Parking Validation Program.
- Continue Smart Growth Policy Implementation.
- Implement a Parking Meter Replacement Plan.
- Adopt a flexible approach to enforcement.
- Develop Parking Overflow Plans.
- Establish Procedural Guidelines for Public-Private Partnerships (PPPs).
- Revise the current Loading Zone Regulations.
- Install parking meters in the CBD to increase availability and encourage turnover of short-term parking while also generating a revenue stream for public parking improvements.
- Establish a parking validation program for shoppers and business patrons.
- Increase both parking fees and fines to make driving/parking for long-term use by employees less desirable as compared to alternative modes of transportation.
- Increase public transit service to make it more convenient by providing shorter headways, flexibility in accommodating bicycles, etc.

Section 8 of this document provides additional detail for each of these measures.

9.7 Conclusion

Accommodating parking needs in Norman's Central Business District (CBD) and Campus Corner is not something that can be accomplished with a one-time solution that is able to be immediately implemented. Instead, a multi-faceted parking management approach is recommended for these two vital core areas in Norman.

Parking supply investments appear to be warranted for both the CBD and Campus Corner and are summarized as follows:

Short-Term Improvements (1 to 3 years):

- A five-level, 590-space parking structure just north of the County Courthouse (on the north side of Comanche St. between Jones Ave. and Peters Ave.) to be constructed by the County (or parking authority).
- A three-level, 1,100-space parking structure just west of University Blvd. and north of Boyd St. in Campus Corner to be constructed by the City (or authority).
- A 44-space surface parking lot just south of W. Gray St. (between Santa Fe Ave. and James Garner Ave.) to be constructed by the City (or authority).
- Begin property acquisitions for the rest of the north half of the block located just south of W. Gray Street and between Santa Fe Ave. and James Garner Ave. Proposed timeline for the acquisition of the entire half-block is around 2025.

Mid-Term Improvements (4 to 10 years):

- A four-level, 460-space parking structure just south of E. Gray St. (between Peters Ave. and Crawford Ave.) to be constructed by the City (or authority), if future parking inventories demonstrate the need.

Long-Term Improvements (10 years or more):

- Consideration of an additional parking structure near the County Courthouse to be constructed by the County (or authority), if future parking inventories demonstrate the need.
- A four-level, 460-space parking structure just south of W. Gray St. (between Peters Ave. and Crawford Ave.) to be constructed by the City (or authority), if future parking inventories demonstrate the need.

Several parking management strategies are recommended as a way for the City and/or the County to more proactively manage the existing parking supplies in the CBD and Campus Corner while also working toward the ultimate vision for these districts. Perhaps the most crucial parking management strategy is the establishment and funding of a parking authority, as noted in **Sections 8.1** and **9.5**. In addition, there are a number of recommended parking management strategies that are listed in **Sections 8.2** and **9.6**. While each of the individual parking management strategies could be implemented fairly easily and at little cost by themselves, the City should carefully consider how these strategies would best be rolled out for implementation in phases. The parking management strategies should work with one another and the additional parking supply investments to provide the foundation for the City's parking management approach going forward.

Appendix A:

Cleveland County Parking Letter Report

1. Background and Purpose

This letter report was prepared as part of a joint contract with the City of Norman and Cleveland County to provide the City and County with a blueprint for future parking improvements and expenditures. The focus of the *2016 Norman Parking Study* was parking needs and improvement recommendations for the core area of Norman, including some Cleveland County-owned properties and surrounding blocks. This letter report provides supplemental information related specifically to recommendations to Cleveland County, including additional details and supporting information that were not included in the *Parking Study*.

The following sections are provided in *2016 Norman Parking Study*:

1. Introduction
2. Existing Conditions
3. Existing Parking Utilization
4. Parking Demands Assessment
5. Evaluation of Parking Alternatives
6. Detailed Parking Improvement Plan
7. Financial Considerations
8. Parking Management
9. Summary of Recommendations

Section 1 provides considerable background information including the Parking Study purpose and objectives, project study boundaries, and community/steering committee involvement supporting the Parking Study. **Section 2** summarizes the existing conditions found inside the Parking Study boundaries, including an inventory of the parking supply, existing land use, governing regulations, OU parking management considerations, and transit service accommodations. **Section 3** defines parking utilization and provides the results of the field occupancy counts conducted. **Section 4** defines parking demand and the methodology used, along with detailed parking demands considered for each block in the Parking Study emphasis areas. Multi-block locations that have parking supplies short of the parking demands projected are defined and the amount of the parking deficit is quantified.

Section 5 evaluated parking alternatives that were considered to improve the state of parking inside the project study boundaries. The Central Business District (CBD) and Campus Corner had three sites each that were considered. **Section 6** provides detailed recommendations for parking infrastructure improvements for each of the candidate sites considered. Financial analyses for the recommended improvements listed in Section 6 are presented in **Section 7**, including estimates provided for construction, financing, and operations and maintenance costs, and estimated annual revenues.

Section 8 presents parking management measures recommendations that go with the parking supply investments. Finally, **Section 9** summarizes the recommendations presented in the Parking Study (please refer to the Parking Study for more detailed information). Nothing contained in this letter report should be construed as contradicting the recommendations made or findings presented in the *Parking Study*.

2. Jury Trial Parking Utilization

The peak parking utilization for the County Courthouse area occurs on jury selection days when all potential jurors are required to report for assignment of report-back/trial dates. To capture the differences in parking utilization around the County Courthouse, additional parking utilization counts were conducted on August 24, 2015 coinciding with a jury selection day. **Figure 1** provides a comparison of these same two parking utilization scenarios for Blocks 33 and 40 only, which is where most of the potential jurors park. The average day parking surplus of 114 spaces in these blocks is almost completely used up by potential jurors on jury

selection days. **Figure 2** provides a map of the average day Courthouse area counts with the jury selection peak counts.

- Ave. Day Count for Blocks 33 and 40: 120
- Jury Selection Count for Blocks 33 and 40: 230
- **Additional Utilization on Jury Day: 110**

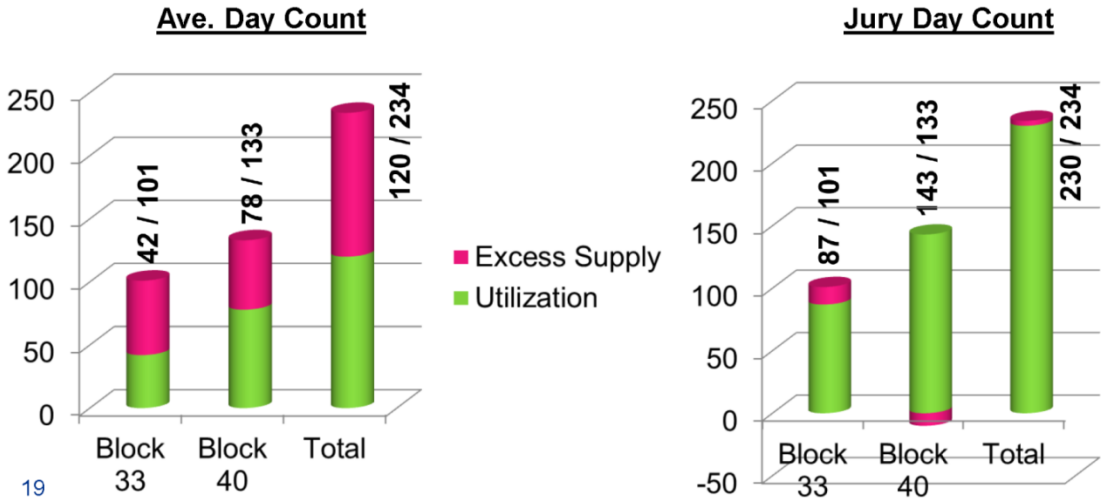


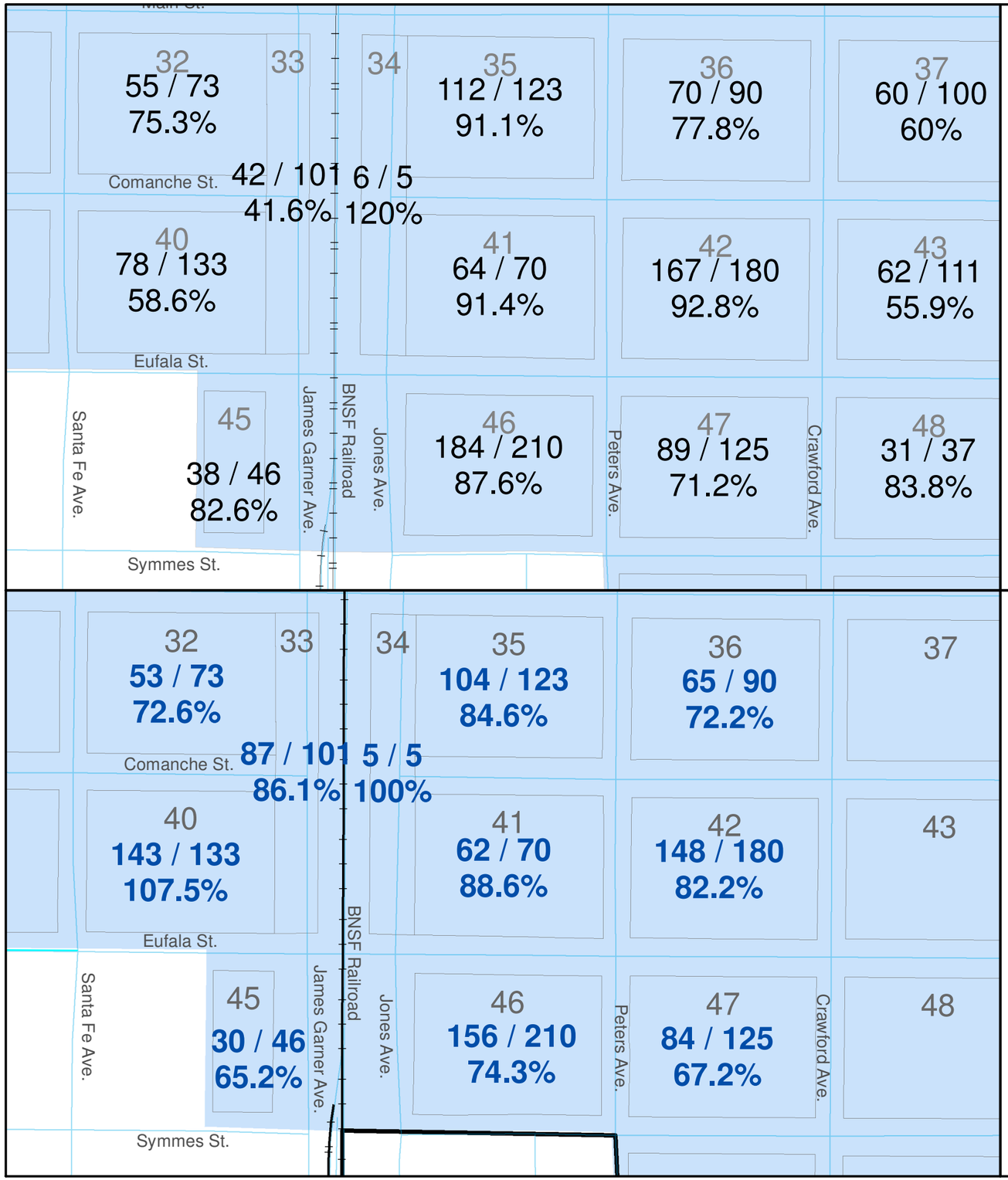
Figure 1: Jury Parking Utilization Summary

3. Parking Demands Assessment

Section 4 of the *Parking Study* provides a detailed discussion on the parking demands assessment for the CBD area as a whole, and includes some discussion of the proposed parking structure to be located just north of Comanche Street. Based on the projected 2025 land use changes for the CBD area (as provided in Table 4-3 of the *Parking Study*), parking deficits were computed for the County area for 2015 and 2025 scenarios. The parking deficits and surpluses on a per block basis are provided in **Figure 3**. The deficits for both of these scenarios are provided in **Figure 4**.

Based on the land use change assumptions (including an excess demand of 150 parking spaces per day) included in the *Parking Study*, a parking structure sized to accommodate a minimum of 590 total spaces is recommended to be constructed by the County. The County will decide whether or not to pursue a cost sharing agreement for construction of this structure and sharing of future revenues and maintenance costs. Several factors that should be considered as this decision is made include:

- If the County wants to participate in a Parking Authority for the CBD and Campus Corner; the potential advantages of a fully cooperative approach (between the City and County) to parking management in the CBD;
- The potential benefits the County could receive, including less investment up front for construction and shared maintenance costs in the future;
- The County's past experiences with and desire to partner with the City in this manner; and
- The degree to which the County's and City's "vision" for parking management and use of future revenues align.



TYPICAL WEEKDAY COUNTS - APRIL, 2015

JURY SELECTION COUNTS - AUGUST 24, 2015

Scale:

0 125 250 375 500 Feet

Legend

- Study Boundary
- 15 Block Boundary With Label
- CBD Emphasis Area
- Parking Utilization by Block (No. of Vehicles)
- Effective Parking Supply by Block (No. of Spaces)
- 60.0% % Utilization (Util./Supply)
- Railroad
- City Streets

Figure 2:
CBD Parking Utilization - Courthouse Area
Norman Parking Study
November 2015

JACOBS

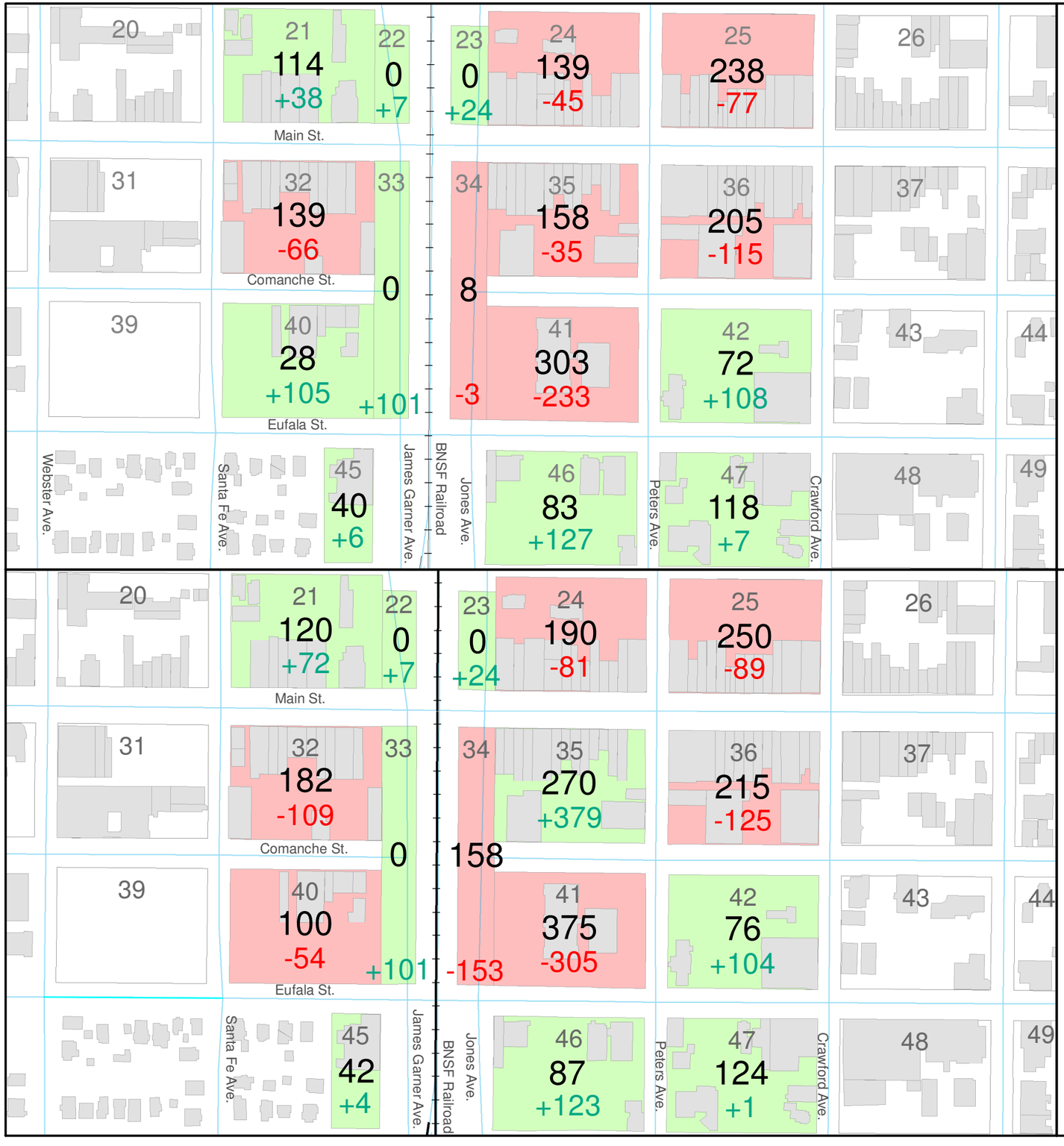


Figure 3:
CBD Parking Surplus/Deficit By Block - Courthouse Area
Norman Parking Study
November 2015

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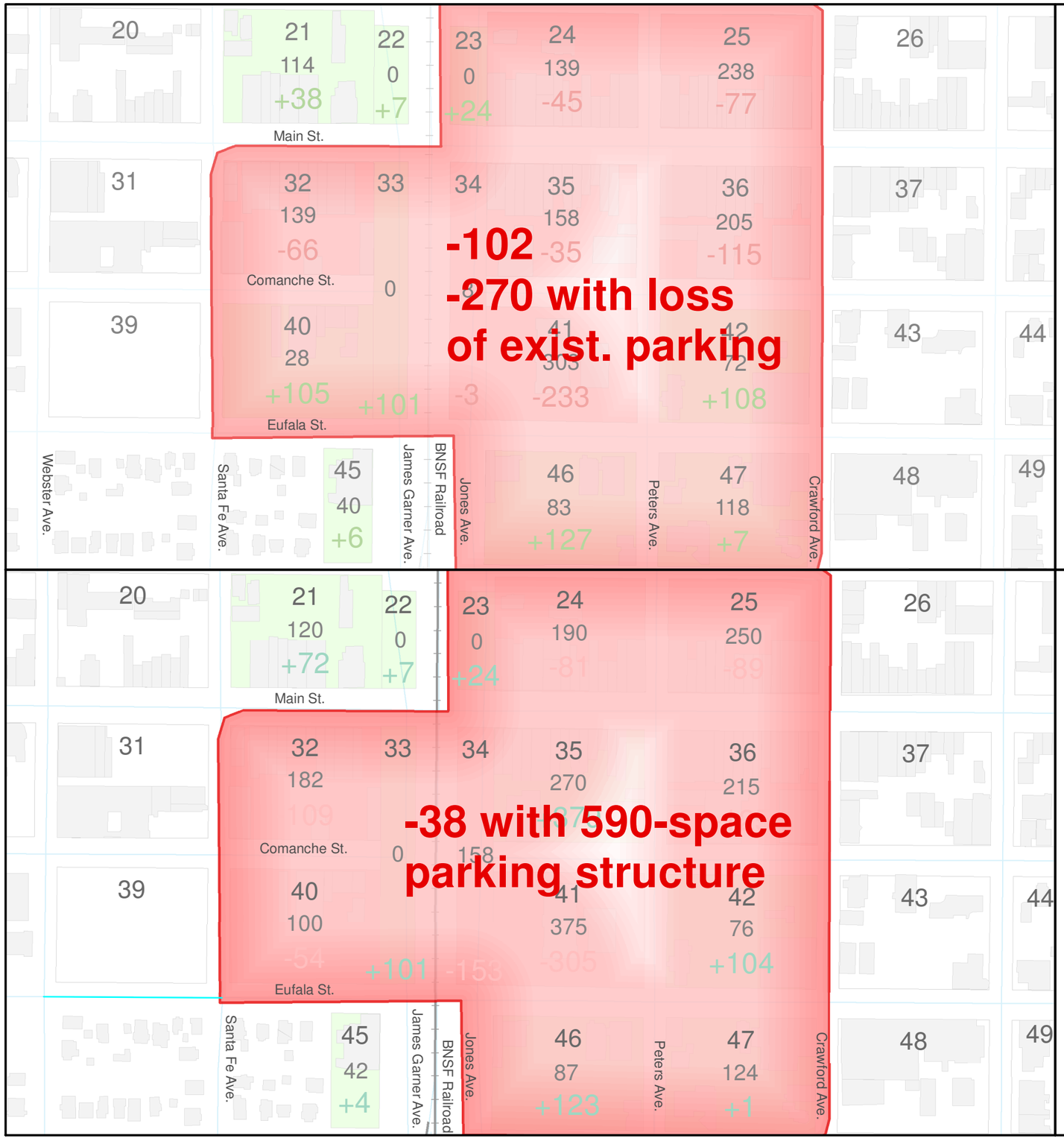

Figure 4:
CBD Parking Deficit Zones - Courthouse Area
Norman Parking Study
November 2015

JACOBS

4. Financial Considerations for Recommended 5-Level Structure

The proposed parking development for the County Courthouse Structure is a five-level, 590-space parking structure. Concept plans are included in the *Parking Study*.

4.1 Operations and Maintenance Costs

The projected pro forma operating and maintenance (O&M) expenses are shown in **Table 1**. O&M costs cover ongoing expenses such as personnel, utilities, custodial services, maintenance, administration and management, repairs, and other related items. Allocated expenses and overhead include supervision, maintenance, and administrative support services provided by the County. The estimated total costs and average cost per space are shown for each year.

For planning purposes, it was assumed that annual O&M costs would total approximately $385 per space for a new parking structure and increase at varying percentages over the 25-year analysis period. The average annual O&M costs for this structure would be approximately $372,793 per year, or $632 per space.

Table 1: Operations and Maintenance Costs – Cleveland County Parking Structure

Year	Recurring Operation & Maintenance Costs	Maintenance Reserve	Total O&M Costs	Total O&M Costs Per Space
Increase:	2.0%			
Base	$227,150	5% Revenue		
2016	$0	$0	$0	$0.00
2017	$227,150	$54,240	$281,390	$476.93
2018	$231,693	$54,240	$285,933	$484.63
2019	$236,327	$54,240	$290,567	$492.49
2020	$241,053	$54,240	$295,293	$500.50
2021	$245,874	$67,800	$313,674	$531.65
2022	$250,792	$67,800	$318,592	$539.99
2023	$255,808	$67,800	$323,607	$548.49
2024	$260,924	$67,800	$328,724	$557.16
2025	$266,142	$67,800	$333,942	$566.00
2026	$271,465	$81,360	$352,825	$598.01
2027	$276,895	$81,360	$358,254	$607.21
2028	$282,432	$81,360	$363,792	$616.60
2029	$288,081	$81,360	$369,441	$626.17
2030	$293,843	$81,360	$375,202	$635.94
2031	$299,720	$97,631	$397,351	$673.48
2032	$305,714	$97,631	$403,345	$683.64
2033	$311,828	$97,631	$409,460	$694.00
2034	$318,065	$97,631	$415,696	$704.57
2035	$324,426	$97,631	$422,058	$715.35
2036	$330,915	$117,158	$448,072	$759.44
2037	$337,533	$117,158	$454,691	$770.66
2038	$344,284	$117,158	$461,441	$782.10
2039	$351,169	$117,158	$468,327	$793.77
2040	$358,193	$117,158	$475,350	$805.68
Total	$6,910,326	$2,036,701	$8,947,027	
Average Annual	$287,930	$84,863	$372,793	$632

4.2 Operating Revenue

The projected revenues for the proposed 590-space parking garage are shown in **Table 2**. The monthly, hourly, and daily parking revenues are projected based on the recommended parking rates. A monthly parking permit cost is assumed to be $50 per month. No oversell is assumed for parking permits. Daily parking revenue is based on a $2.00 per hour rate with an $8.00 maximum daily fee. Hourly parking is $2.00 per hour and assumes a turnover rate of three parkers per space and an average parking duration of two hours. The revenue projections assume that approximately one-third of the spaces will be used for monthly parking, one-third for daily parking, and one-third for hourly parking. Based on the utilization surveys, an average occupancy rate of 75 percent is assumed.

Increases in parking rates are projected every five years beginning in 2021. Lease space of 25,000 square feet in the parking garage is projected to provide additional revenues of $255,000 based on a $12 per square foot rental rate and 85% occupancy. The lease space rental rate is also projected to increase every five years beginning in 2021.

Table 2: Operating Revenue – Cleveland County Parking Structure

No. of Parking Spaces: 590

Year	Percent Fee Increase	Total Revenues	Average Parking Revenue Per Space
Base		$1,084,794	$1,839
2016	0%	$0	$0
2017	0%	$1,084,794	$1,839
2018	0%	$1,084,794	$1,839
2019	0%	$1,084,794	$1,839
2020	0%	$1,084,794	$1,839
2021	25%	$1,355,993	$2,298
2022	0%	$1,355,993	$2,298
2023	0%	$1,355,993	$2,298
2024	0%	$1,355,993	$2,298
2025	0%	$1,355,993	$2,298
2026	20%	$1,627,191	$2,758
2027	0%	$1,627,191	$2,758
2028	0%	$1,627,191	$2,758
2029	0%	$1,627,191	$2,758
2030	0%	$1,627,191	$2,758
2031	20%	$1,952,629	$3,310
2032	0%	$1,952,629	$3,310
2033	0%	$1,952,629	$3,310
2034	0%	$1,952,629	$3,310
2035	0%	$1,952,629	$3,310
2036	20%	$2,343,155	$3,971
2037	0%	$2,343,155	$3,971
2038	0%	$2,343,155	$3,971
2039	0%	$2,343,155	$3,971
2040	0%	$2,343,155	$3,971
Totals		$40,734,015	
Average Annual		$1,697,251	
Average Annual Revenue Per Space		$2,876.70	

4.3 Development Costs

Estimated development costs for the parking garage on Comanche Street are shown in **Table 3**. Total project costs are estimated at $19,333,750 for the parking garage. The three categories of project costs include land, development, and finance costs.

Land cost for the Cleveland County Parking Structure is not a factor because the County owns the site.

Development costs include construction, design, contingencies, and construction supervision. The parking garage construction cost is estimated to be $25,000 per parking space for 590 total spaces, or $14,750,000. The estimated cost for constructing the lease (shell) space included in the structure is $110 per square foot for 25,000 square feet, or $2,750,000. The design cost is estimated to be $885,000. Construction supervision is estimated at 3 percent of construction cost or $525,000. Total development cost is $19,333,750.

There were no finance costs included in the financial summary provided because the County does not plan to borrow money to pay for the structure. If the County decided to finance all, or part, of the structure, finance costs would be expected to be comparable to those provided in the *Parking Study* for the City of Norman.

Based on the assumptions made, the County can expect to receive a return on investment (ROI) of 44% after 25 years (out to 2040). The expected ROIs for years 2030 and 2035 are calculated at -19.5% and 11.7%, respectively. The County can expect to break even on this investment around the year 2033 (not accounting for inflation).

The disclaimer statement provided at the end of Section 7 of the *Parking Study* applies to the pro forma analysis for the Cleveland County Parking Structure.

4.4 Sensitivity Analysis of Cost Assumptions

The cost assumptions utilized in this letter report are purposefully conservative due to the preliminary nature of the basis for these costs and due to the lack of a detailed design being available at present. It may be possible to have a 5-level, 590-space parking structure constructed at closer to $18,000 per space or $20,000 per space depending on the efficiency of the design and the economy of all façade materials that are specified for said structure.

If the structure were able to be constructed at $18,000 per space, the total development cost would be $14, 811,400. The County could expect to break even on this investment around the year 2030. The comparable ROIs would be as follows:

- 2040 ROI: 71.4%
- 2035 ROI: 35.3%
- 2030 ROI: -0.76%

If the structure were able to be constructed at $20,000 per space, the total development cost would be $16,103,500. The County could expect to break even on this investment around the year 2031. The comparable ROIs would be as follows:

- 2040 ROI: 62.6%
- 2035 ROI: 27.6%
- 2030 ROI: -7.0%

Table 3: Pro Forma Analysis for CBD Parking Structure No. 1
Comanche Street Structure (Between Jones and Peters)
Cost/Revenue Analysis

			Per Space		Overall	Percent of Construction Costs
Land Cost:						
Square Feet	0					
Estimated Cost per Sq Ft			$0		$0	
Development Cost:						
Demolition (site preparation) -			$0		$350,000	
Construction Cost -			$25,000		$14,750,000	
Joint Development Space	25,000	Sq Ft	$110	per Sq Ft	$2,750,000	
Design Cost -					$885,000	6.0%
Contingencies -					$0	0.0%
Builder's Risk -					$73,750	0.5%
Construction Administration and Management					$525,000	3.0%
Total Development Costs			$32,769		$19,333,750	
Total Finance Costs			$0		$0	
Total Project Costs			**$32,769**		**$19,333,750**	
Average Annual Costs of Operations and Maintenance:			$631.85		$372,793	
Average Operating Revenues			$2,876.70		$1,697,250.61	per year

2040 Return On Investment (ROI)

Total Project Costs	$19,333,750
Total O&M Costs	$8,947,026.80
Total Revenue	$40,734,015
2040 ROI	**44.03%**

2035 Return On Investment (ROI)

Total Project Costs	$19,333,750
Total O&M Costs	$6,639,144.87
Total Revenue	$29,018,240
2035 ROI	**11.73%**

2030 Return On Investment (ROI)

Total Project Costs	$19,333,750
Total O&M Costs	$4,591,234.73
Total Revenue	$19,255,094
2030 ROI	**-19.52%**

5. Financial Considerations for Alternative Structures

While the 5-story, 590-space structure presented in **Section 4** of this letter report is the recommended size, there were a couple of alternative sizes that were discussed during the course of the study, as summarized below. For both alternatives, $25,000 per space was used.

5.1 Alternative No. 1: 4-Level Parking Structure

This financial analysis summary was prepared for a 4-level, 460-space parking structure that could be an alternative to the preferred 5-story, 590-space structure. For planning purposes, it was assumed that annual O&M costs would total approximately $385 per space for a new parking structure and increase at varying percentages over the 25-year analysis period. The average annual O&M costs for this structure would be approximately $296,836 per year, or $645 per space.

Projected revenues were developed based on the same rate structure and similar use assumptions as those presented in **Section 4** of this letter report. The revenue projections assume that approximately one-third of the spaces will be used for monthly parking, one-third for daily parking, and one-third for hourly parking. Based on the utilization surveys, an average occupancy rate of 75 percent is assumed. Increases in parking rates are projected every five years beginning in 2021. Lease space of 25,000 square feet in the parking garage is projected to provide additional revenues of $255,000 based on a $12 per square foot rental rate and 85% occupancy. The lease space rental rate is also projected to increase every five years beginning in 2021.

Estimated development costs for this alternative parking structure are shown on **Table 4**. Total project costs are estimated at $15,775,000 for the parking garage. The three categories of project costs include land, development, and finance costs.

Land cost for the Cleveland County Parking Structure is not a factor because the County owns the site.

Development costs include construction, design, contingencies, and construction supervision. The parking garage construction cost is estimated to be $25,000 per parking space for 460 total spaces, or $11,500,000. The estimated cost for constructing the lease (shell) space included in the structure is $110 per square foot for 25,000 square feet, or $2,750,000. The design cost is estimated to be $690,000. Construction supervision is estimated at 3 percent of construction cost or $525,000. Total development cost is $19,333,750.

There were no finance costs included in the financial summary provided because the County does not plan to borrow money to pay for the structure. If the County decided to finance all, or part, of the structure, finance costs would be expected to be comparable to those provided in the Parking Study for the City of Norman.

Based on the assumptions made, the County can expect to receive a return on investment (ROI) of 51.7% after 25 years (out to 2040). The expected ROIs for years 2030 and 2035 are calculated at -15.5% and 17.5%, respectively. The County can expect to break even on this investment around the year 2033 (not accounting for inflation).

The disclaimer statement provided at the end of Section 7 of the Parking Study applies to the pro forma analysis for the Cleveland County Parking Structure.

Table 4: Pro Forma Analysis for CBD Parking Structure No. 1, Alternative No. 1
Comanche Street Structure (Between Jones and Peters)
Cost/Revenue Analysis

			Per Space		Overall	Percent of Construction Costs
Land Cost:						
Square Feet	0					
Estimated Cost per Sq Ft			$0		$0	
Development Cost:						
Demolition (site preparation) -			$0		$350,000	
Construction Cost -			$25,000		$11,500,000	
Joint Development Space	25,000	Sq Ft	$110	per Sq Ft	$2,750,000	
Design Cost -					$690,000	6.0%
Contingencies -					$0	0.0%
Builder's Risk -					$57,500	0.5%
Construction Administration and Management					$427,500	3.0%
Total Development Costs			$34,293		$15,775,000	
Total Finance Costs			$0		$0	
Total Project Costs			**$34,293**		**$15,775,000**	
Annual Debt Service (Principal + Interest):						
25 Years @	2.8435%	Interest	$1,508.81	per year	$890,200	per year
Average Annual Costs of Operations and Maintenance:			$810.42		$296,836	
Average Operating Revenues			$3,145.55		$1,446,951.70	per year

2040 Return On Investment (ROI)

Total Project Costs	$15,775,000
Total O&M Costs	$7,124,053.88
Total Revenue	$34,726,841
2040 ROI	**51.65%**

2035 Return On Investment (ROI)

Total Project Costs	$15,775,000
Total O&M Costs	$5,282,004.33
Total Revenue	$24,738,828
2035 ROI	**17.49%**

2030 Return On Investment (ROI)

Total Project Costs	$15,775,000
Total O&M Costs	$3,649,758.65
Total Revenue	$16,415,484
2030 ROI	**-15.49%**

5.2 Alternative No. 2: 5-Level Parking Structure with Structural Design to Accommodate up to 8 Levels

This financial analysis summary was prepared for a 5-level, 590-space parking structure with the ability to someday expand to 8 levels if market conditions dictate. This structure is a potential alternative to the preferred 5-story, 590-space structure. See **Section 4** for additional details on the assumptions made in performing this analysis. The analysis for this alternative is very similar to the preferred alternative (presented in **Section 4**), but there is a significantly higher initial construction cost required to build the adequate foundation and structural support system to accommodate up to an additional three levels of parking in the future. For the purposes of this financial analysis, the additional parking levels were not included.

Estimated development costs for this alternative parking structure are shown on **Table 5**. Total project costs are estimated at $22,967,781 for the parking garage. The three categories of project costs include land, development, and finance costs.

Based on the assumptions made, the County can expect to receive a return on investment (ROI) of 27.6% after 25 years (out to 2040). The expected ROIs for years 2030 and 2035 are calculated at -30.1% and -2.0%, respectively. The County can expect to break even on this investment around the year 2036 (not accounting for inflation).

The disclaimer statement provided at the end of Section 7 of the Parking Study applies to the pro forma analysis for the Cleveland County Parking Structure.

6. Benefits of a Parking Authority

Creation of a multi-jurisdictional parking authority would have several potential benefits for the City of Norman and Cleveland County. Potential benefits include:

1. Shared cooperative visioning, planning, policy-making, O&M, and implementation to address parking and transportation needs in Norman's core.
2. Improved quality of service to the public realized through fewer duplicative roles and responsibilities, providing economies of scale in common shared functions for parking management.
3. Cooperative planning, policy-making and decisions on where to make future parking improvements.
4. Reduced costs of infrastructure investments by sharing costs between agencies.
5. Reduced operating and maintenance cost for public parking facilities in the future.

A parking authority would manage public parking in Downtown Norman and Campus Corner, providing a system approach for funding and operating both on-street and off-street parking. System revenue would be utilized to support current operation and future parking improvements, with revenue from existing facilities able to support investment in needed future facilities.

Table 5: Pro Forma Analysis for CBD Parking Structure No. 1, Alternative No. 2
Comanche Street Structure (Between Jones and Peters)
Cost/Revenue Analysis

			Per Space		Overall	Percent of Construction Costs
Land Cost:						
Square Feet	0					
Estimated Cost per Sq Ft			$0		$0	
Development Cost:						
Demolition (site preparation) -			$0		$350,000	
Construction Cost -			$25,000		$18,068,750	+22.5% for future exp.
Joint Development Space	25,000	Sq Ft	$110	per Sq Ft	$2,750,000	
Design Cost -					$1,084,125	6.0%
Contingencies -					$0	0.0%
Builder's Risk -					$90,344	0.5%
Construction Administration and Management					$624,563	3.0%
Total Development Costs			$38,928		$22,967,781	
Total Finance Costs			$0		$0	
Total Project Costs			**$38,928**		**$22,967,781**	
Annual Debt Service (Principal + Interest):						
25 Years @	2.8435%	Interest	$2,197	per year	$1,296,096	per year
Average Annual Costs of Operations and Maintenance:			$631.85		$372,793	
Average Operating Revenues			$2,876.70		$1,697,250.61	per year

2040 Return On Investment (ROI)

Total Project Costs	$22,967,781
Total O&M Costs	$8,947,026.80
Total Revenue	$40,734,015
2040 ROI	**27.63%**

2035 Return On Investment (ROI)

Total Project Costs	$22,967,781
Total O&M Costs	$6,639,144.87
Total Revenue	$29,018,240
2035 ROI	**-1.99%**

2030 Return On Investment (ROI)

Total Project Costs	$22,967,781
Total O&M Costs	$4,591,234.73
Total Revenue	$19,255,094
2030 ROI	**-30.13%**