

CITY OF BIRMINGHAM
ADVISORY PARKING COMMITTEE
CITY COMMISSION ROOM
151 MARTIN STREET, BIRMINGHAM, MI
(248) 530-1850
AGENDA
REGULAR MEETING AGENDA
WEDNESDAY, JANUARY 20, 2016, 7:30 A.M.

1. Recognition of Guests
2. Approval of Minutes, Meeting of October 21, 2015
3. Accessible Parking Policy in CBD
4. Off Site Parking Options Update
5. Monthly Parking Permit Rates
6. Ad Hoc Parking Development Committee Update
7. Monthly Financial Reports
8. Meeting Open for Matters Not on the Agenda
9. Information Only:
 Zoning Requirements for Parking (2 Articles)
10. Next Regularly Scheduled Meeting: February 17, 2016



N. Old Woodward Ave. Parking Structure

Persons with disabilities that may require assistance for effective participation in this public meeting should contact the City Clerk's Office at the number (248) 530-1880, or (248) 644-5115 (for the hearing impaired) at least one day before the meeting to request help in mobility, visual, hearing, or other assistance.

Las personas con incapacidad que requieren algún tipo de ayuda para la participación en esta sesión pública deben ponerse en contacto con la oficina del escribano de la ciudad en el número (248) 530-1800 o al (248) 644-5115 (para las personas con incapacidad auditiva) por lo menos un día antes de la reunión para solicitar ayuda a la movilidad, visual, auditiva, o de otras asistencias. (Title VI of the Civil Rights Act of 1964).

DRAFT

City of Birmingham
ADVISORY PARKING COMMITTEE
REGULAR MEETING

Birmingham City Hall Commission Room
151 Martin, Birmingham, Michigan
Wednesday, October 21, 2015

MINUTES

These are the minutes for the Advisory Parking Committee ("APC") regular meeting held on Wednesday, October 21, 2015. The meeting was called to order by Chairman Lex Kuhne at 7:36 a.m.

Present: Chairman Lex Kuhne
Anne Honhart
Lisa Krueger
Judith Paskewicz
Vice-Chairperson Susan Peabody
Al Vaitas

Absent: Steven Kalczynski

SP+ Parking: Catherine Burch
Josh Gunn
Jason O'Dell

Principal Shopping District: Richard Astrein
Bob Benkert
John Heiney

Administration: Paul O'Meara, City Engineer
Carole Salutes, Recording Secretary

RECOGNITION OF GUESTS (none)

MINUTES OF REGULAR MEETING OF MAY 20, 2015

Motion by Ms. Paskewicz
Seconded by Ms. Krueger to approve the Minutes of the Regular APC Meeting of May 20, 2015 as presented.

Motion carried, 6-0.

VOICE VOTE:

Yeas: Paskewicz, Krueger, Kuhne, Honhart, Peabody, Vaitas

Nays: None

Absent: Kalczynski

369-397 N. OLD WOODWARD AVE. PROJECT
BROOKSIDE TERRACE CONDOMINIUMS
REQUEST FOR INCLUSION IN THE PARKING ASSESSMENT DISTRICT

Mr. O'Meara advised the current condominium owners are being bought out, and the site is planned to be reconstructed into a completely new building. The building would have underground parking on site, commercial retail use on the first floor, and three floors of residential units above, totaling 26 units.

Earlier, the City Commission approved changing the zoning to D-4, which will permit the construction of a five-story building similar to what is described above. Due to its previous residential nature, the property has not been historically included in the assessment district, and has not been charged for any improvements on the various parking structures or lots. With the change in use, the property must be included in the district in order to proceed with construction as planned.

The applicant has two proposals currently under consideration for on-site parking. Both involve the construction of two floors underground. If it is decided that more parking is needed, the underground storage and common residential area could be eliminated and a total of 96 spaces could be constructed on site. The Zoning Ordinance requires that at least 39 of the new parking spaces be dedicated to the residential units proposed, leaving either 36 or 57 spaces open and available for the commercial demand. Based on current average demand, the building's monthly demand is being satisfied with either parking scenario, leaving the daily customer demand to be satisfied with either the adjacent street meters or the parking structure.

Demand for the adjacent parking structure has been very strong recently. Not only are all monthly permits sold out, the parking facility has filled to capacity several times. Both the adjacent parking structure, as well as Park St., have experienced higher than normal demand due to recent downtown construction projects.

The following mitigating factors are offered:

- The City Commission has appointed an Ad Hoc Parking Development Committee to provide direction on expanding parking capacity in the immediate area of this proposed building.
- The applicant appears to be demonstrating that whether the City includes the building in the assessment district or not, it will meet the Zoning Ordinance.
- If the applicant joins the district, the owner will be charged a one-time fee of \$29,682 to recoup the funds the district would have collected over the years in the past had this proposed building existed at the time the other parking structures were built.
- The City agrees that the design of the building would be less desirable if an at-grade garage door was constructed on the N. Old Woodward Ave. frontage. Talks are under way with the developer to grant some property on the south side of the building using the existing driveway to the N. Old Woodward Ave. Parking Structure to allow a road to be constructed in exchange for allowing the access to go to the south, which will provide benefits for both parties.

Mr. O'Meara went on to comment there is a strong likelihood that the Bates St. extension will happen. This should be the last building that could be added to the Parking Assessment District.

The chairman took public comments at 7:50 a.m.

Mr. Richard Astrein received confirmation that it was the City Treasurer who determined the Parking Assessment buy-in cost of \$29,682.

In further discussion, Mr. O'Meara clarified that what will happen to the Lot #6 hang-tag parking in front of the building depends on what kind of use goes into the commercial use on the ground floor. It is likely that changes will have to be made to that area.

Mr. Rick Rattner, Attorney, 380 N. Old Woodward Ave., explained the property was rezoned to bring it into the Overlay District. One of the reasons is that it had the requirement of retail frontage in the Downtown Plan. He went on to note they have 94 parking spaces on-site which is an excess. They would like to be in the Parking Assessment District to allow ample parking for their retail component.

Mr. Chris Longe, Architect, spoke about the architecture and the number of parking spaces. The building has four stories above grade and two underground floors for parking. The first level has 47 parking spaces and the floor below is divided into one-half parking and one-half storage and common space for the residents, for a total of 75 spaces on the two floors. If the second level were to be built out as parking they would have 94 spaces on-site. However, it is not

their intention to do that. They are calculating two spaces for each of the 26 units on the floors above, which totals 52 spaces. Therefore they have an excess of 24 spaces on-site. The balance of those spaces will be dedicated either to residents or for the use of the first floor commercial tenants. These calculations do not include the spaces in the N. Old Woodward Ave. right-of-way that Mr. Longe stated they are entitled to use.

Motion by Ms. Paskewicz

Seconded by Ms. Peabody to recommend to the City Commission that 369-397 N. Old Woodward Ave., also known as Brookside Terrace Condominiums, be approved for acceptance into the Parking Assessment District, upon payment of a one-time fee of \$29,682.

Motion carried, 6-0.

VOICE VOTE:

Yeas: Paskewicz, Peabody, Krueger, Kuhne, Honhart, Vaitas

Nays: None

Absent: Kalczynski

SEWER PROJECT TO PARKING LOT #6

Mr. O'Meara reported that The Oakland County Water Resources Commissioner's Office ("OCWRC") owns and operates a large interceptor sewer system that was built in 1959, following the Rouge River through Birmingham. The sewer system services about 60% of Birmingham, as well as parts of Bloomfield Twp., Bloomfield Hills, and Troy.

The MI Dept. of Environmental Quality ("MDEQ") has been encouraging the OCWRC to reduce Sanitary Sewer Overflows caused during extreme rain events in this sewage system. After several years of study and discussions with the State, a project known as the Northeast Interceptor Sewer Improvements has been packaged and put out for bid. Three parts of the proposed work are located within Birmingham, the most significant being within Parking Lot #6. The intent of the projects is to correct identified locations where the design of the 1958 sewer is causing turbulence inside the pipe, which slows the flow of the sewage under peak demand conditions. When the sewer cannot accommodate the upstream demand of sewage, sewage can head up in the pipe, which has resulted in sewage overflowing from manholes into storm sewers or directly into the river; or in really extreme conditions, into nearby basements.

Therefore, the system is being ordered to undergo improvements to reduce the likelihood of these overflows. Fortunately for Birmingham, they will be done at no local cost.

The work will have four phases and the Engineering Dept. has requested that it be done in the early spring when traffic demand is less. The OCWRC has agreed to this request and the work is scheduled for early spring:

1. Construct manhole and sewer within N. Old Woodward Ave. in front of Lot 6. This will require closing about 87 spaces in Parking Lot #6 and on the street. That phase should take less than a week.
2. Construct manhole and sewer within Parking Lot #6. The total closed will be about 36 parking spaces. This phase should take about a week to ten days.
3. Install new asphalt pavement for the entire center section of Parking Lot #6. This work should take about 2 days. The 36 spaces noted above will have to be closed again.
4. Install new sidewalk and asphalt in the N. Old Woodward Ave. right-of-way. The actual pavement installation should take about 2 days, during which time the 87 spaces noted above will have to be closed again.

Parking is in short supply in this vicinity and the loss of parking will have a bad impact on the area. The last time something of this nature occurred was in 2007, when the entire N. Old Woodward Ave. pavement was reconstructed from north of Oak St. to Oakland Blvd. During that time, which lasted several months, the City set up a temporary parking plan to help divert employees from their usual assigned spots to the adjacent local streets to the west (Vinewood Ave., Woodland Ave., and Harmon St.). These streets are signed for Residential Permit Parking Only, which means that they tend to be rather open and available for the benefit of the adjacent residents.

Since this is a short term policy change, it is recommended that the policy be refined as needed by the Advisory Parking Committee, and then forwarded to the City Commission for final approval.

Motion by Dr. Vaitas

Seconded by Ms. Honhart that due to the anticipated closure of up to 87 parking spaces during planned sewer construction by the Oakland Co. Water Resources Commissioner's Office during a period in March and/or April, 2016, the Advisory Parking Committee recommends that the City Commission approve a temporary parking policy that will be implemented. The policy will encourage the movement of monthly permit holders to other areas to improve parking options for daily customer traffic. Residential permit parking requirements will be modified during sewer construction

only, allowing all day parking by monthly parking permit holders displaying their hang tag in the rearview mirror, for the following streets:

**Vinewood Ave. – Woodland Ave. to N. Old Woodward Ave.
Woodland Ave. – Vinewood Ave. to Harmon St.
Harmon St. – Woodland Ave. to N. Old Woodward Ave.**

Further, all permit parking will be banned in monthly permit areas B and I, and monthly permit parking will be temporarily allowed on Harmon St. parking metered spaces. Once all construction has been completed, all monthly permit holders will be allowed to return to their normally designated parking areas.

Motion carried, 6-0.

VOICE VOTE:

Yeas: Vaitas, Honhart, Krueger, Kuhne, Paskewicz, Peabody

Nays: None

Absent: Kalczynski

PSD HOLIDAY PROMOTION

Mr. Heiney announced that once again this year the Principal Shopping District ("PSD") will air a holiday television advertising campaign. This year they will air on WXYZ Channel 7 and are also working with Comcast and AT&T U-verse. More ads will be broadcast this year for the same amount of money. They have come up with a new tag line that says "It's all IN Birmingham." They are asking for APC participation in the 2015 Holiday TV Campaign. It is thought this will be very advantageous to the downtown merchants and to the City's parking system to promote a convenient parking message during this busy shopping season.

In the past two years the APC has participated in a similar campaign for \$25,000 and the PSD has contributed \$10,000. This year, the PSD will provide \$10,000 and has again requested \$25,000 from the parking system.

All of the advertising spots have a closing that shows a graphic and talks about two hours free parking in the decks.

Motion by Ms. Krueger

Seconded by Ms. Peabody to recommend to the City Commission the expenditure of \$25,000 from the Automobile Parking System fund promotion account (Account No. 585-538.001-901.0300) to assist the PSD in creating their proposed 2015 holiday promotional TV campaign.

Motion carried, 6-0.

VOICE VOTE:

Yeas: Krueger, Peabody, Honhart, Kuhne, Paskewicz, Vaitas

Nays: None

Absent: Kalczynski

PSD STREET LIGHT POLE BANNERS
PROMOTING TWO HOURS FREE PARKING

Mr. Heiney explained the Principal Shopping District ("PSD") is asking the APC to participate in one-half of the purchase and installation costs associated with new light pole banners. They think it will be very advantageous to the downtown merchants and to the City's parking system to promote the two hour free parking with new re-branded banners.

Motion by Ms. Krueger

Seconded by Ms. Peabody to recommend to the Engineering Dept. the expenditure of \$2,500 from the Automobile Parking System fund promotion account (Account No. 585-538.001-901.0300) to assist the PSD with the cost of purchasing and installing new promotional banners on downtown street lights.

Motion carried, 6-0.

VOICE VOTE:

Yeas: Honhart, Vaitas, Krueger, Kuhne, Peabody, Paskewicz

Nays: None

Absent: Kalczynski

PARKING SYSTEM CONSTRUCTION UPDATE

Mr. O'Meara noted they finished rehab of the Chester St. Structure in July.

Currently work is being done at the Peabody Structure that doesn't impact parking capacity. To prevent water damage, aluminum coping is being added to all of the brick walls on the outside railings of the building. A contract has been awarded to install a new elevator that will shut it down about twelve weeks.

The group talked about possibly re-branding the insides of the structures. Mr. O'Meara added it would have to go before the Architectural Review Committee if

the outside look such as the railings is changed. Ms. Honhart agreed to reach out to that committee for guidance.

Mr. O'Meara concluded the construction update by saying the re-building of Martin St. in front of the Chester St. Structure is almost completed.

MONTHLY FINANCIAL REPORTS

Mr. O'Meara noted they are not selling permits at the Chester and Peabody St. Structures because of on-going construction. Mr. O'Dell said there are 300 people from the Palladium Building on the wait list for parking.

MEETING OPEN FOR MATTERS NOT ON THE AGENDA

- Mr. Heiney said it has been discussed that the definition of "retail" should be tightened up. There has been concern about what is going into first-floor spaces. He noted at this time the PSD District occupancy is about 97%.
- Yesterday the Development Committee met and interviewed two very strong firms to create cost estimates and massing diagrams to either tear down and replace, or add additions to the Pierce and N. Old Woodward Ave. Parking Structures. Kahn/Walker was recommended to the City Commission to perform this task.
- Membership update: Ms. Honhart and Dr. Vaitas were renewed for new three-year terms to the APC. Mr. Esshaki's term has expired. There are openings now for a building owner and a resident shopper.

NEXT REGULARLY SCHEDULED MEETING

November 18, 2015

ADJOURNMENT

No further business being evident, it was moved and seconded to adjourn the meeting at 9:15 p.m.

Respectfully submitted,

Paul O'Meara
City Engineer



MEMORANDUM

Engineering Dept.

DATE: January 14, 2016

TO: Advisory Parking Committee

FROM: Paul T. O'Meara, City Engineer

SUBJECT: Accessible Parking Policy for CBD

The City of Birmingham's policy on accessible parking in the Central Business District has not changed in many years. The current policy is:

1. Vehicles displaying a valid handicapped parking permit may park at any meter for as long as needed, without paying at the meter.
2. Vehicles displaying a valid handicapped parking permit may park at any yellow curbed zone as long as needed, as long as the vehicle is not disrupting the flow of traffic.

Last year, the City hired parking consultant Andrew Miller of Carl Walker, Inc., to study our current policy, compare it to what other similar cities are doing, and provide any suggestions for modifications. The Carl Walker report is attached to this memo.

The report brought attention to the expected upcoming changes later this year with the American Disabilities Act (ADA). It is anticipated that on public streets where individually marked parking spaces are provided, once a street undergoes construction such as repaving or resurfacing, the City will be obligated to begin providing marked parking spaces for the disabled at the ratio of 1 for every 25 (or less) parking spaces provided on a particular block.

The attached presentation was prepared for the City Commission's annual Long Range Planning Session, scheduled for this Saturday, January 16. The topic will be introduced to the City Commission, with the intent that the Advisory Parking Committee will review the topic in more detail, and then return a formal recommendation back to the City Commission for their subsequent consideration.

The City plans to reconstruct Hamilton Ave. this spring, from N. Old Woodward Ave. to Woodward Ave. To be certain that the City remains compliant with the ADA, we plan to install three new marked accessible parking spaces, as shown on the attached presentation (blue designated spaces). The spaces will be located near a corner so that the proposed handicapped ramp can be available for people using these spaces. The parking space will be signed and designated with blue pavement markings, as well as a blue painted parking meter and post. People using the space will have to have their handicapped parking permit displayed, and they will have to pay at the meter, similar to any other space.

There are some other design requirements that should be noted:

1. Accessible parking spaces located on streets where the City sidewalk is 14 ft. or wider much be constructed with a five foot loading zone into the available sidewalk area, to act as a loading zone for vehicles with side access doors. The existing sidewalks on Hamilton Ave. are less than 10 ft. wide, so this requirement will not apply here. Further, since the other streets are not being reconstructed this year, the City is not required to comply with this rule until the street is reconstructed, so they will also be installed using the existing curb and existing parking space width.
2. Angled parking spaces will allow for easier entrance and exit by the disabled, and are encouraged where available. Our plan takes this into account, and generally locates the new accessible spaces on Old Woodward Ave. or Martin St. when it is available.
3. The ADA encourages accessible spaces to be located in front of main traffic generators, where appropriate. For example, if a block has a large building at one end of the block, and smaller ones on the remainder, the accessible space must be located in front of the large building.

Our district wide plan reflects these objectives.

If the City were to install new marked accessible spaces just as needed to comply with new street construction, enforcement would be problematic between both the new parking spaces, and our current policy. Rather than have a slow transition over many years, staff recommends that blue designated accessible parking spaces be installed in accordance with the 1 per 25 ratio throughout the downtown. A map of the entire downtown is provided separate from the presentation, so that you can blow it up and review it in greater detail, if desired. Following the required quantity stipulated in the ADA, a total of 64 existing parking spaces (6% of the total) will have to be changed and reserved for the disabled. In order to better understand the impact that this will have on available parking, a survey was conducted by the Police on a recent busy shopping day in December. Throughout the day, vehicles parked and displaying the handicapped parking permit were counted. How long each vehicle was parked was not measured (counts by street are attached). Over the course of a business day, a total of 121 different vehicles were counted parked at a meter without paying, and without any time limit. About 80%, (about 100 vehicles) were parked at meters (not at a yellow curb). The conclusion to be drawn from this is:

1. Even though the City provides the required number of disabled parking spaces in each of its parking structures and lots, demand for them is less because parking is charged at the market rate. There is an incentive to park on the street because it is free.
2. If parking at a meter for free and without a time limit is removed,
 - a) Long term parking at an accessible parking space in a parking structure will become more attractive, because it will be priced lower than the street.
 - b) Even though 64 parking spaces will be closed off to the general public, it is anticipated that moving the remaining 100 vehicles currently parked at meters to off-street, or to one of these new spaces paying the market rate, should result in parking availability similar to that found today.
 - c) Long term parkers that currently park on the street will have to walk further than they do currently to their destination.

If this change in policy is approved by the City Commission, staff will move to implement this change throughout the CBD by summer, 2016. Costs for this work will include:

- Painting of existing meter posts or installation of new posts (to be painted blue)
- Installation of new accessible parking signs and posts
- New parking meters housings as needed (many existing spaces that will be changed are currently using meters in a double housing with the space adjacent, which will have to be separated).
- New blue pavement markings.

While each item of work will have to be priced out separately, it is expected that the total cost will be approximately \$25,000, charged to the Auto Parking System Fund.

A suggested recommendation is provided below:

SUGGESTED RECOMMENDATION:

To recommend to the City Commission that City staff proceed to install marked, accessible parking spaces throughout the CBD during calendar year 2016 in accordance with the American Disabilities Act requirement that 1 parking space be provided for each block per each 25 parking spaces provided, per the attached plan. Vehicles displaying handicapped parking permits will be required to pay at meters at the same rate as the general public, and prevailing time limits currently in place on each block shall apply.

Review of On-Street Disabled Parking Policy for the City of Birmingham, MI

Federal vs. State of Michigan ADA Policy on Free Parking and Time Limited Parking

Federal ADA standards mandate that accessible parking spaces must be provided for "facilities and sites" based upon published parking ratios of ADA spaces per number of total parking spaces provided. These required ratios are published in Title II of the American with Disabilities Act, Table 208.2. The ADA also specifies physical design requirements for all ADA accessible and van accessible spaces in terms of the size and dimensions of parking spaces, maximum slopes allowed, barrier free access aisles and routes, etc.

However, under Title II of the Federal ADA there are no mandates or restrictions regarding time limits for designated ADA or disabled parking spaces. There are also no mandates or restrictions on charging for designated ADA or disabled parking spaces under federal regulations.

The State of Michigan does issue special "Yellow" disabled parking placards that allow eligible individuals with severe physical disabilities to park for free. In granting the free yellow disability placards, the application regulations specifically state that "Economic need is not a consideration". These special yellow placards are only issued if a person can prove by a physician's determination that one of the following disabilities apply, as quoted verbatim below from the official Michigan Department of State Disability Parking Placard Application form:

- A) The patient cannot insert coins or tokens in a parking meter or cannot accept a ticket from a parking lot machine due to a lack of fine motor control of *both* hands.
- B) The patient cannot reach above their head to a height of 42 inches from the ground, due to a lack of finger, hand, or upper extremity strength or mobility.
- C) The patient cannot approach a parking meter due to use of a wheelchair or other ambulatory device.
- D) The patient cannot walk **more than twenty feet** due to an orthopedic, cardiovascular, or lung condition which the degree of debilitation is so severe that it almost completely impedes the patient's ability to walk. (A condition requiring applicant to rest after walking twenty feet when not using a wheelchair or other ambulatory device.)

Latest ADA Standards and Their Impact on Parking Technology

There is a difference between ADA standards and ADA guidelines. ADA standards are formally adopted regulations that are enforced by the US Department of Justice under Title II of the Americans With Disabilities Act. The development of ADA guidelines is an ongoing effort by the United States Access Board. Once the Access Board formally publishes guidelines, it is only a matter of time until the guidelines are adopted and enforced by the US Department of Justice (DOJ). Therefore, it is highly recommended that ADA guidelines should be followed once they are published, even though they are technically not yet enforceable by DOJ.

As of the effective date of March 12, 2012, the current ADA standards changed somewhat significantly regarding parking control technology and equipment. The new enforceable requirements state that any parking meter equipment installed after March 12, 2012 must be fully ADA compliant, whether or not it

is controlling an ADA designated parking space. Prior to this change, it was only ADA designated parking spaces that had to have fully ADA compliant meters. Among other design and placement requirements, the most important element of the new regulations is that no operable part of the parking meter can be higher than 42" from grade level. Therefore, any parking control equipment or hardware installed after March 12, 2012 that is not fully ADA compliant is in violation of Title II of the ADA.

New Public Rights-of-Way Accessibility Guidelines (PROWAG)

The US Access Board now has published guidelines for ADA parking spaces located in public rights-of-ways known as "PROWAG". A very important element to understand is that the guidelines only apply to "newly constructed and altered public streets and sidewalks". It is also important to note that recent court cases have ruled that street resurfacing projects are considered "alterations" triggering the new ADA guidelines, even if they do not involve planned curb and gutter work.

Some of the key elements of the new PROWAG include:

- Under the new PROWAG Section R214 On-Street Parking Spaces, each city block perimeter is interpreted as a "facility" for calculating required on-street ADA parking space ratios. For blocks that contain up to a total of 100 parking spaces, one on-street ADA space must be provided for each 25 marked or metered spaces. For blocks with over 100 spaces, one additional on-street ADA space is required for each 50 spaces. If a block perimeter has over 200 spaces, 4% of the total spaces must be ADA.
- New requirements that on-street parallel and angled ADA parking spaces meet the same space size, maximum slope and physical access aisle requirements as off-street ADA spaces (60" for a standard ADA space and 96" for van accessible ADA space). These physical design requirements are more realistically achievable with on-street angled parking spaces, but are very difficult if not impractical to achieve with on-street parallel parking spaces (see diagrams below).
- The new guidelines encourage the location of designated on-street ADA spaces to be on streets and sidewalks with minimum slope and "dispersed within the project area". However, the guidelines also acknowledge that ADA spaces can be clustered if "equivalent or greater access is provided, with respect to distance from an accessible entrance".
- Exceptions to on-street disabled parking ratios are allowed in situations where the slope of the street or sidewalk exceeds recommended maximum slopes. In these instances, the ADA parking spaces may be provided at nearby off-street facilities as long as an accessible pedestrian access route is provided.

Sampling of Current On-Street Disabled Parking in Other Michigan Cities

As part of this exercise we observed and/or contacted a number of Michigan cities and other client cities we've worked with in the Midwest region to ascertain what their respective on-street disabled parking policies are. Of the cities contacted, Rochester Michigan was the only city that did not provide any designated on-street disabled spaces. In fact, Rochester's policy is exactly the same as Birmingham's in that vehicles with disabled placards or plates are allowed to park free and with no time limit at any on-

street metered two-hour space. Like the Birmingham policy, Rochester also allows placarded disabled vehicles to park without violation at yellow curbs.

We found almost the opposite to be true in the Village of Oak Park, IL. Oak Park has a process for approving on-street disabled parking based on specific requests by residents and/or businesses. The Village currently has almost 300 designated on-street disabled spaces that are primarily located in residential neighborhoods. Out of that total, approximately 5 of the on-street disabled spaces are located in the Village Center dining and commercial area. The other non-Michigan cities we researched includes Neenah, WI and Eau Claire, WI, with the results included in the table summary below.

The following cities all have on-street disabled parking and all of them charge the same rates for disabled meter parking as regular meter parking (unless the vehicle has a yellow free parking disabled permit). Some cities allow for extended time limits for disabled spaces. Ann Arbor requires disabled spaces to pay the meter, but they do not impose time limits on their on-street disabled spaces. The policy on locating and designating on-street disabled parking was the same for all cities contacted in that all were created in response to requests from private businesses, building owners, or citizens for disabled spaces at specific on-street locations.

Summary of On-Street Disabled Parking by City

<u>City</u>	<u>On-Street Disabled</u>	<u>Charge</u>	<u>Time Limit</u>
Ann Arbor	Yes	Yes	None
East Lansing	Yes	Yes	3 Hours
Grand Rapids	Yes	Yes	Same as Meters
Grose Pointe	Yes	Yes	Same as Meters
Kalamazoo	Yes	Yes	None
Lansing	Yes	Yes	10 Hours
Traverse City	Yes	Yes	Same as Meters
Neenah, WI	Yes	N/A - All 2Hr Free	None
Eau Claire, WI	Yes*	No	No
Village of Oak Park, IL	Yes	Yes**	Same as Meters

****Fifteen spaces specifically called out in Ordinance 10.24.020.***

*****Effective January 1, 2014 Illinois State law was revised to allow ADA spaces to be charged.***

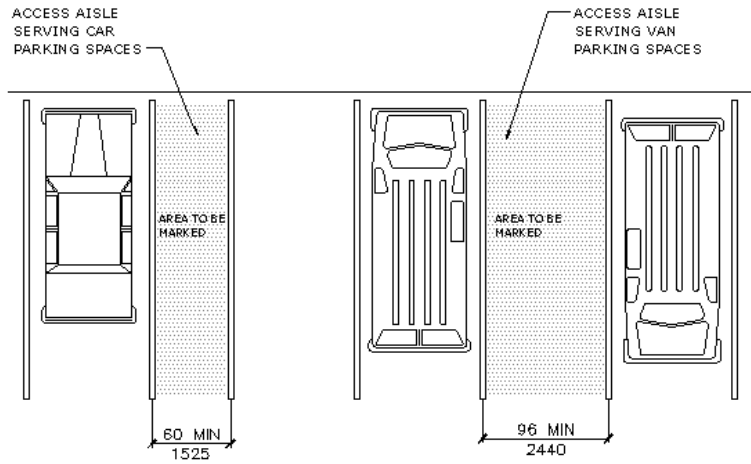
Conclusions and Discussion Points

- The current policy in Birmingham that allows disabled permit holders to park anywhere on-street for free and with no time restrictions is a local policy that is not mandated or required by state or federal ADA laws.
- Birmingham should consider eliminating its current policy of free, no time limit parking for placarded or plated disabled vehicles and should not allow placarded vehicles to park at yellow curb areas. The former issue being one of fairness and the latter issue being primarily a public safety concern.

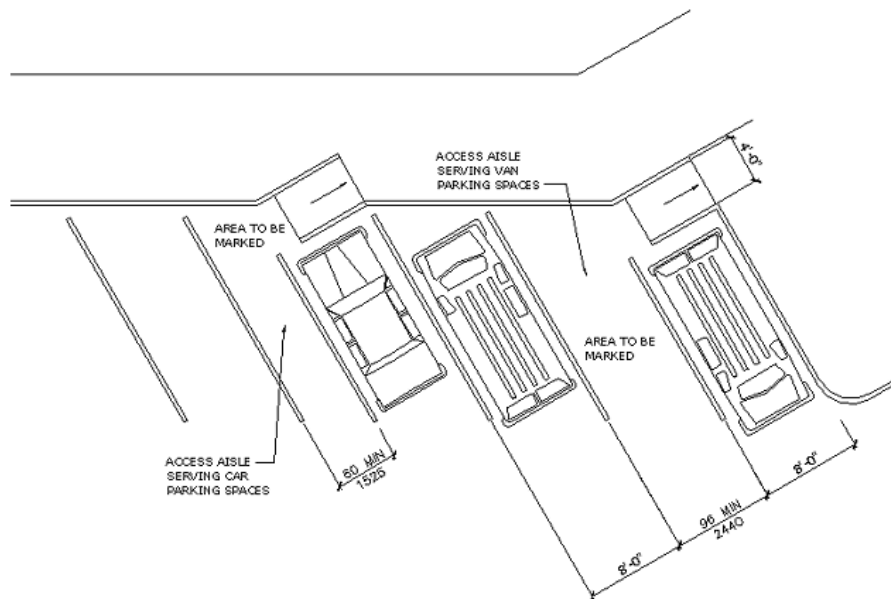
- ## On-Street ADA Design Guidelines Under PROWAG - Parallel Spaces



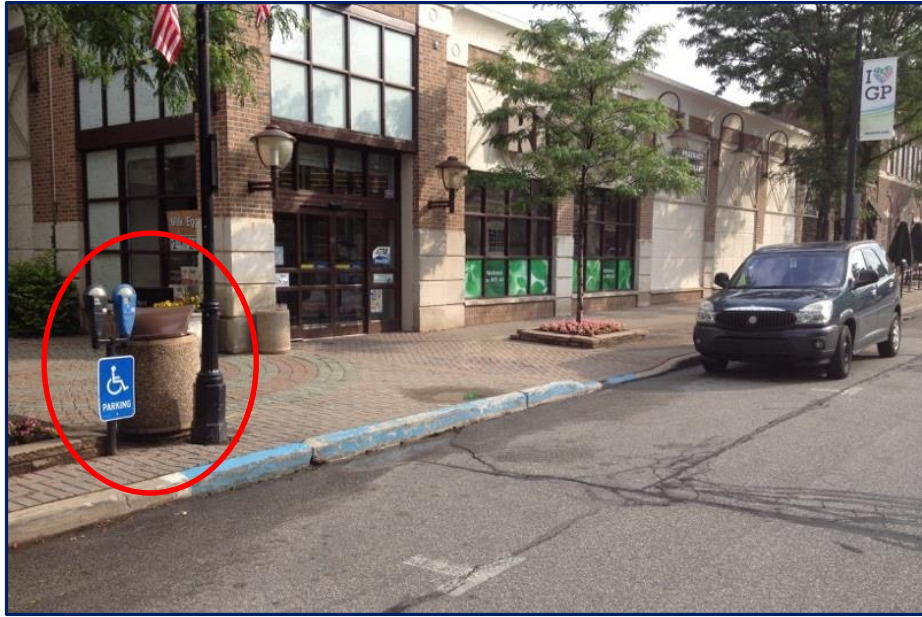
On-Street ADA Design Guidelines Under PROWAG - 90 Degree Parking Spaces



On-Street ADA Design Guidelines Under PROWAG - Angled Spaces



Existing On-Street Disabled Parking Space - Kercheval Street, Grosse Pointe



NOTE: Though designated as a disabled space, this configuration does not meet PROWAG design guidelines for barrier-free access aisle or in the placement of the parking meter.

PROWAG

Table R214 On-Street Parking Spaces

Total Number of Marked or Metered Parking Spaces on the Block Perimeter	Minimum Required Number of Accessible Parking Spaces
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 and over	4 percent of total

ACCESSIBLE PARKING POLICY UPDATE

City of Birmingham
Auto Parking System

ACCESSIBLE PARKING POLICY UPDATE

- ▣ Americans with Disabilities Act (ADA) first passed in 1991.
- ▣ Marked accessible parking spaces installed in parking structures and municipal lots in 1992.
- ▣ No changes were required for on-street parking.

ACCESSIBLE PARKING POLICY UPDATE

Current on-street parking policy:

No on-street marked accessible parking spaces exist. Disabled parkers are allowed to:

1. Park at any metered parking space for as long as desired, at no cost.
2. Park at any yellow curbed zone, as long as vehicle is not causing traffic disruption.

City has received complaints that current policy is abused by some.

ACCESSIBLE PARKING POLICY UPDATE

ADA Code change in recent past now requires that ALL new parking meters are accessible. All operable parts must be no more than 42 inches above grade.

City is now complying as meters are moved or replaced.

ACCESSIBLE PARKING POLICY UPDATE

In 2016, new ADA code will require on-street marked accessible parking wherever individually marked spaces are provided.

- ▣ Spaces shall be installed whenever a street is reconstructed or resurfaced.
- ▣ Spaces shall be at ratio of 1 vehicle for every 25 spaces provided on a block.
- ▣ Spaces shall be demarcated with blue paint, blue meter post, and standard disabled parking sign.
- ▣ Spaces on angled parking areas are encouraged.
- ▣ On parallel parking, a five foot wide loading zone on passenger side will be required when sidewalks are 14 ft. wide or greater.



2016 PROPOSED CONSTRUCTION:
HAMILTON AVE. (3 blocks) AND PARK ST. (1 block)
Three accessible parking spaces proposed.

64 Existing Spaces converted to disabled use only, metered and enforced at the same time limit as other meters in the immediate area.

Currently, disabled parkers are encouraged to park on the street:

- During a recent survey on a busy shopping day, a total of 121 different vehicles were observed parked with a disabled permit. About 80% (almost 100 vehicles) were in metered spaces.



What's Next?

- ▣ Detailed Review at Advisory Parking Committee Meeting (January 20)
- ▣ If recommended, proceed to City Commission in February.
- ▣ Spaces will be constructed fully ADA compliant on Hamilton Ave. project.
- ▣ Spaces on other streets will be retrofitted by end of June, 2016.



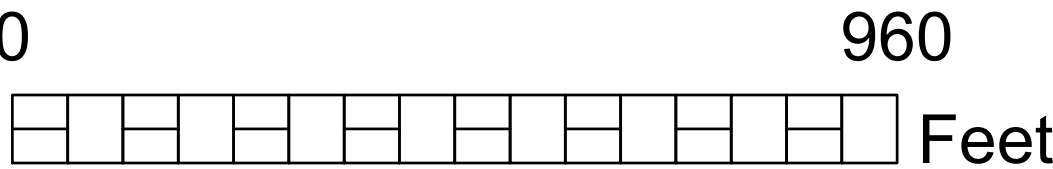
Legend

PARKING

- Standard
- HCP



Downtown Parking District
Handicap Parking Plan



Disclaimer: The information provided by this program has been compiled from recorded deeds, plats, taxmaps, surveys, and other public records and data. It is not a legally recorded map or survey.

The data provided hereon may be inaccurate or out of date and any person or entity who relies on said information for any purpose whatsoever does so solely at his or her own risk.

Data Sources: Oakland County GIS Utility, City of Birmingham

HANDICAP CARS PARKED AT A CITY METER

MONDAY, 12/21/2015

TIME ZONES: 9AM TO 9PM

<u>METER STREETS</u>	<u># HANDICAP PARKERS</u>
ANN ST	4
BATES SOUTH	9
BATES NORTH	2
BROWN EAST	7
BROWN WEST	1
CHESTER	8
DAINES	4
EUCLID	1
FRANK EAST	2
GEORGE	0
HARMON	6
HAZEL	1
HENRIETTA	5
LANDON	1
MAPLE EAST	11
MAPLE WEST	8
MARTIN	9
MERRILL	6
OAKLAND	2
OLD WOODWARD SOUTH	22
OLD WOODWARD NORTH	15
PIERCE	9
RAVINE	2
TOWNSEND	12
WILLITS	5
LOT #6	0
LOT #7	0
<u>TOTAL</u>	<u>152</u>



MEMORANDUM

Engineering Dept.

DATE: January 14, 2016
TO: Advisory Parking Committee
FROM: Paul T. O'Meara, City Engineer
SUBJECT: Off Site Parking Options

As you know, monthly parking permit demand has grown significantly beyond what the parking system can support, resulting in a large waiting list at all five parking structures. Attached under another agenda item in this package are the most recent materials from the Ad Hoc Parking Development Committee's most recent meeting. (A verbal update of that meeting will be provided at the meeting.) The Development Committee represents the long term solution to this issue.

To provide a more immediate response, last May the Advisory Parking Committee was updated on initiatives the City Manager's office was pursuing, including possibly renting existing church parking lots for alternative parking areas. At that time, a program of carpooling was suggested as a means to get four employees to group together, parking three cars at the remote lot, and one at the Chester St. Structure. While no one has used the carpooling option to date, it is still considered a viable option. In the past several months, two other options have surfaced as possible ways to address this problem:

Shuttle – After reviewing the feasibility with a private company, it is possible that a large employer could hire a company to provide a shuttle from a remote parking lot to the specific downtown office of the company paying for the service. It is possible that more than one company could work together to make this more affordable.

Valet – The City also reviewed the feasibility of a private company being hired by a large employer to run a valet service. The valet would have more staff at the beginning and end of the day, and take individual cars from the employer's office to the remote parking lot.

The attached flyer has been prepared, and will now be available in the SP+ Parking office. If staff gets questions or comments about the lack of parking from large employers, they will have this sheet available to hand out to those that may be interested in other options. The cost structure for carpooling would be completely between the employer and the City. The City's costs that would need to be covered would include the church parking lot rental (negotiated at \$10,000 per year per lot, ranging in size from 45 to 70 cars), and the cost of one monthly permit (for the benefit of four employees).

For the shuttle and valet operations, the City's rental fee for the remote lot would have to be covered. The employer would also be responsible for the cost of the private company's charges for valet or shuttle services.

While the feasibility of these programs may have seemed low in the past, as demand for parking continues to rise, we expect these programs to look more attractive. The current option of parking in a parking structure and paying \$5 per day can be brought down with these options, and hopefully will become more attractive. As employee demand makes the parking structures busier, the demand can also have negative consequences on customer parking as well. We will work to encourage these programs actually being used, in an effort to keep the parking structures open and available for shopper and customer traffic.

Birmingham Parking System Offers Additional Parking Opportunities

The City of Birmingham has the opportunity to offer approximately 200 parking spaces at off-site facilities in and around the City to companies on the waiting list for monthly parking permits willing to explore creative solutions. Any of these solutions will enable your staff to avoid the daily parking rate, and will offer a reduced monthly permit cost.

While the City is conducting its due diligence in examining long-term parking facility improvements, these interim opportunities are being offered to expand current parking capacity and address current demands. Three sites have agreed to participate, including the First United Methodist Church at 1589 W. Maple Road, Our Shepherd Lutheran Church at 2225 E. 14 Mile Road, and Ascension of Christ Lutheran Church at 16935 W. 14 Mile Road in Beverly Hills. The opportunity to utilize these spaces can be accomplished in three alternative forms.



Carpooling –

A parking lot would be made available for employee carpooling, and monthly parking permits in the Chester St. Structure would be issued to a select number of companies that choose to participate.

Parking Shuttle –

An exclusive shuttle service would be provided to transport employees from one of the parking facilities to the door of the business and return them at the end of the day.

Valet Parking –

A valet station would be set up at a business location to transport employee vehicles to a surface lot for parking and return their cars at the end of the day.

Given the logistics of administering off-site parking, arrangements must be made with businesses with groups of 20 or more employees. Additional solutions may be considered for these spaces that meet the objectives of the interim program.

Cost: Monthly parking permits issued under this arrangement would be issued at a reduced rate from the current permit fees. Individual rates would be determined by the alternative selected.

Questions: For additional information on any of these alternatives, please contact our parking agency to discuss these alternatives at Spplusbirmingham@spplus.com or call 248-540-9690.

AD HOC PARKING DEVELOPMENT COMMITTEE
WEDNESDAY, JANUARY 13, 2016
8:00 A.M.
ROOM 205
151 MARTIN ST., BIRMINGHAM, MI

- A. Roll Call
- B. Introductions
- C. Review of Agenda
- D. Approval of Minutes, December 9, 2015
- E. Presentation from Saroki/Carl Walker Team
Discussion
- F. Articles of General Information
- G. Meeting Open for Matters Not on the Agenda
- H. Adjournment

Notice: Due to building security, public entrance during non-business hours is through the Police Department, Pierce St. Entrance only. Individuals with disabilities requiring assistance to enter the building should request aid via intercom system at the parking lot entrance gate on Henrietta St.

Persons with disabilities that may require assistance for effective participation in this public meeting should contact the City Clerk's Office at the number (248) 530-1880, or (248) 644-5115 (for the hearing impaired) at least one day before the meeting to request help in mobility, visual, hearing, or other assistance.

Las personas con incapacidad que requieren algún tipo de ayuda para la participación en esta sesión pública deben ponerse en contacto con la oficina del escribano de la ciudad en el número (248) 530-1800 o al (248) 644-5115 (para las personas con incapacidad auditiva) por lo menos un día antes de la reunión para solicitar ayuda a la movilidad, visual, auditiva, o de otras asistencias. (Title VI of the Civil Rights Act of 1964).

**CITY OF BIRMINGHAM
AD HOC PARKING DEVELOPMENT COMMITTEE
8:00 A.M., WEDNESDAY, DECEMBER 9, 2015
Conference Room 205
151 Martin Street, Birmingham, Michigan**

Minutes of the meeting of the City of Birmingham Ad Hoc Parking Development Committee held December 9, 2015.

A. ROLL CALL

Present: Ad Hoc Committee Members:

Richard Astrein (PSD)
Scott Clein (Planning Board)
Rackeline Hoff (City Commissioner)
Terry Lang (Finance Representative)
Mark Nickita (City Commissioner)
Judy Paskiewicz (Advisory Parking Committee)

Absent: None

Administration: Joe Valentine, City Manager
Paul O'Meara, City Engineer
Austin Fletcher, Assistant City Engineer
Jana Ecker, Planning Director
Bruce Johnson, Building Official
John Heiney, PSD

Guests: Victor Saroki, Saroki Architecture
Jim Dimercurio, Saroki Architecture
Russell Randall, Carl Walker
Jay O'Dell, SP+

B. INTRODUCTIONS

Members and guests introduced themselves.

C. REVIEW AGENDA

There were no proposed modifications to the meeting agenda as presented.

D. APPROVAL OF MINUTES

Motion by Mr. Astrein
Seconded by Mr. Nickita to approve the Minutes of the Regular Meeting of October 20, 2015
as presented

Motion carried, 6-0

E. PRESENTATION FROM SAROKI / CARL WALKER TEAM DISCUSSION

Mr. O'Meara provided a brief overview and introduced the Consultant Team

Mr. Saroki indicated the purpose of today's presentation was to provide the Committee with several expansion/development options for both the Pierce St. and N. Old Woodward sites. They included expanding the existing structures, adding development opportunities and redeveloping the sites.

General discussion took place in regards to the proposed heights, retail space along Pierce, Brown and Bates, open space, access to the river and the balance between additional parking and development.

Mr. Saroki asked if any options could be removed from consideration at this time. The Committee agreed that Scheme # 2 could be removed for the Pierce St. site and that all options should remain for the N. Old Woodward site.

Ms. Hoff inquired as to what the next step(s) should be.

Mr. Valentine suggested the Consulting Team provide a matrix to the Committee prior to the next meeting. It should summarize the various schemes for each site to include; number of spaces gained, square footage of potential development, proposed height, costs, etc...

F. MEETING OPEN FOR MATTERS NOT ON THE AGENDA

Ms. Hoff informed the Committee that Mr. Kennedy had resigned and that the City is currently excepting applications to fill his position on the committee

G. ADJOURNMENT

No further business being evident, committee members motioned to adjourn at 10:05 a.m.

NEXT REGULARLY SCHEDULED MEETINGS

January 13, 2016

Sincerely,

Paul T. O'Meara,
City Engineer

DOWNTOWN PARKING SYSTEM EXPANSION PROJECT

WORKING COMMITTEE MEETING #2

JANUARY 13, 2016



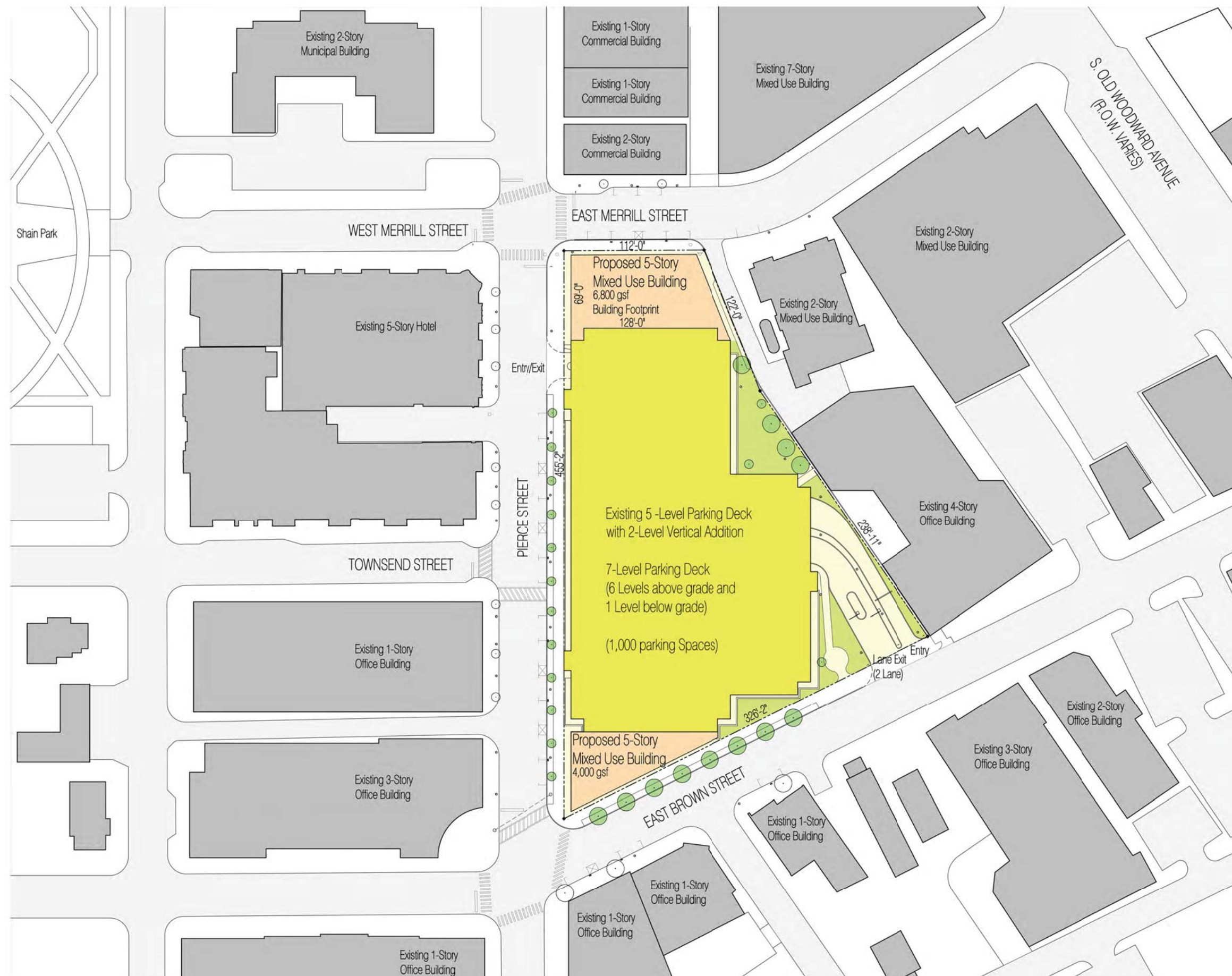
SAROKI
ARCHITECTURE

Carl
Walker



Existing Parking Summary:

Surface Total Spaces:	0 spaces
5 Level Structure Total Spaces:	720 spaces
Existing Combined Total Spaces:	720 spaces



Key Site Elements:

- Existing parking structure to remain with a new (2) level vertical addition.
- New Mixed Use Building at East Merrill.
- New Mixed Use Building at Brown Street.

Proposed Parking Summary:

Current Total Parking
at Existing Site: 720 spaces

Desired Total Site Parking: 1147 spaces
(desired 427 additional spaces to south
half of the central business district)

Surface Total Spaces: 0 spaces

7 Level Structure
Total Spaces: 1,000 spaces

Net gain of spaces 280 Spaces

New Development
Parking Demand 96 Spaces



Key Site Elements:

- New Parking Structure.
- New Mixed Use Building at East Merrill.
- (With parking below grade).

Proposed Parking Summary:

Current Total Parking at Existing Site:	720 spaces
Desired Total Site Parking:	1147 spaces (desired 427 additional spaces to south half of the central business district)
Surface Total Spaces:	0 spaces
7 Level Structure Total Spaces	1,184 spaces
Net Gain of Spaces:	464 Spaces
New Development Parking Demand	141 Spaces





Key Site Elements:

- New Parking Structure.
- New Mixed Use Building at East Merrill.
(With parking below grade)
- New Mixed Use Building at Brown Street.
(With parking below grade)

Proposed Parking Summary:

Current Total Parking at Existing Site:	720 spaces
Desired Total Site Parking:	1147 spaces (desired 427 additional spaces to south half of the central business district)
Surface Total Spaces:	0 spaces
8 Level Structure Total Spaces	1,162 spaces
Net Gain of Spaces:	442 Spaces
New Development Parking Demand	178 Spaces

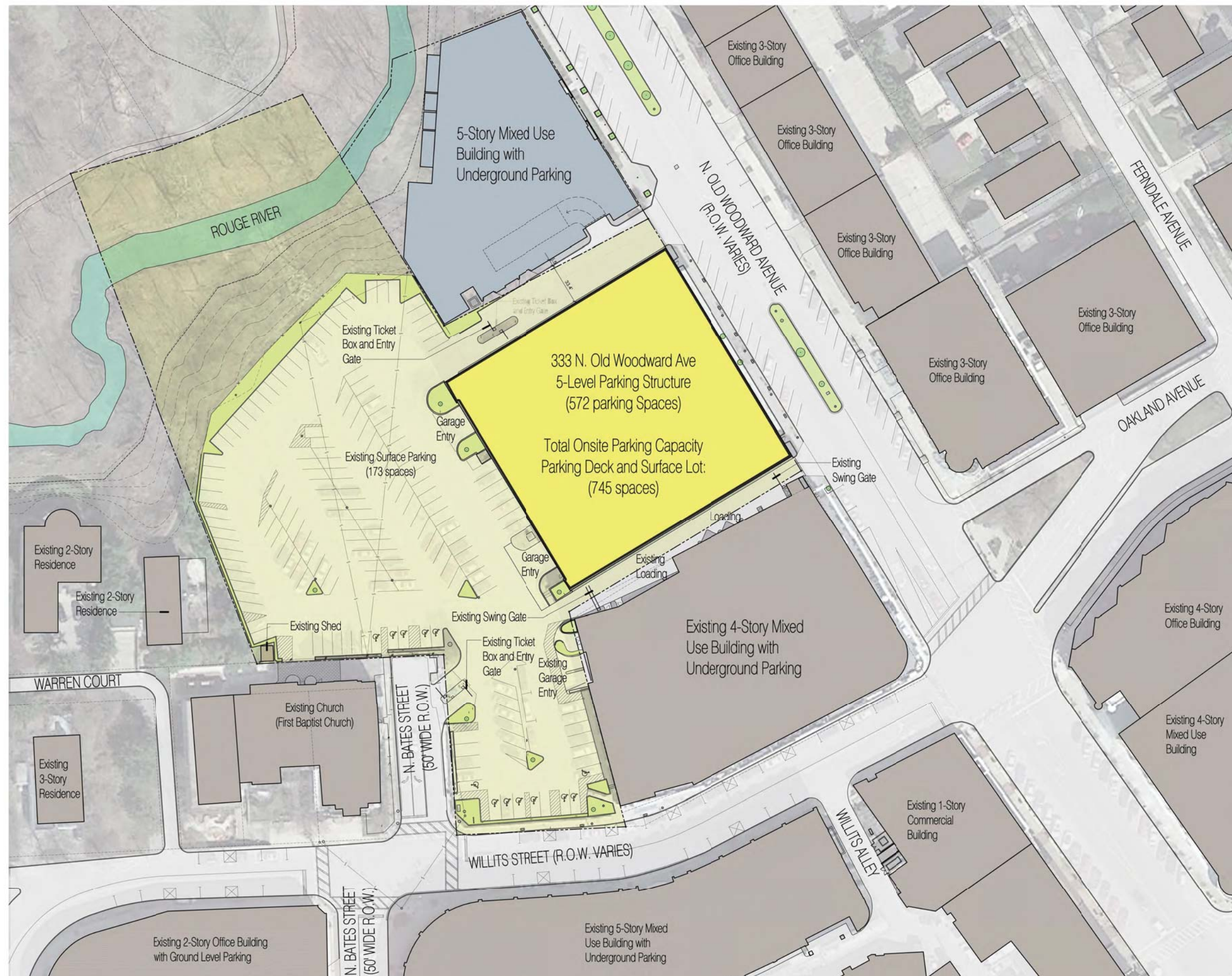


Key Site Elements:

- New Parking Structure.
- New Mixed Use Building at East Merrill.
(With parking below grade)
- New Mixed Use Building at Brown Street.
(With parking below grade)
- New Retail Liner Building at East Brown.

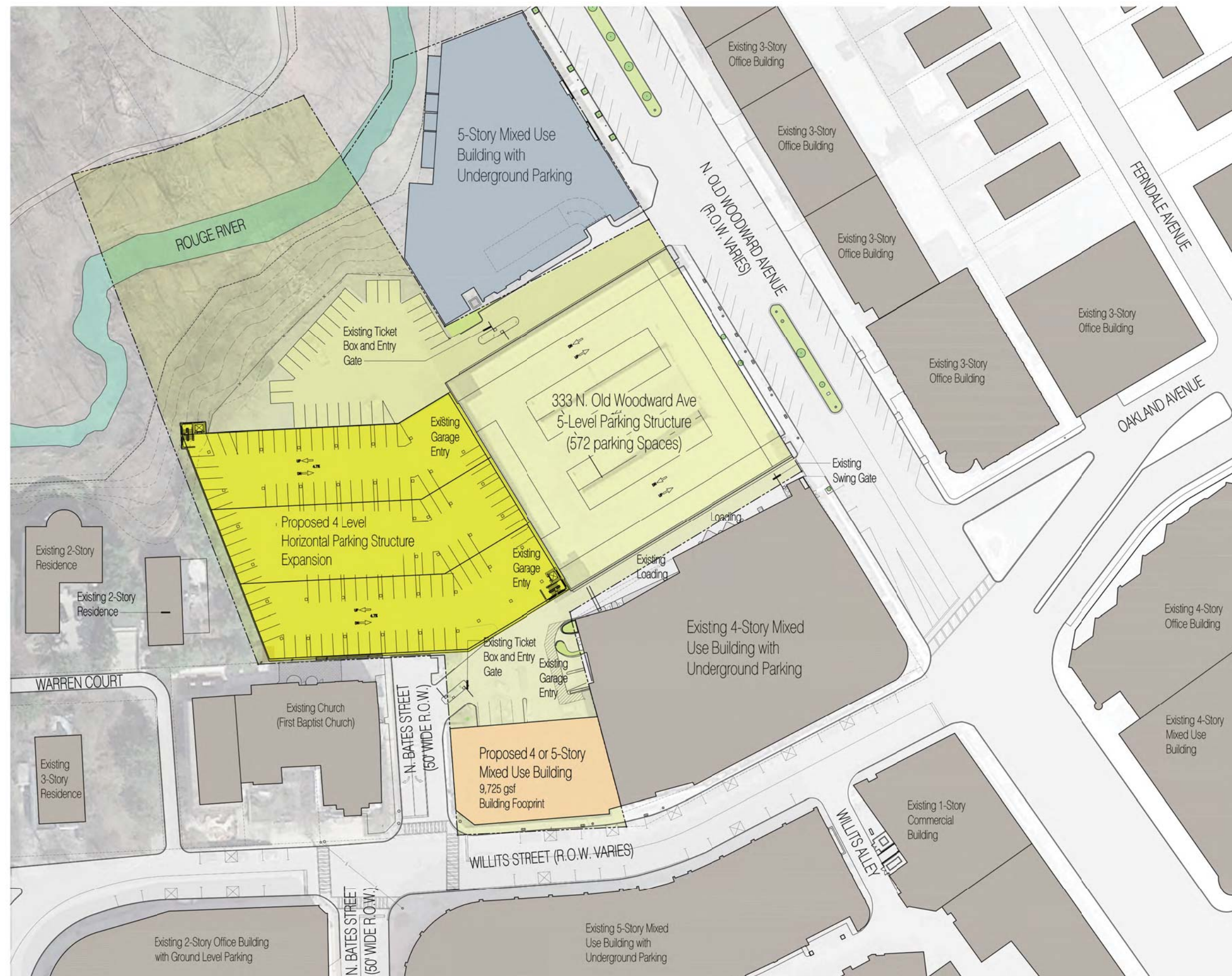
Proposed Parking Summary:

Current Total Parking at Existing Site:	720 spaces
Desired Total Site Parking:	1147 spaces (desired 427 additional spaces to south half of the central business district)
Surface Total Spaces:	0 spaces
8 Level Structure Total Spaces	1,152 spaces
Net Gain of Spaces:	432 Spaces
New Development Parking Demand	189 Spaces



Existing Parking Summary:

Surface Total Spaces:	179 spaces
5 Level Structure Total Spaces:	572 spaces
Existing Combined Total Spaces:	745 spaces



Key Site Elements:

New Horizontal Parking Structure Expansion
New Mixed Use Building at Willits

Proposed Parking Summary:

Current Total Parking
at Existing Site: 745 spaces

Desired Total Site Parking: 1023 spaces
(278 desired total site net gain)

Surface Total Spaces: 31 spaces

5 Level Existing Structure
Total Spaces: 566 spaces
(6 spaces lost at tie-in
with new structure)

Proposed Combined
Total Spaces: 1094 Spaces

Net gain of spaces: 349 Spaces



Key Site Elements:

Bates Street Extension Road - 25' Wide Road
 New Parking Structure
 New Mixed Use Building at Woodward
 New Mixed Use Building at Willits

(2) New Residential Building

New Public Plaza with Stair and Bridge

Proposed Parking Summary:

Current Total Parking
 at Existing Site: 745 spaces

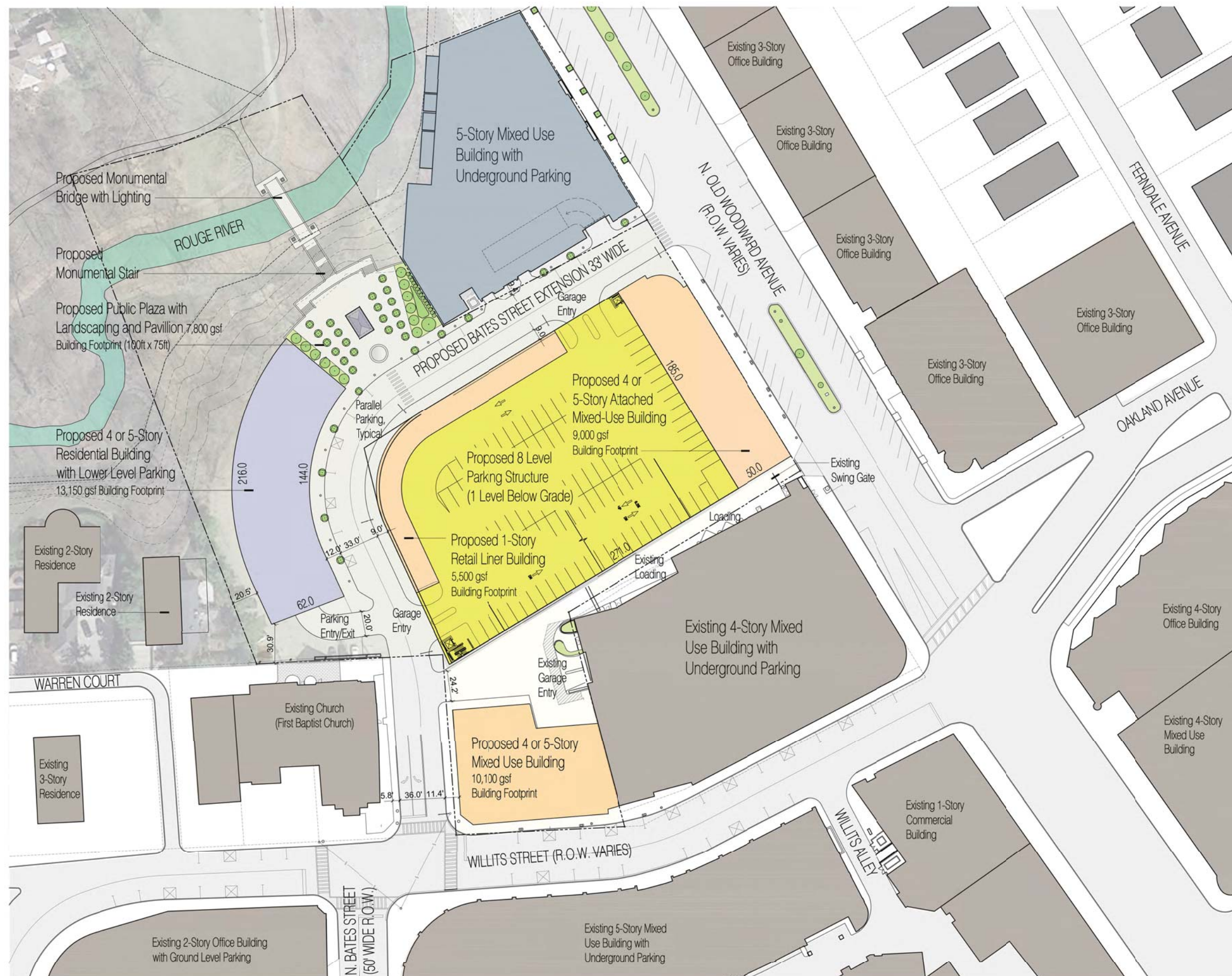
Desired Total Site Parking: 1023 spaces
 (278 desired total site net gain)

Surface Total Spaces: 10 spaces

8 Level Structure
 Total Spaces 1153 spaces

Net gain of spaces: 408 Spaces

New Development
 Parking Demand 164 Spaces



Key Site Elements:

Bates Street Extension Road - 33' Wide Road
 New Parking Structure
 New Mixed Use Building at Woodward
 New Mixed Use Building at Willits
 New Retail Liner Building in Parking Structure

(1) New Residential Building

New Public Plaza with Stair and Bridge

Proposed Parking Summary:

Current Total Parking
 at Existing Site: 745 spaces

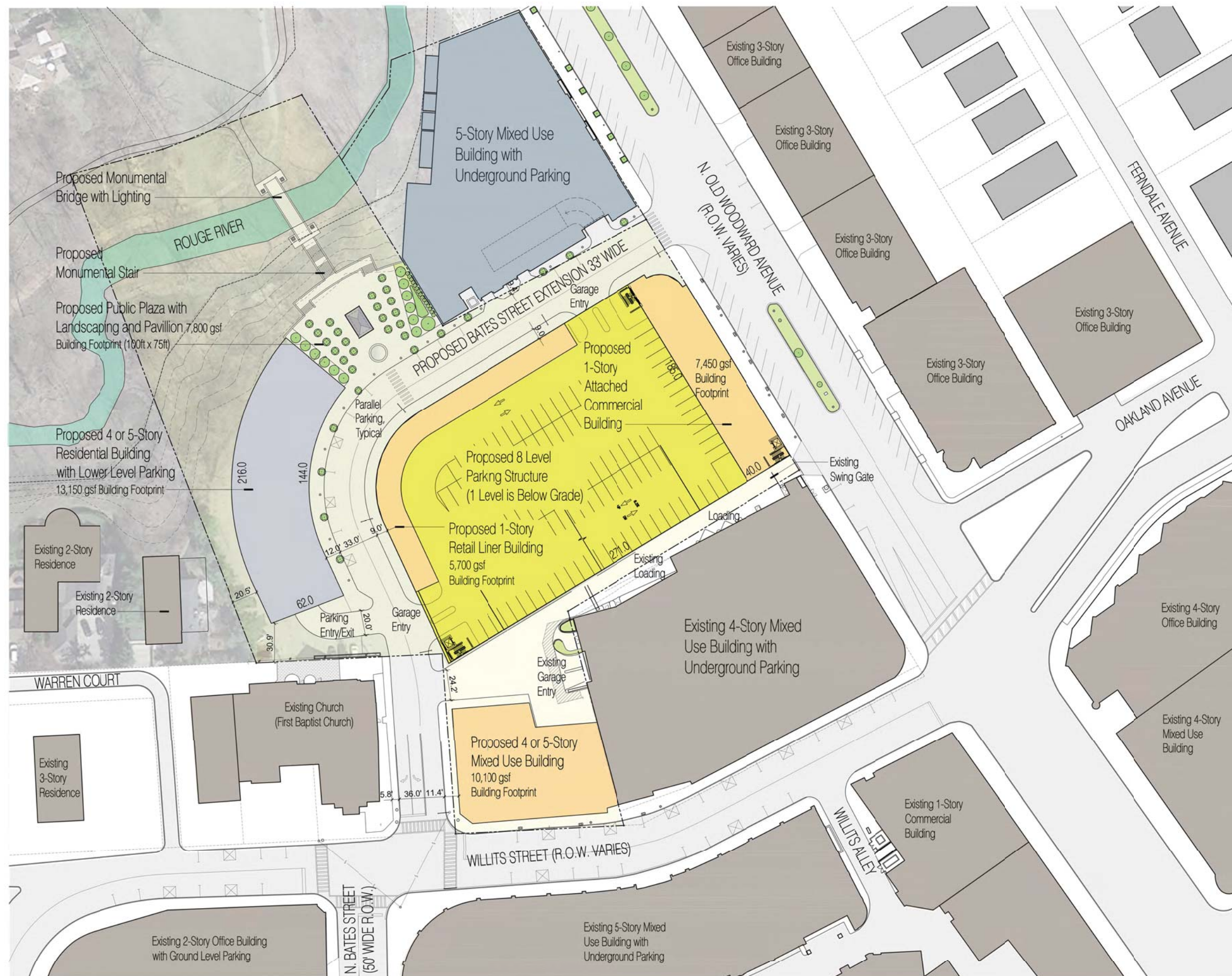
Desired Total Site Parking: 1023 spaces
 (278 desired total site net gain)

Surface Total Spaces: 10 spaces

8 Level Structure
 Total Spaces 1124 spaces

Net gain of spaces: 379 Spaces

New Development
 Parking Demand 180 Spaces



Key Site Elements:

Bates Street Extension Road - 33' Wide Road
 New Parking Structure
 New Commercial Building at Woodward
 New Mixed Use Building at Willits
 New Retail Liner Building in Parking Structure

(1) New Residential Building

New Public Plaza with Stair and Bridge

Proposed Parking Summary:

Current Total Parking
 at Existing Site: 745 spaces

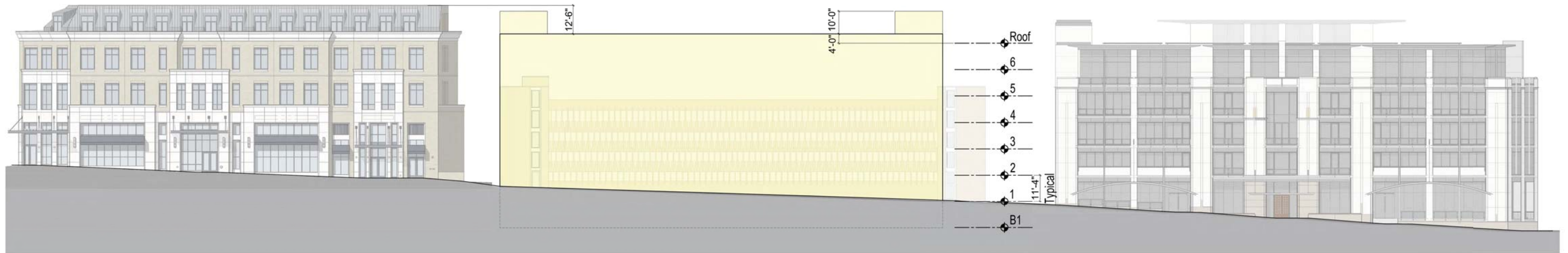
Desired Total Site Parking: 1023 spaces
 (278 desired total site net gain)

Surface Total Spaces: 10 spaces

8 Level Structure
 Total Spaces 1274 spaces

Net gain of spaces: 529 Spaces

New Development
 Parking Demand 113 Spaces



**333 N. Old Woodward
Proposed New Structure Elevation**

City of Birmingham Site Feasibility

Carl Walker, Inc. Project #: N1-2015-198
January 7, 2016



Parking Structure Site Options						
333 Pierce Street						
		Scheme 1	Scheme 1A	Scheme 3	Scheme 3A	Vertical Expansion
General Parking Structure Statistics						
1	Existing Parking Spaces	720	720	720	720	720
2	Desired Additional Parking Spaces	427	427	427	427	427
3	Desired Total Parking Spaces	1,147	1,147	1,147	1,147	1,147
4	Number of Spaces	1,184	1,156	1,162	1,152	1,000
5	Existing Parking Spaces Displaced	720	720	720	720	0
6	Net Gain of Spaces =	464	436	442	432	280
7	Demand Generated by New Mixed-Use Buildings (1 Space/564 SF)	141	151	185	189	0
8	Net Local Gain of Spaces =	323	285	257	243	280
9	Number of Spaces Below Mixed-Use Building	94	94	56	56	--
10	Dimensions of Parking Structure	246'x227'	246'x227'	124'x184', 62'x200'	124'x184', 62'x200'	124'x324', 64'x177'
11	Ramping System	Single Helix	Single Helix	Single Helix	Single Helix	Single Helix
12	Number of Levels (grade level and above)	5	5	6	6	
13	Number of Levels Below Grade	2	2	2	2	1
14	Total Number of Levels	7	7	8	8	1
Parking Efficiency						
15	Total Parking Structure Area (SF)	413,995	408,500	393,330	391,030	106,000
16	Parking Structure Efficiency (Sq. Ft./Space)	350	353	338	339	379
17	Concept Ranked by Parking Efficiency	3	4	1	2	5
General Items						
18	# of Stairs	2	2	3	3	3
19	# of Elevators	2	2	1	1	2
20	# of Vehicle Entry / Exits	2/2	2/2	2/2	2/2	2/2
21	Flat or relatively flat floors at perimeter	Yes - Pierce	Yes - Pierce	Yes - Pierce & Brown	Yes - Pierce & Brown	Yes - Pierce & Brown
22	Short or Long Span Construction	Long Span	Long Span	Long Span	Long Span	Short Span
Retail Space Along Streets						
23	Dimensions	--	19'x175', 19'x54', 19'x60'	--	19'x120'	--
24	Location	--	Pierce & Brown	--	Brown	--
25	Retail Area (SF)	0	5,495	0	2,300	0
Mixed-Use Space						
26	# Mixed-Use Buildings	1	1	2	2	1
27	Building Area per Floor (SF)	15,940	15,940	20,835	20,835	6,800
28	Number of Levels	5	5	5	5	5
29	Total Building Area (SF)	79,700	79,700	104,175	104,175	34,000
Parking Geometrics & Circulation						
30	Number of Bays	4	4	3	3	3
31	Angle of Parking	90 Degree	90 Degree	90 Degree	90 Degree	90 Degree
32	1-Way or 2-Way Traffic Flow, or Both	2-Way	2-Way	2-Way	2-Way	2-Way
Conceptual Parking Structure Comparative Construction Cost						
32	Base Parking Structure Comparative Unit Cost (\$/SF)	\$62.00	\$62.00	\$62.00	\$62.00	\$85.00
33	Base Parking Structure Cost	\$25,667,690	\$25,327,000	\$24,386,460	\$24,243,860	\$9,010,000
34	Premium Cost: 1st Level Below Grade (B1) (\$25/SF)	\$1,799,125	\$1,799,125	\$1,431,000	\$1,431,000	N/A
35	Premium Cost: 2nd Level Below Grade (B2) (\$50/SF)	\$3,413,000	\$3,413,000	\$2,862,000	\$2,862,000	N/A
36	Premium Cost: Retail Shell (Base Cost + \$25/SF)	\$0	\$478,065	\$0	\$200,100	N/A
37	Premium Cost: Painted Ceilings (\$1.50/SF)	\$620,993	\$612,750	\$589,995	\$586,545	\$159,000
38	Demolition of Existing Parking Structure	\$800,000	\$800,000	\$800,000	\$800,000	N/A
39	SUBTOTAL	\$32,300,808	\$32,429,940	\$30,069,455	\$30,123,505	\$9,169,000
40	Concept Design Contingency (10%)	\$3,230,081	\$3,242,994	\$3,006,946	\$3,012,351	\$916,900
41	Parking Structure Preliminary Construction Cost =	\$35,530,888	\$35,672,934	\$33,076,401	\$33,135,856	\$10,085,900
42	Parking Structure Cost per SF =	\$85.82	\$87.33	\$84.09	\$84.74	\$95.15
43	Cost Per Structured Parking Space =	\$30,009	\$30,859	\$28,465	\$28,764	\$36,021
44	Cost Per Net Parking Space =	\$76,575	\$81,819	\$74,833	\$76,703	\$36,021

COST PREMIUMS

Premium Cost: 1st Level Below Grade (B1)	\$25 SF
Premium Cost: 2nd Level Below Grade (B2)	\$50 SF
Premium Cost: Retail Shell	\$25 SF
Premium Cost: Stained Ceilings	\$1.50 SF

New Demand Ratio 564 1 Space/#SF

SCHEME 1

LEVEL	SPACES	AREA
Level 5	147	50,290
Level 4	167	55,870
Level 3	167	55,870
Level 2	167	55,870
Level 1	145	55,870
Level B1	195	71,965
Level B2	196	68,260
TOTAL	1,184	413,995

Efficiency (SF/Space) 350
Retail Along Street 0

Mixed-Use Buildings 1
Area 1 15,940
Area 2 0
Total Area 15,940

SCHEME 1A

LEVEL	SPACES	AREA
Level 5	147	50,290
Level 4	167	55,870
Level 3	167	55,870
Level 2	167	55,870
Level 1	117	50,375
Level B1	195	71,965
Level B2	196	68,260
TOTAL	1,156	408,500

Efficiency (SF/Space) 353
Retail Along Street 5,495

Mixed-Use Buildings 1
Area 1 15,940
Area 2 0
Total Area 15,940

SCHEME 3

LEVEL	SPACES	AREA
Level 6	124	42,700
Level 5	141	47,230
Level 4	141	47,230
Level 3	141	47,230
Level 2	141	47,230
Level 1	130	47,230
Level B1	174	57,240
Level B2	170	57,240
TOTAL	1,162	393,330

Efficiency (SF/Space) 338
Retail Along Street 0

Mixed-Use Buildings 2
Area 1 9,890
Area 2 10,945
Total Area 20,835

SCHEME 3A

LEVEL	SPACES	AREA
Level 6	124	42,700
Level 5	141	47,230
Level 4	141	47,230
Level 3	141	47,230
Level 2	141	47,230
Level 1	120	44,930
Level B1	174	57,240
Level B2	170	57,240
TOTAL	1,152	391,030

Efficiency (SF/Space) 339
Retail Along Street 2,300

Mixed-Use Buildings 2
Area 1 9,890
Area 2 10,945
Total Area 20,835

City of Birmingham Site Feasibility

Carl Walker, Inc. Project #: N1-2015-198
January 7, 2016



Parking Structure Site Options						
333 N. Old Woodward Avenue						
		Scheme 1	Scheme 1A	Scheme 2	Scheme 2A	Horizontal Expansion
General Parking Structure Statistics						
1	Existing Parking Spaces - Parking Structure	572	572	572	572	572
2	Existing Parking Spaces - Surface Lot	173	173	173	173	173
3	Total Existing Parking Spaces	745	745	745	745	745
4	Desired Additional Parking Spaces	278	278	278	278	278
5	Desired Total Parking Spaces	1,023	1,023	1,023	1,023	1,023
6	Number of Spaces	1,153	1,124	1,304	1,274	1,094
7	Existing Parking Spaces Displaced	745	745	745	745	179
8	Net Gain of Spaces =	408	379	559	529	349
9	Demand Generated by New Mixed-Use Buildings (1 Space/564 SF)	164	174	95	105	86
10	Net Local Gain of Spaces =	244	205	464	424	263
11	Number of Spaces Below Mixed-Use Building	0	0	0	0	--
12	Dimensions of Parking Structure	185'x264'	185'x264'	185'x314'	185'x314'	185'
13	Ramping System	Single Helix	Single Helix	Single Helix	Single Helix	Single Helix
14	Number of Levels (grade level and above)	7	7	7	7	4
15	Number of Levels Below Grade	1	1	1	1	0
16	Total Number of Levels	8	8	8	8	4
Parking Efficiency						
17	Total Parking Structure Area (SF)	372,475	367,235	423,580	418,165	171,220
18	Parking Structure Efficiency (Sq. Ft./Space)	323	327	325	328	328
19	Concept Ranked by Parking Efficiency	1	3	2	5	3
General Items						
20	# of Stairs	2	2	3	3	2
21	# of Elevators	2	2	1	1	2
22	# of Vehicle Entry / Exits	2/2	2/2	2/2	2/2	2/2
23	Flat or relatively flat floors at perimeter	Yes - Bates	Yes - Bates	Yes - Bates	Yes - Bates	No
24	Short or Long Span Construction	Long Span	Long Span	Long Span	Long Span	Long Span
Retail Space Along Streets						
25	Dimensions	--	19'x275'	--	19'x285'	--
26	Location	--	Bates	--	Bates	--
27	Retail Area (SF)	0	5,240	0	5,415	0
Mixed-Use Space						
28	# Mixed-Use Buildings	2	2	2	2	1
29	Building Area per Floor (SF)	18,525	18,525	16,085	16,085	9,725
30	Number of Levels	5	5	5	5	5
31	Total Building Area (SF)	92,625	92,625	80,425	80,425	48,625
Parking Geometrics & Circulation						
32	Number of Bays	3	3	3	3	3
33	Angle of Parking	90 Degree	90 Degree	90 Degree	90 Degree	90 Degree
34	1-Way or 2-Way Traffic Flow, or Both	2-Way	2-Way	2-Way	2-Way	2-Way
Conceptual Parking Structure Comparative Construction Cost						
35	Base Parking Structure Comparative Unit Cost (\$/SF)	\$62.00	\$62.00	\$62.00	\$62.00	\$62.00
36	Base Parking Structure Cost	\$23,093,450	\$22,768,570	\$26,261,960	\$25,926,230	\$10,615,640
37	Premium Cost: 1st Level Below Grade (B1) (\$25/SF)	\$1,083,250	\$1,083,250	\$1,124,000	\$1,124,000	--
38	Premium Cost: 2nd Level Below Grade (B2) (\$50/SF)	\$0	\$0	\$0	\$0	--
39	Premium Cost: Retail Shell (Base Cost + \$25/SF)	\$0	\$455,880	\$0	\$471,105	--
40	Premium Cost: Painted Ceilings (\$1.50/SF)	\$558,713	\$550,853	\$635,370	\$627,248	\$256,830
41	Demolition of Existing Parking Structure	\$600,000	\$600,000	\$600,000	\$600,000	--
42	Upgrade Façade of Existing Parking Structure	--	--	--	--	\$400,000
43	Upgrade Lighting in Existing Parking Structure	--	--	--	--	\$600,000
44	Premium Cost: Connection to Existing	--	--	--	--	\$50,000
45	SUBTOTAL	\$25,335,413	\$25,458,553	\$28,621,330	\$28,748,583	\$11,922,470
46	Concept Design Contingency (10%)	\$2,533,541	\$2,545,855	\$2,862,133	\$2,874,858	\$1,192,247
47	Parking Structure Preliminary Construction Cost =	\$27,868,954	\$28,004,408	\$31,483,463	\$31,623,441	\$13,114,717
48	Parking Structure Cost per SF =	\$74.82	\$76.26	\$74.33	\$75.62	\$76.60
49	Cost Per Structured Parking Space =	\$24,171	\$24,915	\$24,144	\$24,822	\$26,494
50	Cost Per Net Parking Space =	\$68,306	\$73,890	\$56,321	\$59,780	\$37,578



		Parking Structure Site Options				
		333 N. Old Woodward Avenue				
		Scheme 1	Scheme 1A	Scheme 2	Scheme 2A	Horizontal Expansion
1	*Residential Development Estimated Land Value (gsf x \$75)	\$6,300,000.00	\$4,931,250.00	\$6,300,000.00	\$4,931,250.00	n/a
2	*Mixed Use Development Estimated Land Value-Woodward (gsf x \$75)	\$3,468,750.00	\$3,468,750.00	n/a	n/a	n/a
3	*Mixed Use Development Estimated Land Value-Willits (gsf x \$75)	\$3,478,128.00	\$3,478,128.00	\$3,478,128.00	\$3,478,128.00	n/a
4	Total	\$13,246,878.00	\$11,878,128.00	\$9,778,128.00	\$8,409,378.00	n/a

COST PREMIUMS

Premium Cost: 1st Level Below Grade (B1)	\$25 SF
Premium Cost: 2nd Level Below Grade (B2)	\$50 SF
Premium Cost: Retail Shell	\$25 SF
Premium Cost: Stained Ceilings	\$1.50 SF

New Demand Ratio 564 1 Space/#SF

SCHEME 1

LEVEL	SPACES	AREA
Level 7	136	43,695
Level 6	149	47,575
Level 5	149	47,575
Level 4	149	47,575
Level 3	149	47,575
Level 2	149	47,575
Level 1	140	47,575
Level B1	132	43,330
Level B2	0	0
TOTAL	1,153	372,475

Efficiency (SF/Space) 323
Retail Along Street 0

Mixed-Use Buildings 2
Area 1 8,800
Area 2 9,725
Total Area 18,525

SCHEME 1A

LEVEL	SPACES	AREA
Level 7	136	43,695
Level 6	149	47,575
Level 5	149	47,575
Level 4	149	47,575
Level 3	149	47,575
Level 2	149	47,575
Level 1	111	42,335
Level B1	132	43,330
Level B2	0	0
TOTAL	1,124	367,235

Efficiency (SF/Space) 327
Retail Along Street 5,240

Mixed-Use Buildings 2
Area 1 8,800
Area 2 9,725
Total Area 18,525

SCHEME 2

LEVEL	SPACES	AREA
Level 7	160	52,120
Level 6	177	56,620
Level 5	177	56,620
Level 4	177	56,620
Level 3	177	56,620
Level 2	154	50,010
Level 1	145	50,010
Level B1	137	44,960
Level B2	0	0
TOTAL	1,304	423,580

Efficiency (SF/Space) 325
Retail Along Street 0

Mixed-Use Buildings 2
Area 1 6,360
Area 2 9,725
Total Area 16,085

SCHEME 2A

LEVEL	SPACES	AREA
Level 7	160	52,120
Level 6	177	56,620
Level 5	177	56,620
Level 4	177	56,620
Level 3	177	56,620
Level 2	154	50,010
Level 1	115	44,595
Level B1	137	44,960
Level B2	0	0
TOTAL	1,274	418,165

Efficiency (SF/Space) 328
Retail Along Street 5,415

Mixed-Use Buildings 2
Area 1 6,360
Area 2 9,725
Total Area 16,085

SCHEME 1

LEVEL	SPACES	AREA
Level 6	136	43,695
Level 5	149	47,575
Level 4	149	47,575
Level 3	149	47,575
Level 2	149	47,575
Level 1	140	47,575
Level B1	149	47,575
Level B2	132	43,330
TOTAL	1,153	372,475

Efficiency (SF/Space) 323

SCHEME 1A

LEVEL	SPACES	AREA
Level 6	136	43,695
Level 5	149	47,575
Level 4	149	47,575
Level 3	149	47,575
Level 2	149	47,575
Level 1	111	42,335
Level B1	149	47,575
Level B2	132	43,330
TOTAL	1,124	367,235

Efficiency (SF/Space) 327

SCHEME 2

LEVEL	SPACES	AREA
Level 5	160	52,120
Level 4	177	56,620
Level 3	177	56,620
Level 2	154	50,010
Level 1	145	50,010
Level B1	154	49,185
Level B2	137	44,960
TOTAL	1,104	359,525

Efficiency (SF/Space) 326

SCHEME 2A

LEVEL	SPACES	AREA
Level 5	160	52,120
Level 4	177	56,620
Level 3	177	56,620
Level 2	154	50,010
Level 1	115	44,595
Level B1	154	49,185
Level B2	137	44,960
TOTAL	1,074	354,110

Efficiency (SF/Space) 330

**Birmingham Parking System
Transient & Free Parking Analysis
Months of December 2014 & December 2015**

December 2014

GARAGE	TOTAL CARS	FREE CARS	CASH REVENUE	%FREE
PEABODY	19,556	11,683	\$ 18,729.21	60%
PARK	7,220	4,530	\$ 7,732.15	63%
CHESTER	8,016	5,387	\$ 8,415.70	67%
WOODWARD	12,615	6,651	\$ 28,298.45	53%
PIERCE	32,935	19,631	\$ 40,653.00	60%
TOTALS	80,342	47,882	\$ 103,828.51	60%

December 2015

GARAGE	TOTAL CARS	FREE CARS	CASH REVENUE	% FREE
PEABODY	19,955	12,484	\$ 18,030.30	63%
PARK	23,752	11,577	\$ 36,652.80	49%
CHESTER	6,874	4,383	\$ 10,195.00	64%
WOODWARD	16,559	10,093	\$ 24,462.50	61%
PIERCE	34,044	19,722	\$ 45,080.00	58%
TOTALS	101,184	58,259	\$ 134,420.60	58%

BREAKDOWN:

TOTAL CARS	+30%
FREE CARS	+22%
CASH REVENUE	+29%

City of Birmingham
Parking Structures-Combined
Income Statement
Fiscal Year Comparison

Fiscal 13-14

	Month Ended 31-Jul-14	Month Ended 31-Aug-14	Month Ended 30-Sep-14	Month Ended 31-Oct-14	Month Ended 30-Nov-14	Month ending 31-Dec-14	Month Ended 31-Jan-15	Month Ended 28-Feb-15	Month Ended 31-Mar-15	Month Ending 30-Apr-15	Month Ended 31-May-15	Month Ended 30-Jun-15	Total Fiscal 14-15
REVENUES:													
Revenues - Monthly parking	\$ 159,048.50	\$ 162,917.13	\$ 150,667.50	\$ 173,353.24	\$ 159,453.16	\$ 161,900.84	\$ 163,689.64	\$ 146,436.00	\$ 167,856.50	\$ 175,039.10	\$ 167,261.50	\$ 158,851.00	\$ 1,946,474.11
Revenues - Cash Parking	\$ 96,070.55	\$ 90,009.54	\$ 82,579.20	\$ 100,221.00	\$ 83,470.40	\$ 103,828.51	\$ 108,529.60	\$ 84,183.35	\$ 108,107.10	\$ 123,047.54	\$ 121,749.94	\$ 114,287.97	\$ 1,216,084.70
Revenues - Card Deposits	\$ 1,860.00	\$ 1,180.00	\$ 890.00	\$ 865.00	\$ 2,460.00	\$ 120.00	\$ 660.00	\$ 1,350.00	\$ 450.00	\$ 689.90	\$ 210.00	\$ 1,335.00	\$ 12,069.90
Revenue - Lot #6	\$ 2,100.00	\$ 11,700.00	\$ 19,495.00	\$ 250.00	\$ 13,300.00	\$ 16,245.00	\$ 352.50	\$ 10,815.00	\$ 19,570.00	\$ 1,260.00	\$ 12,670.00	\$ 15,608.50	\$ 123,366.00
Total Income	\$ 259,079.05	\$ 265,806.67	\$ 253,631.70	\$ 274,689.24	\$ 258,683.56	\$ 282,094.35	\$ 273,231.74	\$ 242,784.35	\$ 295,983.80	\$ 300,036.54	\$ 301,891.44	\$ 290,082.47	\$ 3,297,994.71
EXPENSES:													
Salaries and Wages	\$ 53,455.60	\$ 80,318.79	\$ 52,969.65	\$ 50,807.40	\$ 49,253.15	\$ 57,792.92	\$ 78,613.58	\$ 57,204.33	\$ 57,100.12	\$ 51,168.89	\$ 54,800.77	\$ 58,028.39	\$ 701,513.59
Payroll Taxes	\$ 4,086.65	\$ 7,254.15	\$ 3,869.26	\$ 4,706.95	\$ 4,556.44	\$ 4,687.33	\$ 11,506.20	\$ 8,082.26	\$ 6,983.88	\$ 3,888.50	\$ 5,579.21	\$ 5,885.10	\$ 71,085.93
Workmens Comp Insurance	\$ 1,867.06	\$ 2,805.15	\$ 1,850.02	\$ 1,774.54	\$ 1,720.15	\$ 1,744.80	\$ 3,037.92	\$ 2,138.30	\$ 2,080.79	\$ 1,862.45	\$ 2,053.14	\$ 2,200.51	\$ 25,134.83
Group Insurance	\$ 13,615.77	\$ 13,608.36	\$ 27,796.68	\$ 15,392.25	\$ 14,306.10	\$ 20,084.11	\$ 16,790.02	\$ 16,841.20	\$ 24,579.01	\$ 21,516.56	\$ 17,278.36	\$ 20,398.82	\$ 222,207.24
Uniforms	\$ 181.93	\$	\$ 33.96	\$ 991.93	\$ 262.12	\$ 138.02	\$ 3,963.65	\$	\$ 336.30	\$ 583.73	\$ 86.77	\$ 350.74	\$ 6,929.15
Insurance	\$ 7,838.68	\$ 7,838.68	\$ 8,838.68	\$ 7,838.68	\$ 7,838.68	\$ 7,838.68	\$ 8,388.64	\$ 8,397.59	\$ 10,888.64	\$ 8,388.64	\$ 8,388.64	\$ 8,388.64	\$ 100,872.87
Utilities	\$ 624.59	\$ 1,477.19	\$ 1,292.81	\$ 1,052.65	\$ 779.13	\$ 1,289.03	\$ 1,225.09	\$ 1,117.50	\$ 993.65	\$ 1,133.95	\$ 1,557.54	\$ 1,585.33	\$ 14,128.46
Maintenance	\$ 8,732.84	\$ 2,296.63	\$ 11,355.09	\$ 10,330.99	\$ 3,714.38	\$ 4,113.42	\$ 6,879.94	\$ 5,753.25	\$ 14,093.36	\$ 8,622.66	\$ 24,326.95	\$ 11,446.45	\$ 111,665.96
Parking Tags/Tickets	\$	\$	\$ 12,207.39	\$	\$	\$	\$ 292.87	\$ 2,826.48	\$ 456.86	\$	\$ 1,637.72	\$	\$ 17,421.32
Professional Services	\$ 3,988.97	\$ 3,988.97	\$ 3,988.97	\$ 3,988.97	\$ 3,941.47	\$ 3,988.97	\$ 3,988.97	\$ 3,988.97	\$ 4,044.22	\$ 3,988.97	\$ 4,037.22	\$ 3,988.97	\$ 47,923.64
Office Supplies	\$ 332.89	\$ 483.03	\$ 179.78	\$ 307.42	\$ 81.24	\$ 515.87	\$ 185.34	\$ 168.07	\$ 645.86	\$ 512.80	\$ 236.34	\$ 622.32	\$ 4,270.96
Card Refund	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$ -
Operating Cost - Vehicles	\$ 533.17	\$ 531.25	\$ 520.42	\$ 438.67	\$ 394.70	\$ 391.82	\$ 380.66	\$ 360.95	\$ 626.09	\$ 527.08	\$ 553.83	\$ 556.37	\$ 5,815.01
Pass Cards	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$ -
Employee Appreciation	\$	\$	\$	\$	\$	\$ 98.04	\$ 39.74	\$ 316.72	\$	\$	\$ 52.31	\$	\$ 506.81
Credit Card Fees	\$ 5,129.59	\$ 4,240.65	\$ 4,706.78	\$ 3,907.18	\$ 4,732.67	\$ 4,416.19	\$ 4,609.34	\$ 5,037.58	\$ 4,379.44	\$ 4,962.40	\$ 5,076.21	\$ 5,731.14	\$ 56,929.17
Bank Service Charges	\$ 249.14	\$ 287.45	\$ 280.57	\$ 336.65	\$ 562.15	\$ 299.64	\$ 300.00	\$ 285.03	\$ 235.94	\$ 296.53	\$ 291.59	\$ 285.22	\$ 3,709.91
Miscellaneous Expense	\$ 165.64	\$ 253.75	\$ 231.17	\$ 155.72	\$ 384.52	\$ 155.01	\$ 177.42	\$ 315.74	\$ 845.29	\$ 173.46	\$ 226.35	\$ 161.92	\$ 3,245.99
Management Fee Charge	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 46,500.00
Total Expenses	\$ 104,677.52	\$ 129,259.05	\$ 133,996.23	\$ 105,905.00	\$ 96,401.90	\$ 111,428.85	\$ 144,254.38	\$ 116,708.97	\$ 132,164.45	\$ 111,501.62	\$ 130,057.95	\$ 123,504.92	\$ 1,439,860.84
Profit	\$ 154,401.53	\$ 136,547.62	\$ 119,635.47	\$ 168,784.24	\$ 162,281.66	\$ 170,665.50	\$ 128,977.36	\$ 126,075.38	\$ 163,819.15	\$ 188,534.92	\$ 171,833.49	\$ 166,577.55	\$ 1,858,133.87

Fiscal 14-15

	Month Ended 31-Jul-15	Month Ended 31-Aug-15	Month Ended 30-Sep-15	Month Ended 31-Oct-15	Month Ended 30-Nov-15	Month ending 31-Dec-15	Month Ended 31-Jan-16	Month Ended 28-Feb-16	Month Ended 31-Mar-16	Month Ending 30-Apr-16	Month Ended 31-May-16	Month Ended 30-Jun-16	Total Fiscal 15-16
REVENUES:													
Revenues - Monthly parking	\$ 166,606.50	\$ 147,126.00	\$ 179,102.00	\$ 187,122.00	\$ 188,547.00	\$ 194,025.50							\$ 1,062,529.00
Revenues - Cash Parking	\$ 114,551.18	\$ 127,772.81	\$ 95,214.63	\$ 122,443.57	\$ 114,026.45	\$ 134,420.60							\$ 708,429.24
Revenues - Card Fees	\$ 150.00	\$ 300.00	\$ 97.50	\$ 240.00	\$ 662.50	\$ 702.50							\$ 2,152.50
Revenue - Lot #6	\$ 702.50	\$ 14,025.00	\$ 22,145.00	\$	\$ 19,325.00	\$ 15,995.00							\$ 72,192.50
Total Income	\$ 282,010.18	\$ 289,223.81	\$ 296,559.13	\$ 309,805.57	\$ 322,560.95	\$ 345,143.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,845,303.24
EXPENSES:													
Salaries and Wages	\$ 76,636.38	\$ 55,653.88	\$ 56,461.14	\$ 52,848.24	\$ 56,308.86	\$ 76,263.50							\$ 374,172.00
Payroll Taxes	\$ 7,345.93	\$ 5,153.13	\$ 5,226.52	\$ 4,897.62	\$ 5,259.87	\$ 7,224.51							\$ 35,107.58
Workmens Comp Insurance	\$ 2,868.74	\$ 2,084.62	\$ 2,114.79	\$ 1,979.76	\$ 2,109.17	\$ 2,857.21							\$ 14,014.29
Group Insurance	\$ 27,349.14	\$ 21,560.78	\$ 24,352.61	\$ 17,690.29	\$ 19,861.35	\$ 17,904.25							\$ 128,718.42
Uniforms	\$	\$ 329.71	\$	\$ 752.41	\$ (65.14)	\$ 2,523.24							\$ 3,540.22
Insurance	\$ 8,388.64	\$ 8,888.64	\$ 8,388.64	\$ 8,397.59	\$ 8,388.64	\$ 8,388.64							\$ 50,840.79
Utilities	\$ 2,499.98	\$ 793.56	\$ 1,087.74	\$ 1,322.64	\$ 2,280.91	\$ 1,943.72							\$ 9,928.55
Maintenance	\$ 17,587.85	\$ 6,266.63	\$ 14,443.94	\$ 5,815.14	\$ 3,167.40	\$ 6,190.39							\$ 53,471.35
Parking Tags/Tickets	\$ 2,223.23	\$	\$ 44.20	\$ 3,187.13	\$	\$ 1,521.98							\$ 6,976.54
Professional Services	\$ 3,988.97	\$ 4,162.36	\$ 3,988.97	\$ 4,021.72	\$ 3,988.97	\$ 4,044.97							\$ 24,195.96
Office Supplies	\$ 577.20	\$ 692.43	\$ 367.07	\$ 70.55	\$ 673.31	\$ 324.91							\$ 2,705.47
Card Refund	\$	\$	\$	\$	\$	\$							\$ -
Operating Cost - Vehicles	\$ 542.83	\$ 527.25	\$ 462.13	\$ 517.67	\$ 515.04	\$ 167.77							\$ 2,732.69
Pass Cards	\$	\$	\$	\$	\$	\$							\$ -
Employee Appreciation	\$ 97.56	\$ 300.00	\$	\$	\$	\$							\$ 397.56
Credit Card Fees	\$ 4,560.16	\$ 6,307.49	\$ 5,870.85	\$ 8,629.80	\$ 7,774.68	\$ 7,479.29							\$ 40,622.27
Bank Service Charges	\$ 311.98	\$ 415.19	\$ 1,627.34	\$ 400.68	\$ 405.72	\$ 400.67							\$ 3,561.58
Miscellaneous Expense	\$ 175.89	\$ 225.76	\$ 160.13	\$ 157.31	\$ 967.02	\$ 278.43							\$ 1,964.54
Management Fee Charge	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00	\$ 3,875.00							\$ 23,250.00
Total Expenses	\$ 159,029.48	\$ 117,236.43	\$ 128,471.07	\$ 114,563.55	\$ 115,510.80	\$ 141,388.48	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 776,199.81
Profit	\$ 122,980.70	\$ 171,987.38	\$ 168,088.06	\$ 195,242.02	\$ 207,050.15	\$ 203,755.12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,069,103.43

CITY OF BIRMINGHAM - Combined
Income Statement
For Periods Indicated

REVENUES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Revenues - Monthly parking	194,025.50	1,062,529.00	161,900.84	967,340.37
Revenues - Cash Parking	134,420.60	708,429.24	103,828.51	556,179.20
Revenues - Card Fees	702.50	2,152.50	120.00	7,375.00
Revenue - Lot #6	15,995.00	72,192.50	16,245.00	63,090.00
TOTAL INCOME	345,143.60	1,845,303.24	282,094.35	1,593,984.57
EXPENSES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Salaries and Wages	76,263.50	374,172.00	57,792.92	344,597.51
Payroll Taxes	7,224.51	35,107.58	4,687.33	29,160.78
Workmens Comp Insurance	2,857.21	14,014.29	1,744.80	11,761.72
Group Insurance	17,904.25	128,718.42	20,084.11	104,803.27
Uniforms	2,523.24	3,540.22	138.02	1,607.96
Insurance	8,388.64	50,840.79	7,838.68	48,032.08
Utilities	1,943.72	9,928.55	1,289.03	6,515.40
Maintenance	6,190.39	53,471.35	4,113.42	40,543.35
Parking Tags/Tickets	1,521.98	6,976.54		12,207.38
Accounting Fees	4,044.97	24,195.96	3,988.97	23,886.32
Office Supplies	324.91	2,705.47	515.87	1,900.23
Card Refund				
Operating Cost - Vehicles	167.77	2,732.69	391.82	2,810.03
Pass Cards				
Employee Appreciation		397.56	98.04	98.04
Credit Card Fees	7,479.29	40,622.27	4,416.19	27,133.06
Bank Service Charges	400.67	3,561.58	299.64	2,015.60
Miscellaneous Expense	278.43	1,964.54	155.01	1,345.81
Management Fee Charge	3,875.00	23,250.00	3,875.00	23,250.00
TOTAL EXPENSES	141,388.48	776,199.81	111,428.85	681,668.54
		-		-
OPERATING PROFIT	203,755.12	1,069,103.43	170,665.50	912,316.03

CITY OF BIRMINGHAM PIERCE DECK
Income Statement
For Periods Indicated

REVENUES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Revenues - Monthly parking	32,084.50	184,158.00	33,765.00	172,030.87
Revenues - Cash Parking	45,080.00	248,327.18	40,653.00	222,647.75
Revenues - Card Deposits	210.00	660.00	30.00	780.00
TOTAL INCOME	77,374.50	433,145.18	74,448.00	395,458.62
EXPENSES:				
Salaries and Wages	15,573.37	71,347.29	11,555.00	56,278.38
Payroll Taxes	1,436.15	6,506.56	892.10	4,641.71
Workmens Comp Insurance	582.93	2,636.58	258.67	1,835.11
Group Insurance	3,661.32	31,361.09	3,071.65	16,658.22
Uniforms	504.65	721.07	27.61	282.13
Insurance	1,616.74	9,700.44	1,510.84	10,065.04
Utilities	383.66	1,957.16	254.14	1,352.37
Maintenance	2,269.57	14,633.06	1,733.68	7,607.74
Parking Tags/Tickets		2,562.86		4,590.05
Accounting Fees	790.37	4,742.22	790.37	4,713.72
Office Supplies		477.80	103.16	348.38
Card Refunds		-		-
Operating Cost - Vehicles	33.56	551.89	66.63	550.29
Pass Cards		-		-
Employee Appreciation		79.51	19.60	19.60
Credit Card Fees	2,336.03	14,078.47	1,729.11	10,611.75
Bank service charges	98.93	634.67	80.92	501.74
Miscellaneous Expenses	12.15	227.56	5.78	111.29
Management Fee Charge	775.00	4,650.00	775.00	4,650.00
TOTAL EXPENSES	30,074.43	166,868.23	22,874.26	124,817.52
OPERATING PROFIT	47,300.07	266,276.95	51,573.74	270,641.10

CITY OF BIRMINGHAM PEABODY DECK
Income Statement
For Periods Indicated

REVENUES:	Month Ended December 31, 2015	6 Months Ending December 31, 2015	Month Ended December 31, 2014	6 Months Ending December 31, 2014
Revenues - Monthly parking	18,973.50	121,441.00	21,688.84	128,788.00
Revenues - Cash Parking	18,030.30	111,198.15	18,729.21	100,267.47
Revenues - Card Deposits	120.00	360.00	-	-
TOTAL INCOME	<u>37,123.80</u>	<u>232,999.15</u>	<u>40,418.05</u>	<u>229,055.47</u>
EXPENSES:				
Salaries and Wages	13,004.49	67,935.28	9,298.82	53,161.31
Payroll Taxes	1,194.29	6,274.42	712.88	4,481.88
Workmens Comp Insurance	486.94	2,544.57	269.57	1,778.55
Group Insurance	3,661.32	25,935.73	4,135.65	20,929.24
Uniforms	504.65	721.08	27.60	282.13
Insurance	1,227.97	7,367.82	1,149.31	6,895.86
Utilities	383.66	1,968.41	254.14	1,347.07
Maintenance	871.96	9,915.81	297.65	2,793.76
Parking Tags/Tickets		1,927.80		1,705.26
Accounting Fees	700.19	4,201.14	700.19	4,182.14
Office Supplies		477.75	103.18	348.39
Card Refund		-		-
Employee Appreciation		79.51	19.61	19.61
Operating Cost - Vehicles	33.55	551.88	66.63	550.26
Pass Cards		-		-
Credit Card Fees	1432.26	7,515.11	796.62	4,910.29
Bank service charges	71.05	410.12	54.41	353.29
Miscellaneous Expense	10.14	225.64	6.02	110.02
Management Fee Charge	775.00	4,650.00	775.00	4,650.00
TOTAL EXPENSES	<u>24,357.47</u>	<u>142,702.07</u>	<u>18,667.28</u>	<u>108,499.06</u>
OPERATING PROFIT	<u>12,766.33</u>	<u>90,297.08</u>	<u>21,750.77</u>	<u>120,556.41</u>

270-6487

CITY OF BIRMINGHAM PARK DECK
Income Statement
For Periods Indicated

REVENUES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Revenues - Monthly parking	50,955.00	260,115.00	39,710.00	222,991.50
Revenues - Cash Parking	36,652.80	176,456.56	7,732.15	75,061.10
Revenues - Card Deposits		90.00	30.00	2,395.00
TOTAL INCOME	<u>87,607.80</u>	<u>436,661.56</u>	<u>47,472.15</u>	<u>300,447.60</u>
EXPENSES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Salaries and Wages	13,750.18	69,393.55	12,870.56	75,039.80
Payroll Taxes	1,264.87	6,414.01	1,049.54	6,313.09
Workmens Comp Insurance	514.80	2,599.05	394.32	2,505.30
Group Insurance	2,782.72	20,493.63	3,071.65	13,440.26
Uniforms	504.65	721.07	27.61	282.14
Insurance	1,849.08	11,603.43	1,727.43	10,364.58
Utilities	383.66	1,957.16	254.14	1,347.08
Maintenance	1,638.86	9,098.02	297.65	14,739.97
Parking Tags/Tickets		-		2,496.28
Accounting Fees	806.28	4,930.07	806.28	4,837.68
Office Supplies		477.75	103.17	348.40
Card Refund		-		-
Operating Cost - Vehicles	33.56	551.88	66.63	550.29
Pass Cards		-		-
Employee Appreciation		79.52	19.61	19.61
Credit Card Fees	1,930.47	10,295.22	328.88	3,891.69
Bank service charges	80.34	472.78	45.86	412.06
Miscellaneous Expenses	10.73	226.79	8.81	138.26
Management Fee Charge	775.00	4,650.00	775.00	4,650.00
TOTAL EXPENSES	<u>26,325.20</u>	<u>143,963.93</u>	<u>21,847.14</u>	<u>141,376.49</u>
OPERATING PROFIT	<u>61,282.60</u>	<u>292,697.63</u>	<u>25,625.01</u>	<u>159,071.11</u>

270-6488

CITY OF BIRMINGHAM CHESTER DECK
Income Statement
For Periods Indicated

REVENUES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Revenues - Monthly parking	43,465.00	243,369.00	37,434.00	223,030.00
Revenues - Cash Parking	10,195.00	44,640.17	8,415.70	58,434.60
Revenues - Card Deposits	37.50	407.50	60.00	3,570.00
TOTAL INCOME	53,697.50	288,416.67	45,909.70	285,034.60
EXPENSES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Salaries and Wages	20,114.13	87,306.12	12,481.96	103,454.79
Payroll Taxes	2,060.60	8,686.74	1,106.66	9,095.39
Workmens Comp Insurance	755.08	3,306.33	472.76	3,741.88
Group Insurance	3,761.97	23,558.12	4,902.57	31,921.93
Uniforms	504.64	655.93	27.60	479.24
Insurance	1,988.80	11,932.80	1,856.80	11,140.80
Utilities	409.08	2,072.54	272.47	1,105.69
Maintenance	602.80	13,610.16	452.06	7,528.04
Parking Tags/Tickets	1,521.98	1,521.98		1,758.26
Accounting Fees	931.24	5,421.19	875.24	5,251.44
Office Supplies	324.91	794.43	103.18	506.71
Card Refund		-		-
Operating Cost - Vehicles	33.55	525.18	125.30	608.93
Pass Cards		-		-
Employee Appreciation		79.51	19.61	19.61
Credit Card Fees	482.50	2,593.85	357.95	2,946.25
Bank Service Charges	71.57	369.02	52.34	347.21
Misc Expense	15.69	241.50	10.51	161.83
Management Fee Charge	775.00	4,650.00	775.00	4,650.00
TOTAL EXPENSES	34,353.54	167,325.40	23,892.01	184,718.00
OPERATING PROFIT	19,343.96	121,091.27	22,017.69	100,316.60

CITY OF BIRMINGHAM N. WOODWARD DECK
Income Statement
For Periods Indicated

REVENUES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Revenues - Monthly parking	48,547.50	253,446.00	29,303.00	220,500.00
Revenues - Cash Parking	24,462.50	127,807.18	28,298.45	99,768.28
Revenues - Card Deposits	335.00	635.00		630.00
TOTAL INCOME	73,345.00	381,888.18	57,601.45	320,898.28
EXPENSES:	Month Ended	6 Months Ending	Month Ended	6 Months Ending
	December 31, 2015	December 31, 2015	December 31, 2014	December 31, 2014
Salaries and Wages	13,821.33	78,189.76	11,586.58	56,663.23
Payroll Taxes	1,268.60	7,225.85	926.15	4,628.71
Workmens Comp Insurance	517.46	2,927.76	349.48	1,900.88
Group Insurance	4,036.92	27,369.85	4,902.59	21,853.62
Uniforms	504.65	721.07	27.60	282.32
Insurance	1,706.05	10,236.30	1,594.30	9,565.80
Utilities	383.66	1,973.28	254.14	1,363.19
Maintenance	807.20	6,214.30	1,332.38	7,873.84
Parking Tags/Tickets		963.90		1,657.53
Accounting Fees	816.89	4,901.34	816.89	4,901.34
Office Supplies		477.74	103.18	348.35
Card Refund		-		-
Operating Cost - Vehicles	33.55	551.86	66.63	550.26
Pass Cards		-		-
Employee Appreciation		79.51	19.61	19.61
Credit Card Fees	1298.03	6,139.62	1203.63	4,773.08
Bank Service Charges	78.78	1,674.99	66.11	401.30
Miscellaneous Expense	10.78	233.66	7.80	84.24
Management Fee Charge	775.00	4,650.00	775.00	4,650.00
TOTAL EXPENSES	26,058.90	154,530.79	24,032.07	121,517.30
OPERATING PROFIT	47,286.10	227,357.39	33,569.38	199,380.98

270-6484

CITY OF BIRMINGHAM lot #6
Income Statement
For Periods Indicated

			6 Months Ending December 31, 2015		6 Months Ending December 31, 2014
INCOME					
	Revenues - Monthly Parking Lot #6 & Southside	15,995.00	72,192.50	16,245.00	63,090.00
	TOTAL INCOME	<u>15,995.00</u>	<u>72,192.50</u>	<u>16,245.00</u>	<u>63,090.00</u>
EXPENSES	Liability Insurance		-		-
	Office Supplies (Hanging Tags)		-		-
	Misc.	218.94	809.39	116.09	740.17
	TOTAL EXPENSES	<u>218.94</u>	<u>809.39</u>	<u>116.09</u>	<u>740.17</u>
	NET PROFIT	<u>15,776.06</u>	<u>71,383.11</u>	<u>16,128.91</u>	<u>62,349.83</u>

MONTHLY PARKING PERMIT REPORT

For the month of: November 2015

Date Compiled: December 22, 2015

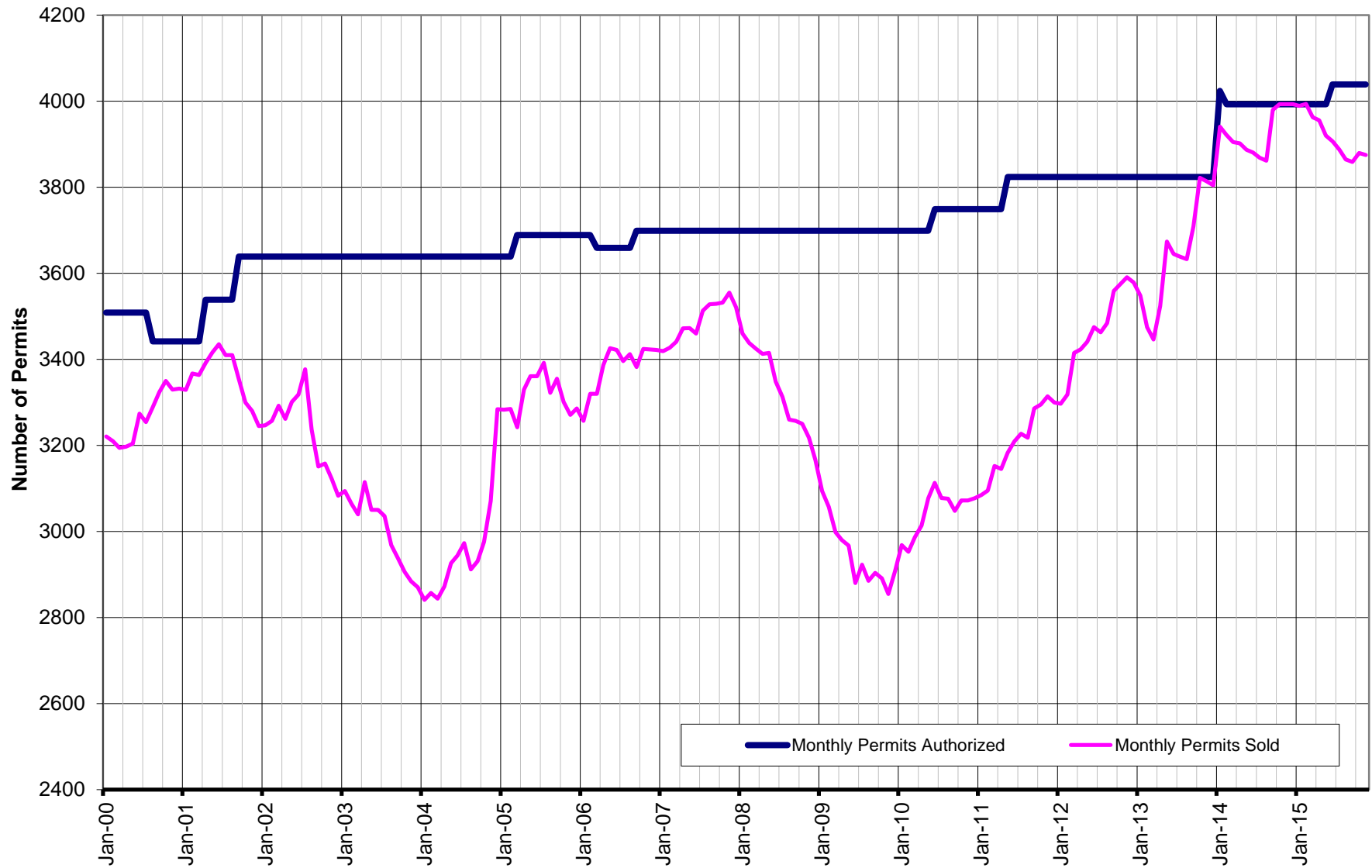
	Pierce	Park	Peabody	N. Wood	Chester	Lot #6/\$165	Lot #6/\$105	South Side	Lot B	Total
1. Total Spaces	706	811	437	745	880	174	79	9	40	3881
2. Daily Spaces	370	348	224	359	425	N/A	N/A	N/A	N/A	1726
3. Monthly Spaces	336	463	213	386	560	174	79	16	30	2257
4. Monthly Permits Authorized	550	813	400	900	1140	150	40	16	30	4039
5. Permits - end of previous month	550	813	400	900	1015	150	40	9	3	3880
6. Permits - end of month	550	813	400	900	1010	150	40	9	3	3875
7. Permits - available at end of month	0	0	0	0	130	0	0	7	27	164
8. Permits issued in month includes permits effective 1st of month	3	6	2	0	0	0	0	0	0	11
9. Permits given up in month	3	6	2	0	5	0	0	0	0	16
10. Net Change	0	0	0	0	-5	0	0			-5
11. On List - end of month*	659	582	669	702	324	41	6	0	0	2983
12. Added to list in month	29	51	12	54	8	0	0	0	0	154
13. Withdrawn from list in month (w/o permit)	0	0	0	0	0	0	0	0	0	0
14. Average # of weeks on list for permits issued in month	134	89	186	98	52	32	8	0	0	N/A
15. Transient parker occupied	314	352	120	254	N/A*	N/A	N/A	N/A	N/A	1040
16. Monthly parker occupied	240	451	226	474	N/A*	N/A	N/A	N/A	N/A	1391
17. Total parker occupied	554	803	346	728	0	N/A	N/A	N/A	N/A	2431
18. Total spaces available at 1pm on Wednesday 11/18/15	152	8	91	17	N/A	N/A	N/A	N/A	N/A	268
19. "All Day" parkers paying 5 hrs. or more										
A: Weekday average.	150	158	74	96	30	N/A	N/A	N/A	N/A	508
B: Maximum day	242	219	100	121	47	N/A	N/A	N/A	N/A	729
20. Utilization by long term parkers	62%	72%	74%	79%	64%	N/A	N/A	N/A	N/A	70%

(1) Lot #6 does not have gate control, therefore no transient count available

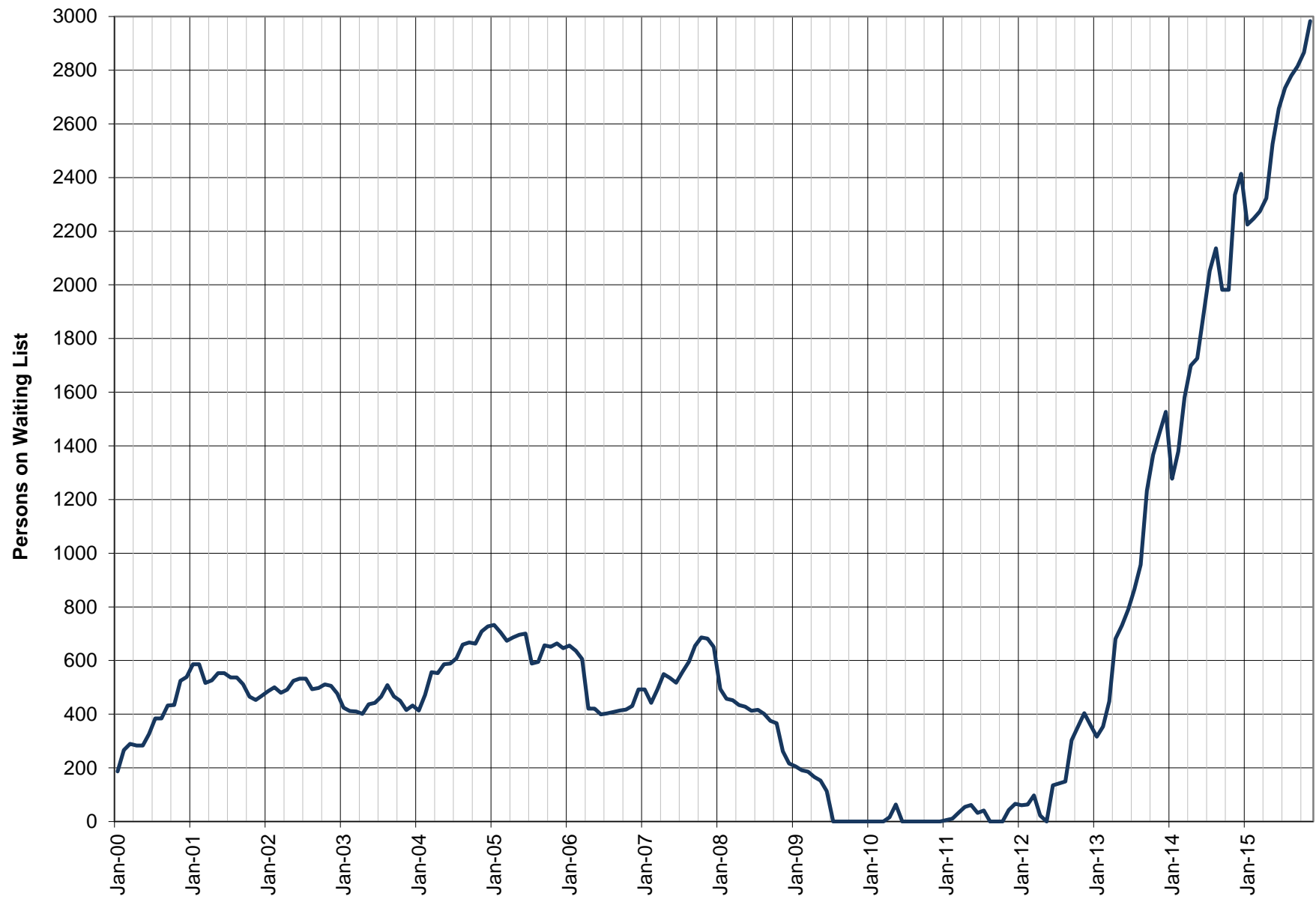
(2) (Permits/Oversell Factor + Weekday Avg.) / Total Spaces

*Chester counts unavailable due to loop issues.

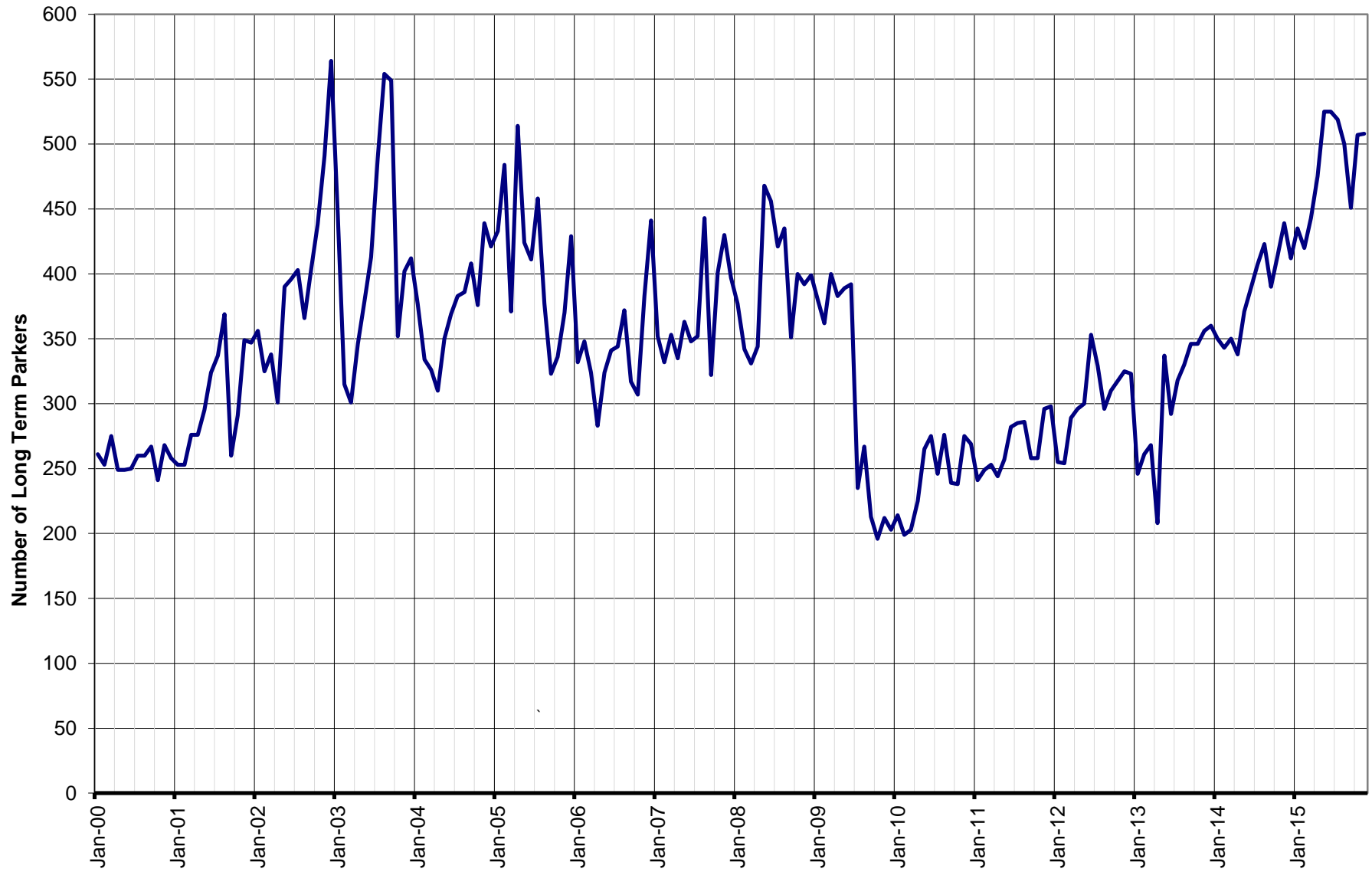
Monthly Permits



Persons on Waiting List

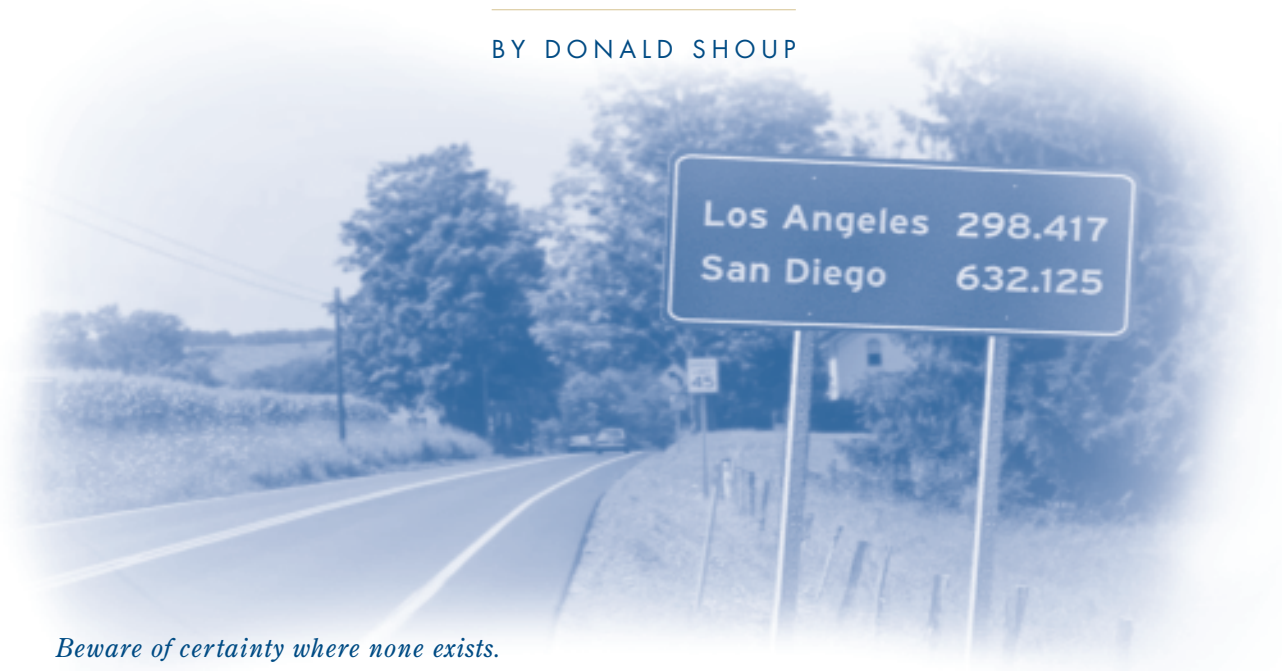


Long Term Parkers



Roughly Right or Precisely Wrong

BY DONALD SHOUP



Beware of certainty where none exists.

DANIEL PATRICK MOYNIHAN

HOW FAR IS IT from San Diego to San Francisco? An estimate of 632.125 miles is precise—but not accurate. An estimate of somewhere between 400 and 500 miles is less precise but more accurate because the correct answer is 460 miles. Nevertheless, if you had no idea how far it is from San Diego to San Francisco, whom would you believe: someone who confidently says 632.125 miles, or someone who tentatively says somewhere between 400 and 500 miles? Probably the first, because precision implies certainty.

Donald Shoup is professor of urban planning at the University of California, Los Angeles (shoup@ucla.edu). This essay is drawn from a forthcoming article in the Journal of Transportation and Statistics, vol. 5, no. 2, 2002.

Although reporting estimates with extreme precision indicates confidence in their accuracy, transportation engineers and urban planners often use precise numbers to report uncertain estimates. To illustrate this practice, I will draw on two manuals published by the Institute of Transportation Engineers (ITE)—*Parking Generation* and *Trip Generation*. These manuals have enormous practical consequences for transportation and land use. Urban planners rely on parking generation rates to establish off-street parking requirements, and transportation planners rely on trip generation rates to predict traffic effects of proposed developments. Many transportation models also incorporate trip generation rates. Yet a close look at the data shows that unwarranted trust in these precise but uncertain estimates of travel behavior can lead to bad transportation, parking, and land-use policies.

TRIP GENERATION

Trip Generation reports the number of vehicle trips as a function of land use. The sixth (and most recent) edition of *Trip Generation* (1997) describes the data base used to estimate trip generation rates:

This document is based on more than 3,750 trip generation studies submitted to the Institute by public agencies, developers, consulting firms, and associations. . . . Data were primarily collected at suburban localities with little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs.

ITE says nothing about the price of parking, but the 1990 Nationwide Personal Transportation Survey found that parking is free for 99 percent of vehicle trips in the US, so the surveyed sites probably offer free parking. Of the 1,515 trip generation rates, half are based on five or fewer studies, and 23 percent are based on a single study. Trip generation rates thus typically measure the number of vehicle trips observed at a few suburban sites with free parking but no public transit, no nearby pedestrian amenities, and no TDM programs. Urban planners who rely on these trip generation rates as guides when designing transportation systems are therefore reinforcing automobile dependency.

Figure 1 is a facsimile of a page from the fourth edition of *Trip Generation* (1987). It reports the number of vehicle trips to and from fast food restaurants on a weekday. Each point in the

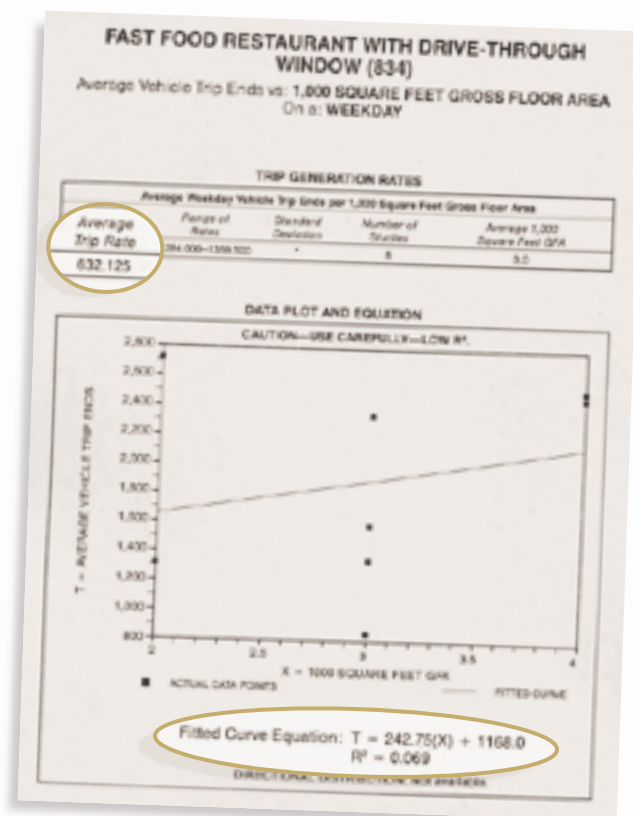


FIGURE 1

figure represents a single restaurant, showing the average number of vehicle trips it generates and its floor area. Dividing the number of vehicle trips by the floor area gives the trip generation rate for that restaurant, and the rates range from 284 to 1,359.5 trips per 1,000 square feet for the eight studies.

A glance at the figure suggests that vehicle trips are unrelated to floor area in this sample, and the equation at the bottom of the figure ($R^2 = 0.069$) confirms this impression. Nevertheless, ITE reports the sample's average trip generation rate (which urban planners normally interpret as *the* relationship between floor area and vehicle trips) as *precisely* 632.125 trips per day per 1,000 square feet. The trip generation rate looks accurate because it is so precise, but the precision is misleading. Few transportation or land-use decisions would be changed if ITE reported the trip generation rate as 632 rather than 632.125 trips per 1,000 square feet, so the three-decimal-point precision serves no purpose.

Reporting an *average* rate suggests that larger restaurants generate more vehicle trips—but according to the figure, the smallest restaurant generated the most trips, and a mid-sized restaurant generated the fewest. The page does contain the ➤

warning, “Caution—Use Carefully—Low R^2 ,” which is good advice because the data show no relationship between vehicle trips and floor area. Nevertheless, the *average* trip generation rate is still reported at the top of the page as if it were relevant. Despite its precision, the number is far too uncertain to use in transportation planning.

PARKING GENERATION

Parking generation rates suffer from similar uncertainty. *Parking Generation* reports the average peak parking occupancy as a function of land use. The most recent edition of *Parking Generation* (1987) explains the survey process:

A vast majority of the data . . . is derived from suburban developments with little or no significant transit ridership. . . . The ideal site for obtaining reliable parking generation data would . . . contain ample, convenient parking facilities for the exclusive use of the traffic generated by the site. . . . The objective of the survey is to count the number of vehicles parked at the time of peak parking demand.

Half the 101 parking generation rates in the second edition are based on four or fewer surveys, and 22 percent are based on a single survey. Therefore, parking generation rates typically measure the peak parking demand observed at a few suburban sites with ample free parking and no public transit. Urban planners who use these rates to set off-street parking requirements are therefore planning a city where people will drive wherever they go and park free when they get there.

Figure 2 shows the page for fast food restaurants from the most recent edition of *Parking Generation* (1987). The equation at the bottom of the figure again confirms the visual impression that parking demand is unrelated to floor area in this sample. The largest restaurant generated one of the lowest peak parking occupancies, while a mid-sized restaurant generated the highest. Nevertheless, ITE reports the average parking generation rate for a fast food restaurant as *precisely* 9.95 parking spaces per 1,000 square feet of floor area.

I do not mean to imply that vehicle trips and parking demand are unrelated to a restaurant’s size. Common sense suggests some correlation. Nevertheless, we should recognize that these two samples do not show a statistically significant relationship between floor area and either vehicle trips or parking demand, and it is misleading to publish precise average rates based on these data.

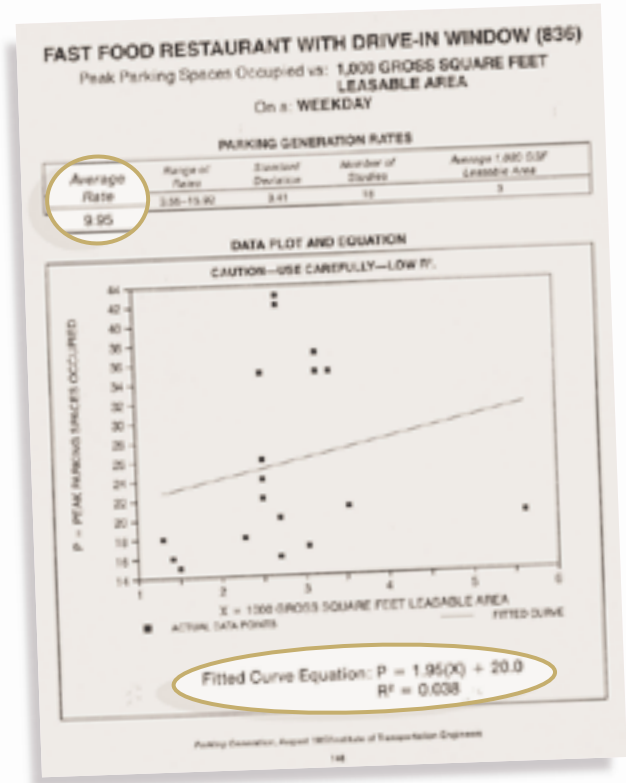


FIGURE 2

ITE’s stamp of authority relieves planners from the obligation to think for themselves—the answers are right there in the book. ITE offers a precise number without raising difficult public policy questions, although it does warn, “Users of this report should exercise extreme caution when utilizing data that is based on a small number of studies.” Nevertheless, many planners recommend using the parking generation rates as minimum parking requirements because they are the best data available. For example, the median number of parking spaces required by law for fast food restaurants in the US is 10 spaces per 1,000 square feet—almost identical to ITE’s reported parking generation rate. After all, planners expect minimum parking requirements to meet the peak demand for free parking, and parking generation rates seem to have predicted this demand precisely! When ITE speaks, urban planners listen.

STATISTICAL SIGNIFICANCE

This breathtaking combination of extreme precision and statistical insignificance in the parking and trip generation rates at fast food restaurants raises an important question: how many rates for other land uses are statistically significant? Surely some of the rates must be suspect, but they are all reported to three-digit precision.

ITE first stated a policy regarding statistical significance in the fifth edition of *Trip Generation* (1991):

Best fit curves are shown in this report only when each of the following three conditions is met:

- The R^2 is greater than or equal to 0.25.
- The sample size is greater than or equal to 4.
- The number of trips increases as the size of the independent variable increases.

The third criterion lacks a scientific basis. For example, suppose the R^2 is greater than 0.25 (which means that variation in floor area explains more than 25 percent of the variation in vehicle trips), the sample size is greater than 4, and vehicle trips decrease as floor area increases. The first two criteria are met but the third criterion is not. In such a case ITE would report the *average* trip generation rate (which implies that vehicle trips *increase* as floor area increases), but not the equation. The stated policy would therefore conceal evidence that contradicts the predicted relationship.

Figure 3, from the fifth edition of *Trip Generation* (1991), shows how this policy affects the report on fast food restaurants. It shows the same eight data points as the fourth edition, but omits the regression equation, the R^2 , as well as the warning “Caution—Use Carefully—Low R^2 .” (The fifth edition is, however, more cautious about needless precision: it truncates the average trip generation rate from 632.125 to 632.12 trips per 1,000 square feet.)

ITE revised its reporting policy in the most recent edition of *Trip Generation* (1997). Now it shows the regression equation only if the R^2 is greater than or equal to 0.5, but the other two criteria remain the same. This edition reports regression equations for only 34 percent of the reported rates, which means 66 percent of the trip generation rates fail to meet at least one of the three criteria.

Figure 4 shows the trip generation report for a fast food restaurant from the sixth edition. The number of studies increased to 21, and the average trip generation rate fell to 496.12 trips per 1,000 square feet. Since the fifth edition’s rate was 632.12 trips per 1,000 square feet, anyone comparing the two editions might conclude that vehicle trips to fast food restaurants declined 22 percent between 1991 and 1997. But both the previous rate (632.12) and the new one (496.12) were derived from data showing almost no relation between floor area and vehicle trips, so this decline is uncertain.

Not including the equation is ITE’s subtle way of pointing out that the information is statistically insignificant, but ➤

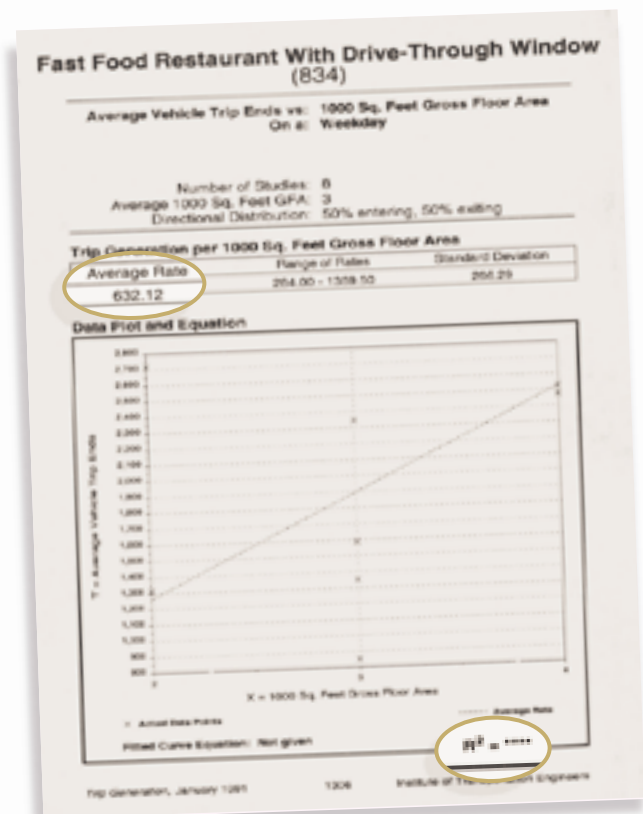


FIGURE 3

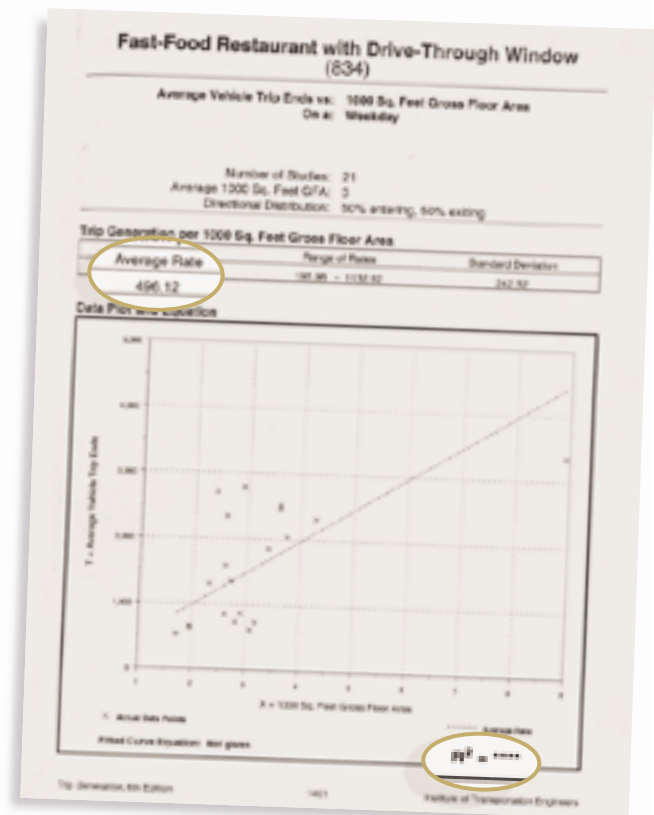


FIGURE 4

reporting the misleadingly precise averages anyway creates serious problems. Many people rely on ITE manuals to predict how urban development will affect parking and traffic. When estimating traffic impacts, for example, developers and cities often battle fiercely over whether a precise trip generation rate is correct; given the uncertainty involved, the debates are ludicrous. But few seem to pay attention to this; in fact, some cities base zoning categories on ITE's trip generation rates. Consider the zoning ordinance in Beverly Hills, California:

The intensity of use will not exceed either sixteen (16) vehicle trips per hour or 200 vehicle trips per day for each 1,000 gross square foot of floor area for uses as specified in the most recent edition of the Institute of Traffic Engineers' publication entitled "Trip Generation."

The precise but uncertain ITE data thus govern which land uses a city will allow. Once they have been incorporated into municipal codes, parking and trip generation rates are difficult to challenge. Planning is an uncertain activity, but it is difficult to incorporate uncertainty into regulations. Besides, admitting the flimsy basis of zoning decisions would expose them to countless lawsuits.

PLANNING FOR FREE PARKING

Not only are most ITE samples too small to draw statistically significant conclusions, but ITE's method of collecting data also skews observations to sites with high parking and trip generation rates. Larger samples might solve the problem of statistical insignificance, but a basic problem with these rates would remain: they measure the peak parking demand and the number of vehicle trips at *suburban sites with ample free parking*.

Consider the process of planning for free parking:

- 1) Transportation engineers survey peak parking demand at suburban sites with ample free parking, and ITE publishes the results in *Parking Generation* with misleading precision.
- 2) Urban planners consult *Parking Generation* to set minimum parking requirements. The maximum observed parking demand thus becomes the minimum required parking supply.
- 3) Developers provide all the required parking. The ample supply of parking drives the price of most parking to zero, which increases vehicle travel.

- 4) Transportation engineers survey vehicle trips to and from suburban sites with ample free parking, and ITE publishes the results in *Trip Generation* with misleading precision.
- 5) Transportation planners consult *Trip Generation* to design the transportation system that brings cars to the free parking.
- 6) Urban planners limit density so that new development with the required free parking will not generate more vehicle trips than nearby roads can carry. This lower density spreads activities farther apart, further increasing vehicle travel and parking demand.

The loop is completed when transportation engineers again survey the peak parking demand at suburban sites that offer free parking and—surprise!—find that more parking is needed. Misusing precise numbers to report uncertain data gives a veneer of rigor to this elaborate but unsystematic practice, and the circular logic explains why planning for transportation and land use has gone subtly, incrementally wrong. Cities require off-street parking without considering parking prices, the cost of parking spaces, or the wider consequences for transportation, land use, the economy, and the environment.

ITE manuals do not *cause* this circular and cumulative process, and ITE of course deplores any misuse of its parking and trip generation rates. ITE warns users to be careful when the R^2 is low, but removed this advice from the data plots in the two most recent editions of *Trip Generation*. ITE also advises:

At specific sites, the user may want to modify the trip generation rates presented in this document to reflect the presence of public transportation service, ridesharing or other TDM measures, enhanced pedestrian and bicycle trip-making opportunities, or other special characteristics of the site or surrounding area.

Nevertheless, there is no suggestion about *how* a user might modify the rates, and the price of parking is prominently *not* on the list of special characteristics that might affect trip generation.

The users of any data should always ask themselves whether the data are appropriate for the intended purpose. Only users can misuse data, but ITE invites such misuse. The spurious precision of ITE's statistically insignificant estimates has helped establish parking requirements and trip generation rates as dogma in the planning profession.



LESS PRECISION AND MORE TRUTH

Parking and trip generation estimates respond to a real demand for essential information. Citizens want to know how development will affect parking demand and traffic congestion in their neighborhoods. Developers want to know how many parking spaces they should provide for their employees and customers. Planners want to regulate development to prevent problems with parking and traffic. Politicians want to avoid complaints from unhappy parkers. These are all valid concerns, but false precision does not resolve them. To unsophisticated users, the precise rates look like constants, similar to the boiling point of water or the speed of light. Many planners treat parking and trip generation like physical laws and the reported rates like scientific observations. But parking and trip generation are poorly understood phenomena, and they both depend on the price of parking. Demand is a function of price, not a fixed number, and this does not cease to be true merely because transportation engineers and urban planners ignore it. Most cities are planned on the unstated assumption that parking should be free—no matter how high the cost.

American motor vehicles alone consume one eighth of the world's total oil production, and ubiquitous free parking contributes to our automobile dependency. What can be done to improve this situation? Here are four suggestions:

- 1) ITE should report the parking and trip generation rates as ranges, not as precise averages. This puts the information in the most accessible form for potential users who are not statistically trained.
- 2) ITE should show the regression equation and the R^2 for each parking and trip generation report, and state whether the floor area (or other independent variable) has a statistically significant relation to parking demand or trip rates.
- 3) ITE should state in the report for each parking and trip generation rate that the rate refers only to suburban sites with ample free parking and without transit service, pedestrian amenities, or TDM programs.
- 4) Urban planners should recognize that even if the ITE data were accurate, using them to set parking requirements will contribute to free parking and automobile dependency.

ITE's parking and trip generation rates illustrate a familiar problem with statistics in transportation planning. Placing unwarranted trust in the accuracy of these precise but uncertain data leads to bad policy choices. Being roughly right is better than being precisely wrong. We need less precision—and more truth—in transportation planning. ♦

FURTHER READING

Parking Generation. Second Edition. Washington, D.C.: Institute of Transportation Engineers. 1987.

Trip Generation. Fourth Edition. Washington, D.C.: Institute of Transportation Engineers. 1987.

Trip Generation. Fifth Edition. Washington, D.C.: Institute of Transportation Engineers. 1991.

Trip Generation. Sixth Edition. Washington, D.C.: Institute of Transportation Engineers. 1997.

Planning Advisory Service. *Off-Street Parking Requirements: A National Review of Standards*. Planning Advisory Service Report Number 432. Chicago: American Planning Association. 1991.

Donald Shoup, "Truth in Transportation Planning," *Journal of Transportation and Statistics*, 2002.



[rjohnthebad](#)

Plain talk on building and development

Parking Hysteria is the norm -and that ain't right

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I was in Southwestern Michigan recently where I encountered an odd idea about parking on the street. In many of the residential neighborhoods you cannot park overnight on the public street. I asked if this was to facilitate snow removal during Winter months. I was told that the ordinance is in effect all year. Maybe there was a freak blizzard in July in years long past and that event lead folks to want to err on the side of caution.

Parking is a volatile subject. Anyone who has ever be frustrated trying to find a place to park is an expert on the subject without applying any effort or legitimate mental rigor to the topic.

Proposals to change parking rules can whip up the kind of hysteria that makes you question the mental capacity of folks you used to hold in some regard.

What does this mean for a small developer looking to get relief from the municipality's minimum parking requirements? Don't assume that common sense will prevail. Parking can be such a hot button issue that it clouds the minds of otherwise reasonable people. If you want to challenge or change the local parking rules, you really should not expect grownup behavior from your neighbors, city staff, or elected officials. Don't base your project on an assumption that you will get any reduction in parking, particularly if that relief will require a public hearing. You may be able to get some relief, but don't count on it to make your project pencil.

Many municipalities are getting rid of minimum off-street parking requirements, recognizing that cities have done a lousy job of guessing how much parking is going to be needed for any given use. Other cities have figured out what a nifty tool charging the right price for parking is for managing the supply of public parking in desirable areas. These islands of common sense are still too rare. Professor Donald Shoup has done excellent work debunking common parking myths. I recommend reading his book The High Cost of Free Parking (now in paperback) (<http://www.amazon.com/High-Cost-Parking-Updated-Edition/dp/193236496X>) to anyone serious about understanding how to manage parking issues.

If you are not ready to read a 700 page book about parking, I recommend this short paper by Prof. Shoup as an illustration of how warped and hysterical everyday thinking about parking has become: Roughly Right or Precisely Wrong (<http://shoup.bol.ucla.edu/RoughlyRightOrPreciselyWrong.pdf>) Parking Bloat is needless and wasteful. It is born of myth and sloppy thinking. Providing alternatives will require clear thinking and well-informed local leadership, (so it is going to take a while)...



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