



elkhorn
crossing
columbia, md



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1. General Context

A. Discussion of General Context Analysis

The general context analysis of Owen Brown Village Center will analyze the current arrangement and ownership of the buildings on the site, as well as traffic and pedestrian uses around the site. This analysis will also make general suggestions for how to increase the value of the property for the developer. A site tour of Owen Brown Village Center revealed that the village center is not walkable in its present state because of its expansive parking lot. The site suffers from a poor location within Columbia. Village centers east of U.S. Route 29, including Owen Brown Village Center, have struggling to compete with big box stores northeast of the site along Dobbin Road and Snowden River Parkway.¹ One way to remedy this struggle is to increase residential options in the vicinity. Another is to convert to the property into a live-work community with a retail component.

B. Property Location

The property, known as Owen Brown Village Center, is located two miles southeast of Columbia Town Center in the neighborhood of Dasher Green in the village of Owen Brown. Dasher Green is one of three neighborhoods within Owen Brown, with the other two neighborhoods being Hopewell and Elkhorn. Dasher Green roughly uses the loop formed by Cradlerock Way and Broken Land Parkway as its boundary, while Hopewell is on the southern end of Lake Elkhorn and Elkhorn is on the eastern end of Lake Elkhorn.

The property is located ¼ mile east of Broken Land Parkway, a primary artery connecting Columbia Town Center with Maryland Route 32 (Patuxent Freeway) and points east. Apartments

¹ *Columbia Market Study*

and rowhouses separate Broken Land Parkway, the primary arterial in the area, from the property. This makes visibility a major concern for the property. Despite the property's visibility issues, the property has easy access to area freeways: Maryland Route 32 is located ½ mile south of the property, while U.S. Route 29 (Columbia Pike) is located a mile west of the property. The property is 20 miles southwest of Downtown Baltimore and 30 miles northeast of Downtown Washington.

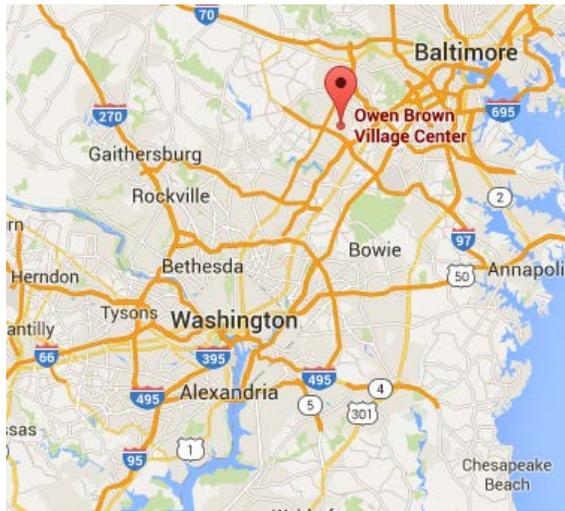


Figure 1. Location of Owen Brown Village Center within the Baltimore-Washington region.

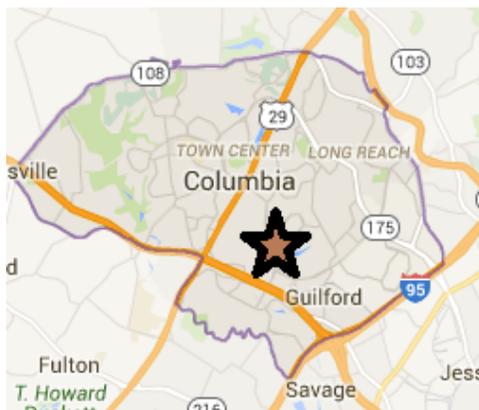


Figure 2. Location of Owen Brown within Columbia

C. Property Characteristics

The property, known as Owen Brown Village Center, consists of 12 parcels comprising 33.93 acres. The property has multiple landowners: landowners include the Columbia Association, Fleur Associates LLC, OB Professional Building, McDonald's Corporation, Convenience Retailing LLC, Owen Brown Interfaith Center Inc., and GFS Realty Inc.

The village center is fully leased,² and currently features retail, restaurant, senior housing, office, and public space uses. The property consists of:

- a Shell gas station (1.45 acres);
- a McDonald's (0.89 acres);
- the Owen Brown Interfaith Center (4.38 acres);
- the Owen Brown Tennis Center (3.35 acres);
- two professional buildings (0.14 acres);
- a parcel containing a Giant supermarket, a Bank of America branch, and a small plaza containing a Dollar Tree store (8.09 acres);
- Owen Brown Place apartments (5.80 acres);
- three parcels, as well as part of another parcel facing Lake Elkhorn, owned by the Columbia Association being used as open space (7.90 acres);
- and two plazas featuring a variety of businesses (1.93 acres).

A brief glance at aerial photography reveals that the supply of parking spaces seems to exceed the demand for parking spaces. Furthermore, there is a small pond and some forested

² CoStar

land on the northern edge of the property. This serves as a barrier that prohibits northward expansion of the village center.



Figure 3. The parcels highlighted in red are included in my proposed redevelopment of Owen Brown Village Center.

D. Traffic

The primary way to access the property is via Cradlerock Way, a looping minor collector road connecting to Broken Land Parkway at both ends. Homespun Drive, located northeast of the property, connects Cradlerock Way to Oakland Mills Road, a major collector road connecting Oakland Mills to Snowden River Parkway. A majority of the traffic going through the Village of Owen Brown stays on Broken Land Parkway, guaranteeing that only local residents will visit the businesses currently on the property. Given the property's location and relatively low traffic

levels, the only way the property can survive is if it is redeveloped to include a mix of uses, particularly residential and retail.

E. Pedestrian Flow

Sidewalks are provided along all streets in Owen Brown, including Cradlerock Way, and connect to the site adjacent to where vehicular access to the site is located. Furthermore, Owen Brown also features a trail network. A trail connects the property to Lake Elkhorn, a manmade lake south of the property. Cradlerock Way passes over the trail on an overpass, although a connection from the sidewalk to the trail can be found on both sides of Cradlerock Way. A parking lot on the property briefly interrupts the trail, but the trail restarts on the northern boundary of the property towards its destination of Columbia Town Center via Oakland Mills.

F. Transit

The only bus routes that directly serve the property are Route 407 (formerly known as the Brown Route) and Route 503 (formerly known as Route E) of the Regional Transportation Agency of Central Maryland, or RTA. There are also two bus routes that indirectly serve the property with stops ¼ mile west of the property along Broken Land Parkway. These include RTA Route 501 (formerly the Silver Route) and Maryland Transit Administration (MTA) Route 929. These routes can take residents to Columbia Town Center, Laurel, Silver Spring, and Baltimore-Washington Thurgood Marshall International Airport (BWI). BWI Airport can be accessed via a 1 hour 25 minute bus ride on RTA Route 501.³ MARC commuter rail service does not directly serve the site, although the closest MARC station is 7 miles southeast of the site in Savage.⁴

³ Google Maps

⁴ Google Maps

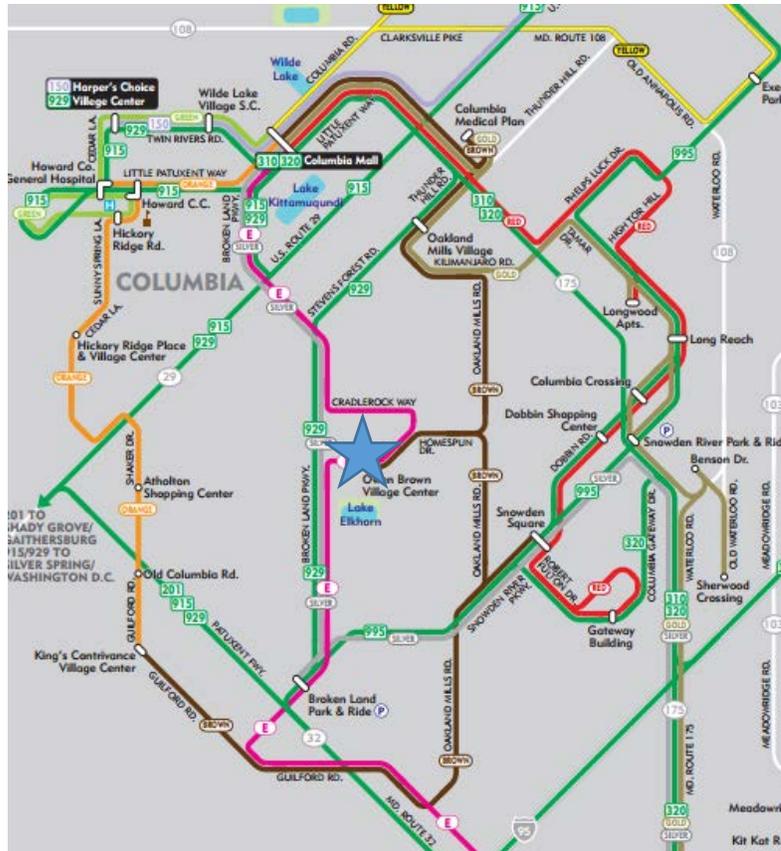


Figure 4. A map of transit routes that serve the Columbia area.

The 2002 Baltimore Regional Rail Plan proposed a new light rail line, the Yellow Line, which could connect Columbia Town Center to Hunt Valley via Towson, Downtown Baltimore, and BWI. The proposed routing would take the Yellow Line along Broken Land Parkway, where there would be a stop at its southern junction with Cradlerock Way. However, the route is not currently funded, and may never be constructed.



Figure 5. Baltimore Region Rail System Plan, adopted in March 2002. The proposed Yellow Line follows Broken Land Parkway from MD Route 32 to Columbia Town Center with a stop in Owen Brown.

G. Physical Geography

Columbia is located on the boundary between the Coastal Plain and the Piedmont Region of Maryland. The Coastal Plain is characterized by its flatness and dense forests, while the Piedmont Region serves as the foothills to the Appalachian Mountains and has a greater concentration of farms and ranches than the Coastal Plain. The boundary between the two regions, known as the fall line, is located to the east of the property near U.S. Route 1, placing

Owen Brown in the Piedmont Region.⁵ Despite being in a physiographic region characterized by its rolling hills, the property itself is mostly flat. My personal observation is that topsoil is immediately underneath the surface. A conversation with Architecture students at the University of Maryland revealed that there is a culvert underneath a large parking lot on the property containing a small creek. There is a slight incline on the eastern edge of the property, as well as a sharp decline where the trail connecting to Lake Elkhorn goes under Cradlerock Way. There are scattered trees throughout the property, with a better-defined canopy on the northern property line.

H. Community Benefits

A major concern for business owners in Owen Brown Village Center, particularly the Giant supermarket, is the presence of big box retailers two miles northeast of the property in Columbia Gateway.⁶ Retailers typically have razor-thin profit margins, and anything that erodes at those profit margins makes running a business in the village center less profitable. One way to counter this is by adding residential units at the village center. Thus, one community benefit will involve adding residents to the property in order to reduce the impact that the big box stores are having on the village center.

Another community benefit from redeveloping the village center is the creation of a “village square”, an events space in the village center. This will add to the sense of community that James Rouse envisioned when he developed Columbia, and will keep Owen Brown Village Center as a viable destination for local residents.

⁵ <http://www.mgs.md.gov/geology/>

⁶ *Columbia Market Study*

I. Architectural Character

The buildings found on the property are bland, recent, and lack distinguishable architecture traits. The McDonald's is a standard 1980s-model McDonald's, with a wooden exterior and an abundance of red paint. The Giant is a smaller version of a traditional Giant with a stucco exterior. A majority of the buildings on the site were constructed using visually-unappealing bricks. Due to the relatively recent construction of Columbia, there are no historic buildings on the site.

The redeveloped Owen Brown Village Center will be modeled after such walkable shopping centers such as Crocker Park in Westlake, OH and Easton Town Center in Columbus, OH. Like what I am proposing for Owen Brown Village Center, both these shopping centers feature retail along drivable and walkable streets, as well as a common green for events. Unlike the two comparable properties, a redeveloped Owen Brown Village Center will feature a residential aspect as well as public services. This will make Owen Brown Village Center a 24-hour destination, unlike Crocker Park and Easton Town Center.

The redeveloped village center will feature multiple mid-rise buildings immediately adjacent to a street grid. Since parking decks are far more expensive per parking space than ground-level parking lots, parking lots will be surface lots, and will be located behind buildings. The buildings themselves will have conservative, modern designs, and would be constructed with lumber and brick. An architectural comparison would be King Farm in Rockville, MD, where brick facades are the norm.



Figure 6. Crocker Park in Westlake, OH has 1.2 million square feet of retail space, 650 residential units, and 1 million square feet of office space⁷, and could potentially serve as a model for Owen Brown Village Center's redevelopment

⁷ http://en.wikipedia.com/wiki/Crocker_Park

2. Market Analysis

A. Market Area

For the market analysis of Elkhorn Crossing at Owen Brown Village Center, the United States Census Bureau's definition of the Columbia census-designated place, or CDP, will be used. The Columbia CDP has an area of 32.2 square miles, and most notably does not include the portion of Dorsey's Search north of Maryland Route 108 (Clarksville Pike) as well as a small part of Kings Contrivance east of Interstate 95.

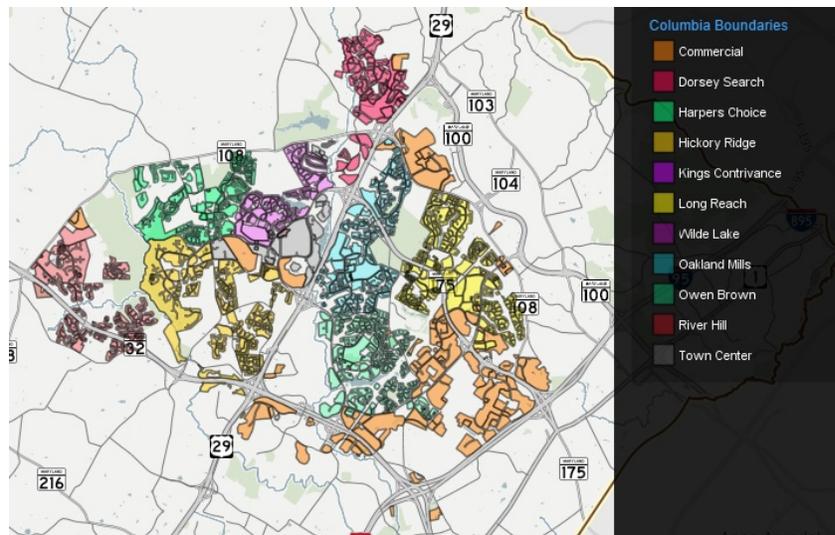


Figure 7. A map of the villages in Columbia from Howard County GIS.

Most of this market analysis will not include census tracts outside of the census-designated place's boundary in Howard County. Columbia has stronger name-recognition, both regionally and nationally, than Howard County. People often forget that Columbia is not an incorporated town, but is unincorporated under Maryland law; however, Columbia's unique and diverse demographics distinguishes Columbia demographically from the rest of Howard County. However, where data for the Columbia CDP is not publicly available, data for Howard County will be used.

B. Demographic Characteristics

i. Basic Demographics of the Area

According to the Columbia Association, Columbia is an ethnically diverse community. Caucasians are the most-represented group in Columbia, comprising 56.6% of the population. The second largest ethnic group is African-Americans, comprising 24.6% of the population. Asians make up 11% of the population of Columbia, while Hispanics and Latinos make up 7.9% of the population. Columbia is also a relatively young community: the median age in Columbia is 37.9 years of age.

Owen Brown's median age and demographic composition closely mirror those of Columbia. The median age of Owen Brown is 36.7. The largest ethnic group in Owen Brown is also Whites, making up little more than half of the population.

2010 Demographics of Columbia, MD

Village	Population	Median Age	% White	% Black	% Asian	% Hispanic/Latino
Dorsey's Search	5,541	37.7	67.3%	14.1%	13.3%	6.0%
Harper's Choice	7,646	37.7	50.0%	32.6%	9.0%	9.2%
Hickory Ridge	11,357	38.6	58.5%	24.9%	9.7%	6.5%
Kings Contrivance	8,500	37.3	63.5%	18.8%	11.6%	6.0%
Long Reach	13,931	36.7	48.1%	30.4%	12.6%	9.2%
Owen Brown	9,785	36.7	52.4%	27.7%	10.9%	9.2%
Oakland Mills	8,639	35.1	48.6%	31.0%	6.1%	16.4%
River Hill	6,752	37.4	64.4%	6.0%	26.5%	2.4%
Wilde Lake	4,956	41.8	52.7%	34.4%	5.4%	7.3%
Columbia Town Center	3,108	40.3	57.8%	26.6%	9.9%	7.0%
All of Columbia	90,316	37.9	56.6%	24.6%	11.0%	7.9%

Source: 2006-2010 American Community Survey, Columbia Association

Figure 8. Demographics of Columbia, MD and its villages as of 2010. Since the time this data was calculated, the population of Columbia has increased.

ii. Population

In the 2014 American Community Survey, Columbia was estimated to have a population of 102,116, making Columbia the second-largest community in Maryland, only smaller than the City of Baltimore. Columbia’s large population can be attributed to its location. Columbia is located midway between Baltimore and Washington, and has easy access to major highways and Fort Meade.

iii. Population Trends

Columbia’s population has nearly doubled since 1980, increasing from 52,518 to 102,116. Columbia is a relatively new community. Like most suburban communities between Baltimore and Washington, Columbia has experienced exponential growth. However, as Columbia’s population ages planners fear that younger residents are leaving Columbia for “hip” neighborhoods such as Fells Point and Canton in Baltimore and Adams-Morgan and Columbia Heights in Washington. Thus, Columbia is in the midst of a construction boom with the intention of helping position Columbia as an attractive place to live for Millennials.

Year	Columbia, MD		Maryland		United States	
	Population	Percentage Change	Population	Percentage Change	Population	Percentage Change
1980	52,518	--	4,216,975	--	226,545,805	--
1990	75,883	44.50%	4,781,468	13.40%	248,709,873	9.80%
2000	88,254	16.30%	5,296,486	10.80%	281,421,906	13.20%
2010	99,615	12.90%	5,773,552	9.00%	308,745,538	9.70%
2014	102,116	2.51%	5,887,776	1.98%	314,107,084	1.74%

Sources: 1980, 1990, 2000, and 2010 Censuses, 2010-2014 American Community Survey

Figure 9. A chart comparing the population and population change from 1980 to 2014 in Columbia, MD, Maryland, and the United States.

iv. Income

Columbia is an affluent community: 51.2% of households have a median household income of over \$100,000. Columbia’s median household income is 35.2% higher than Maryland’s annual median income and 87.4% higher than the national median. Owen Brown has a median household income for Owen Brown is \$95,889, 4.4% lower than Columbia.

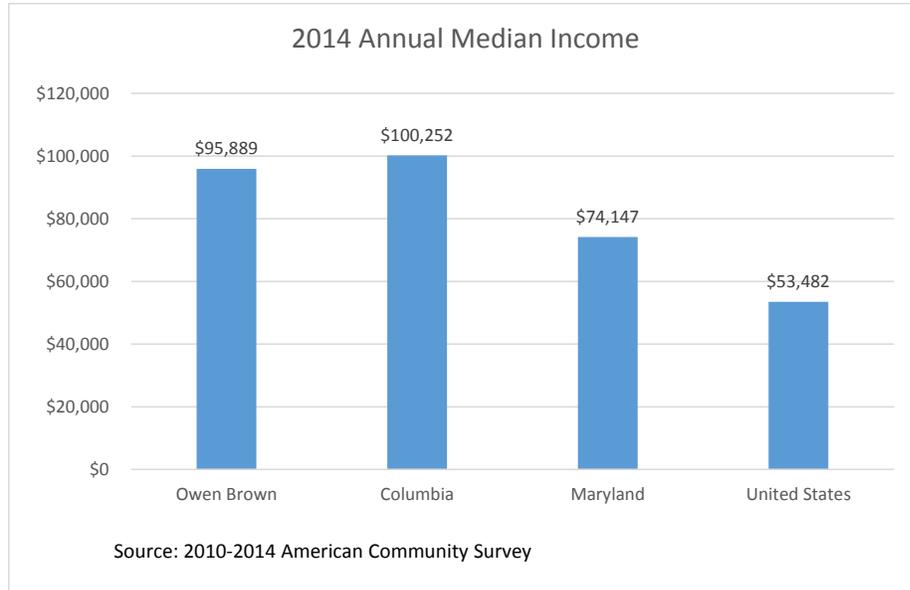


Figure 10. Annual median household income comparison chart

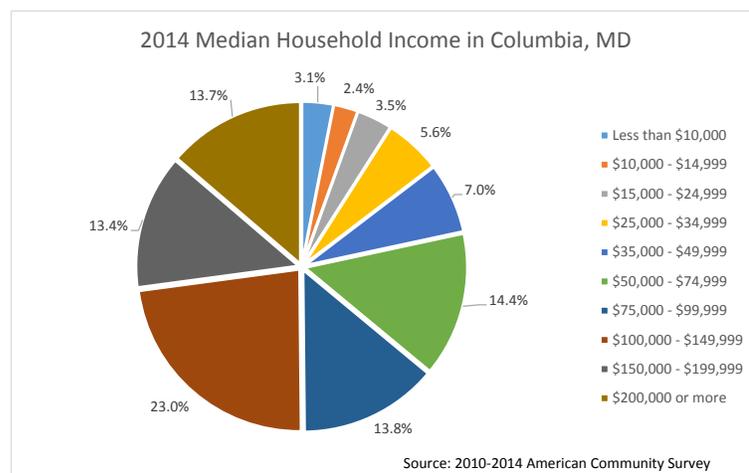


Figure 11. 2014 Annual Median Household Income in Columbia, MD

7% of residents in Columbia live under the poverty line, half of the national average.

Although the Columbia Association mentioned that Owen Brown has a high concentration of relative poverty, the 2010-2014 American Community Survey indicated that Owen Brown has a lower poverty rate than Columbia as a whole: the poverty rate in Owen Brown is 6.7%.

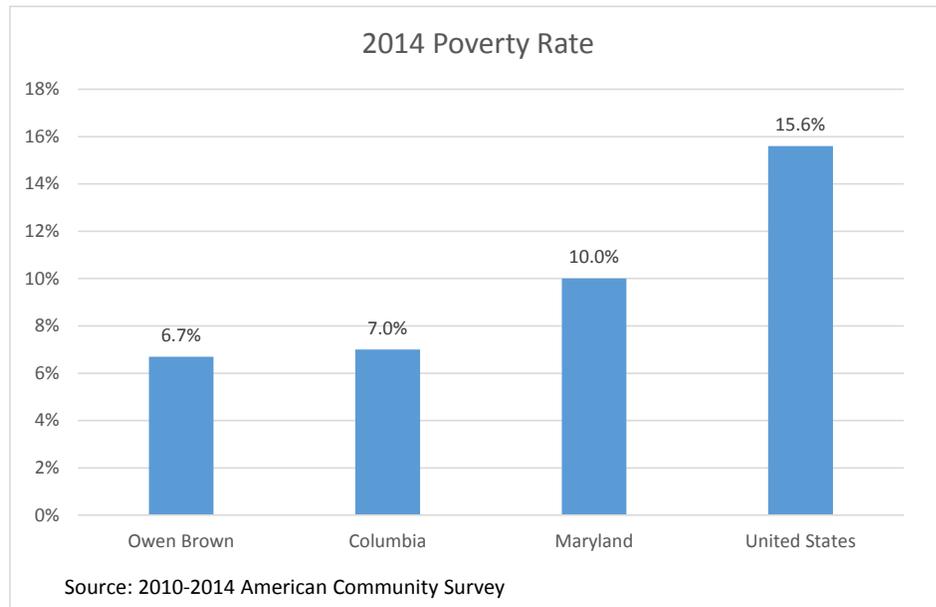


Figure 12. 2014 Poverty Rate

C. Employment

i. Labor Force

The labor force in Howard County has grown from 138,806 workers in 2005 to 167,244 workers in 2015, an increase of 20.5%. An overwhelming majority of the labor force in Howard County is employed by private companies. Thus, changes in the size of the labor force tend to reflect changes in the size of the private labor force. The only year in which the size of the labor force shrank was in 2009 during the Great Recession; however, despite the loss of over 5,000 private jobs, public entities added 350 positions between 2008 and 2009. Budgetary concerns led

to a reduction in the size of the public labor force in 2013: the public labor force was reduced in size from 19,128 workers in 2012 to 16,604 workers in 2013, a decrease of 13.2%.

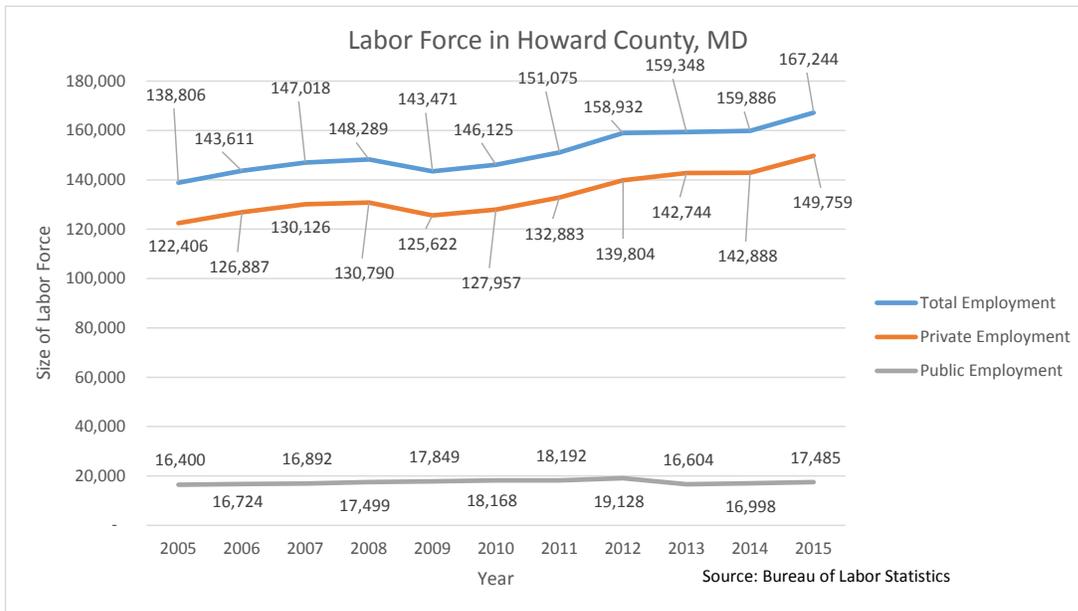


Figure 13. A graph showing total employment in Howard County, MD, and comparing private employment with public employment. The graph spans the period between 2005 and 2015.

ii. Unemployment

Because of the stability of nearby federal government installations, Howard County’s unemployment rate has consistently been lower than the state and federal unemployment rates. Unemployment in Howard County reached a low of 2.5% in 2007, and subsequently rose in the following years due to the effects of the Great Recession. Following the recession, the unemployment rate in Howard County has not returned to pre-recession levels due to federal sequestration, yet still consistently remains lower than state and federal unemployment rates.

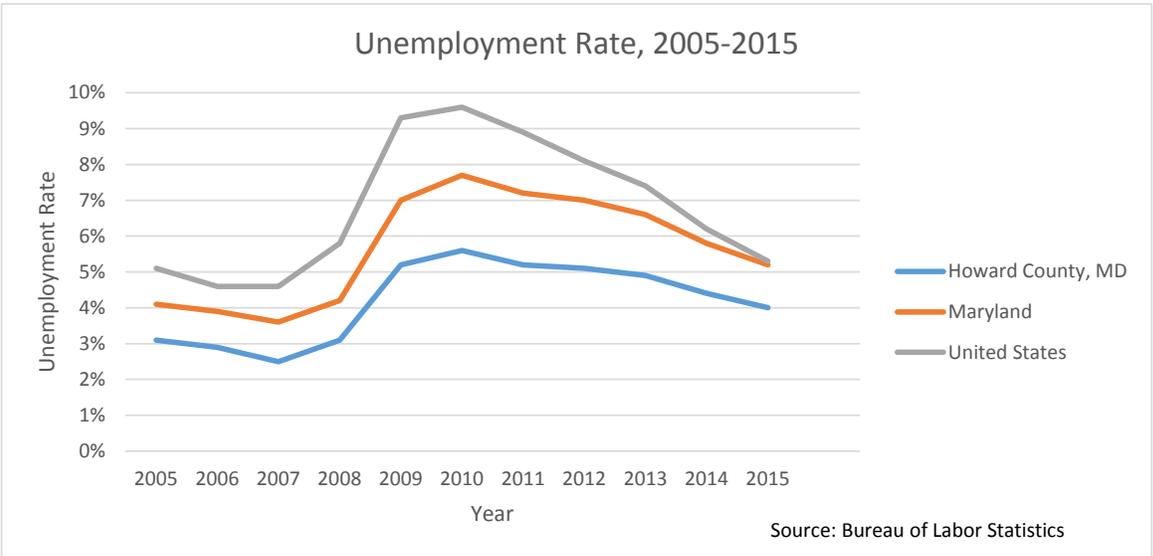


Figure 14. Unemployment rates for Howard County, Maryland, the State of Maryland, and the United States from 2005 until 2015.

iii. Employers

The largest employer with a physical presence in Howard County is Johns Hopkins University Applied Physics Laboratory, located just south of Columbia in the community of Maple Ridge. However, an undetermined number of people are employed at Fort Meade and live in Howard County, particularly in the Jessup, Savage, and North Laurel census-designated places as well as the eastern half of Columbia. The Anne Arundel Economic Development Corporation estimated that 49,132 people were employed at installations at Fort Meade in 2014, including the National Security Agency (NSA); however, a geographic distribution of where Fort Meade employees live was not provided. Other large non-government employers in Howard County include Lorien Health Systems, Howard County General Hospital, and Verizon.

Major Employers in Howard County, 2015

Rank	Company	Number Employed	Industry
1	Johns Hopkins University Applied Physics Laboratory	5,000	Professional Services
2	Lorien Health Systems	2,000	Health care
3	Howard County General Hospital	1,827	Health care
4	Howard Community College	1,438	Educational Services
5	Verizon	1,346	Information
6	Leidos	1,195	Professional Services
7	MICROS Systems	1,052	Professional Services
8	Coastal Sunbelt Produce	1,050	Manufacturing
9	Giant Food	1,050	Retail Trade
10	Wells Fargo	842	Finance and Insurance

Source: Maryland Department of Commerce

Figure 15. Major Employers in Howard County, 2015

D. Market Demand

i. Methodology

For the retail demand analysis, CoStar market data will be used. CoStar classifies Owen Brown as part of the Columbia South Submarket, which is part of the Ellicott City-Columbia Submarket Cluster in the Baltimore Market.

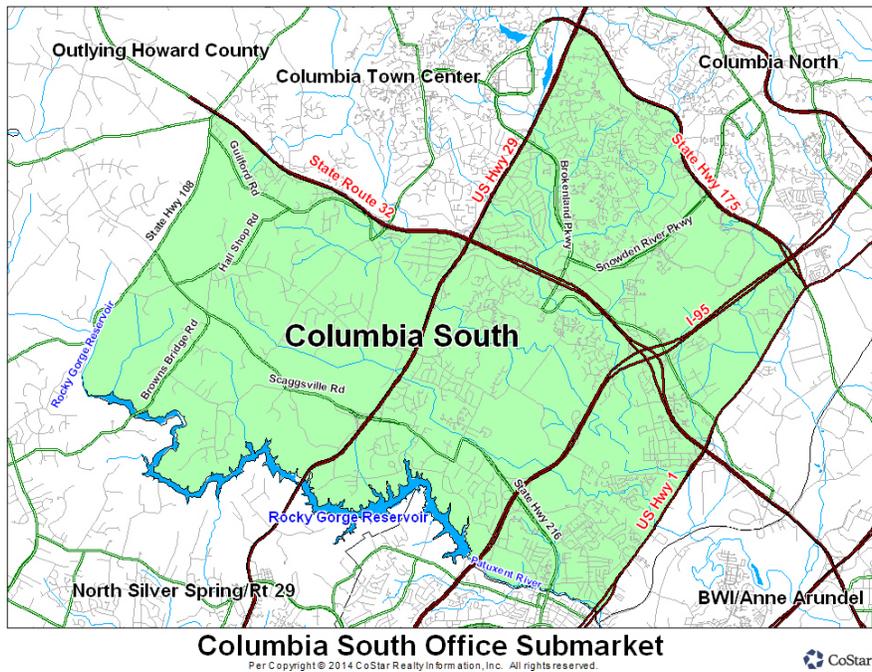


Figure 16. A map of the Columbia South Submarket.

All multifamily analyses will use data from the American Community Survey 2010-2014 and the CoStar multifamily markets that overlap with the Census Bureau’s Columbia CDP boundary. CoStar has a multifamily market for every village in Columbia except for River Hill. All CoStar data is derived from Year-End 2015 reports.

ii. **Retail Demand**

There are 190 retail buildings in the Columbia South Submarket, occupying a gross leasable area of 3,290,610 square feet. The vacancy rate is 3.0%, lower than the overall Baltimore Market vacancy rate of 4.9%. In 2015, there was a delivery of 13,000 square feet and a net absorption of -10,465 square feet. There is 24,663 square feet of retail under construction. The quoted rate for the submarket is \$26.67 per square foot⁸. In the submarket, there are no

⁸ It is unclear whether the quoted retail rate includes utilities and taxes.

malls, one power center (a shopping center consisting primarily of several freestanding anchors and only a minimum of small specialty tenants), 26 shopping centers (which includes community centers, neighborhood centers, and strip centers), one specialty center (which includes airport retail, outlet centers, and theme/festival centers), and 102 general retail buildings which do not fit into any of the aforementioned classifications. The data suggests that despite a negative net absorption figure, the Columbia South Submarket is very strong. Competition from nearby shopping centers indicates that the village center would be best served by smaller, community-oriented retailers.

iii. Multifamily Demand

The calculation of multifamily demand was done using a template provided by Real Property Research Group, and uses data from Census Bureau as well as CoStar.

The first step of the derivation of demand was to calculate household growth. The change in the number of occupied households in the Columbia CDP from 2010 to 2014 as determined by the 2010 Census and the American Community Survey 2010-2014 was extrapolated. The annual increase in the number of units was then calculated and applied to the projected numbers of occupied households in 2015 and 2018. Each year, housing units are removed from the market due to factors such as functional obsolescence, Acts of God (e.g., fire, flooding, etc.), age, and poor market placement. The number of units removed from the market was 0.370% of all vacant and occupied units in the market.

After calculating the number of units removed from the market in 2015, 2016, and 2017 using the aforementioned methodology, CoStar market data was used to calculate the inventory of multifamily units in all CoStar Multifamily Submarkets overlapping the boundaries of the Columbia CDP. CoStar lists the number of vacant units as percentages. This required using

Excel to calculate the number of vacant units for each multifamily community. After subtracting the number of current vacant units from market vacancy at 5%, the Total Rental Demand of 368 units was given.

There are two planned additions to the supply: Alta Wilde Lake in Wilde Lake and Little Patuxent Square in Columbia Town Center. Alta Wilde Lake is proposed to have 230 units, while Little Patuxent Square is proposed to have 160 units. If the 84 units proposed for Elkhorn Crossing are included, the Total New Rental Supply would give Columbia 474 new multifamily units. By subtracting the Total New Rental Supply at 95% occupancy (450 units) from the Total Rental Demand, my Derivation of Demand computed there would be 82 more rental units on the market than the market demands. Although this would indicate that now is not an ideal time for redeveloping Owen Brown Village Center into a mixed-use community, Columbia's continued growth and Howard County's vision of Columbia being attractive to Millennials makes the rental demand irrelevant. The multifamily housing market in Columbia will continue to expand as long as the population in the Baltimore-Washington region continues its rapid growth.

**Derivation of Demand
Columbia, MD**

Demand			
<i>Household Growth</i>			<i>Units</i>
2015 Households			40,082
2018 Households			40,394
Net Change in Households			312
<hr/>			
Add: Units Removed from Market	Hsg Stock	Removal	Lost Units
2015 Housing Stock	41,685	0.370%	154
2016 Housing Stock	41,793	0.370%	155
2017 Housing Stock	41,902	0.370%	155
			464
Net New Demand for Housing Units			776
Average Percent Renter Households in 2014			33.7%
Net New Demand for Renter Units			261
<hr/>			
Add: MF Competitive Vacancy	Inventory		Vacant
Multifamily Communities	10,130		400
			400
Subtotal Stabilized Communities	10,130		400
			507
Market Vacancy at 5%			507
Less: Current Vacant Units			400
Vacant units required to reach 5% Market Vacancy			107
<hr/>			
Total Rental Demand			368
<hr/>			
Planned Additions to the Supply			
		Total Units	95% Occupancy
Alta Wilde Lake		230	219
Little Patuxent Square		160	152
		84	80
ELKHORN CROSSING		84	80
Total New Rental Supply		474	450
<hr/>			
Excess Demand for Rental Housing			-82

Figure 17. Derivation of Demand

E. Project Comps

i. Methodology

There are few upscale residential communities located within village centers in Columbia: the only product that compares to the redevelopment of Owen Brown Village Center

is Alta Wilde Lake; however, Alta Wilde Lake is under construction, and their website does not indicate what the floor plans will be or which amenities will be featured.⁹ In order to evaluate comparable properties with a unique product such as Elkhorn Crossing, upscale communities in Columbia Town Center and mid-market apartment communities near existing village centers must also be included to provide a better analysis of similar products currently on the market. The three properties being used as comparable properties are the Metropolitan Downtown Columbia, The Verona at Oakland Mills, and Columbia Choice.

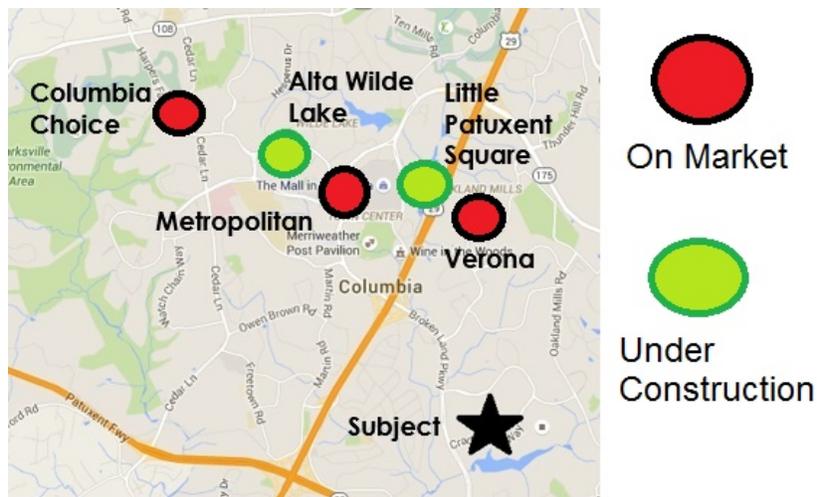


Figure 18. The location of market comps (in red) in relation to the subject (the star). Projects under construction are in green.

ii. The Metropolitan Downtown Columbia

The Metropolitan Downtown Columbia, or Metropolitan, is a LEED Silver-certified 4-star apartment community featuring 380 residential units as well as retail units along Town Center Avenue. There are 188 one-bedroom units averaging 819 square feet, 132 two-bedroom units averaging 1,129 square feet, and 60 three-bedroom units averaging 1,383 square feet. The average asking rent per one-bedroom unit is \$1,715, or \$2.12 per square foot. The average asking

⁹ Altawildelake.com

rent per two-bedroom unit is \$2,293, or \$2.09 per square foot. The average asking rent per three-bedroom unit is \$3,182, or \$2.25 per square foot. There are no rent concessions offered at the Metropolitan.

Unit amenities include air conditioning, cable hookups, dishwashers, waste disposal systems, fireplaces, central heating, full-service kitchens, microwaves, ovens, ranges, stainless steel appliances, walk-in closets, a washer and dryer, and window coverings. Site amenities include a business center, a clubhouse, controlled access, a courtyard, two elevators, a fitness center, a game room, on-site laundry facilities, a lounge, on-site maintenance, a media center/movie theater, a playground, a pool, an on-site property manager, and a spa.

iii. The Verona at Oakland Mills

The Verona at Oakland Mills, or The Verona, was built in 1971. The Verona consists of 21 buildings featuring 251 two-star garden apartments on Whiteacre Road adjacent to Oakland Mills Village Center. There are 91 one-bedroom units averaging 683 square feet, 124 two-bedroom units averaging 876 square feet, and 36 three-bedroom units averaging 1,171 square feet. The average asking rent per one-bedroom unit is \$1,314, or \$1.93 per square foot. The average asking rent per two-bedroom unit is \$1,417, or \$1.62 per square foot. The average asking rent per three-bedroom unit is \$1,789, or \$1.53 per square foot. There are no rent concessions offered at The Verona.

The facility is public housing, meaning that any amenities featured on the property are limited. Unit amenities include air conditioning, ceiling fans, a microwave, walk-in closets, and a washer and dryer. Site amenities include on-site laundry facilities, on-site maintenance, a playground, an on-site property manager, and storage space.

iv. Columbia Choice

Columbia Choice was built in 1974, and consists of 15 buildings featuring 234 four-star garden apartments on Harpers Farm Road in the village of Harper's Choice. There are 58 one-bedroom units averaging 743 square feet, 117 two-bedroom units averaging 927 square feet, and 59 three-bedroom units averaging 1,171 square feet. The average asking rent per one-bedroom unit is \$1,299, or \$1.75 per square foot. The average asking rent per two-bedroom unit is \$1,532, or \$1.65 per square foot. The average asking rent per three-bedroom unit is \$1,900, or \$1.62 per square foot. There are no rent concessions offered at Columbia Choice.

Unit amenities include air conditioning, cable hookups, dining rooms, dishwashers, waste disposal systems, eat-in kitchens, hardwood floors, central heating, high-speed internet access, ranges, stainless steel appliances, walk-in closets, a washer and dryer, and window coverings. Site amenities include laundry facilities, on-site maintenance, a playground, and an on-site property manager.

3. Zoning Analysis

A. Current Zoning

The site is currently zoned as a New Town (NT) District. A “New Town” is defined in the Zoning Regulations as “an unincorporated city, town, or village that is designated and planned as an economically and culturally self-sufficient community with a population of at least 20,000 inhabitants.” A phone conversation with Howard County Planner Randy Clay revealed that NT Districts are in the process of being reconfigured by the Department of Planning and Zoning (DPZ), although Mr. Clay did not mention a timeline for the NT District overhaul. NT Districts were originally designed to cover most of the 14,000 acres in James Rouse’s original Columbia development. The maximum total number of dwelling units permitted can be computed by multiplying the contiguous acreage of an NT District by 2.5. Each NT District must provide each of the uses as described in Figure 19.

Use	Requirement
Open Space	Minimum of 36% of total area
Single-family – Low Density	Minimum of 10% of total area Maximum of 2 units per acre
Single-family – Medium Density	Minimum of 20% of total area Maximum of 4 units per acre
Apartments	Maximum of 13% of total area Maximum of 15 units per acre
Commercial (POR, B-1, B-2, and SC uses)	Minimum of 2% of total area Maximum of 10% of total area
Industrial (M-1 uses)	Minimum of 10% of total area Maximum of 20% of total area
Other uses presently permitted in any zoning district other than those permitted only in R-MH and M-2 Districts	Maximum of 15% of total area

Figure 19. Permitted uses in an NT District

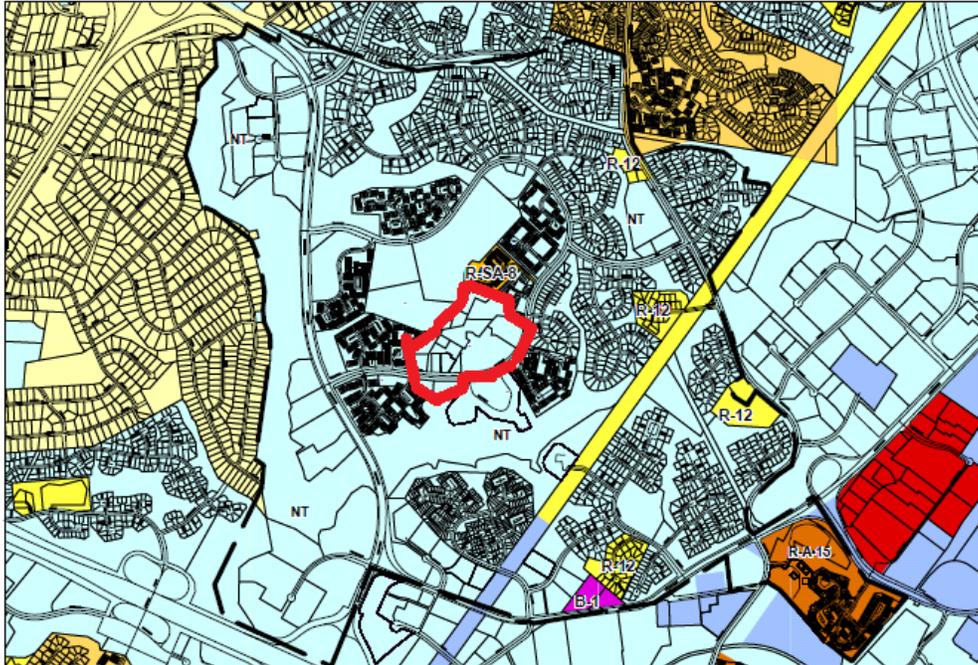


Figure 20. The light blue area on this map represents areas inside NT Districts. Owen Brown Village Center is delineated by a red polygon.

The Zoning Regulations relegates the ability to set setbacks and floor-to-area ratios (FAR) to the community plans of each village center; however, the Owen Brown Village Center Community Plan does not specify any required setbacks or FARs.

B. Parking Requirements

Off-street parking and loading facilities are required to be provided on the same lot as the adjoining building(s). In nonresidential uses, parking may be allowed on a separate lot in if the major point of pedestrian access is within 400 feet of the entrance to the building. If two or more adjoining lots are within the same zoning district and have the same owner, off-street parking and loading spaces may be provided in a single facility.

The number of required spaces for each building use are depicted in Figure 21, while the configuration of shared parking spaces is depicted in Figure 22. The use of shared parking spaces

reduced the amount of required parking spaces for the site, thus reducing the cost of development by allowing for smaller parking lots.

Use	Required Spaces
Single-family detached and single-family attached	2 spaces per dwelling unit, plus 0.5 spaces for visitor parking
Apartments	2 spaces per dwelling unit, plus 0.3 spaces for visitor parking
General office	3.3 spaces per 1,000 sf
Medical clinic or medical offices	5 spaces per 1,000 sf
Banks	3.3 spaces per 1,000 sf
Convenience stores	5 spaces per 1,000 sf
Personal service establishments	5 spaces per 1,000 sf
Standard restaurants and bars	14 spaces per 1,000 sf
Restaurants with outdoor seating	7 spaces per 1,000 sf
General retail	5 spaces per 1,000 sf
Gyms	10 spaces per 1,000 sf of assembly area
Community swimming pool	1 space per 7 persons permitted in pool
Religious facilities	10 spaces per 1,000 sf in the assembly area (May be reduced by up to 33% if use is within 500 feet of a larger parking facility)

Figure 21. A chart requiring the number of spaces for each permitted use in an NT District.

	Weekday				Weekend		Nighttime
	6 am-8 am	8 am-3 pm	3 pm-5 pm	5 pm-12 am	6 am-6 pm	6 pm-12 am	12 am-6 am
Residential	80%	60%	60%	100%	100%	100%	100%
Office	80%	100%	100%	10%	10%	5%	5%
Retail	20%	60%	60%	90%	100%	70%	5%
Hotel or Motel	75%	75%	75%	100%	75%	100%	100%
Restaurant (not fast food)	50%	50%	50%	100%	100%	100%	10%
Theater, commercial recreation, nightclub, or restaurant with entertainment	40%	40%	40%	100%	80%	100%	10%

Figure 22. Shared parking adjustments in Howard County, MD

Off-street loading and unloading facilities are required for retail and service business establishments, restaurants, and other places serving food and beverages. Loading facilities need to be separate from parking spaces and driveways serving parking spaces, away from pedestrians and vehicular traffic, and in compliance with setback requirements.

C. Height Limits

The Owen Brown Village Center Community Plan sets a strict height limit of seven stories for buildings in Owen Brown. The Plan elaborates:

“Future residential units could be constructed, perhaps in multiuse buildings (offices/stores on the first floor and residential units on floors above the first). In all cases, no building should be higher than the seven story Owen Brown Place building. Building heights must be stepped in such a way that buildings close to / across the street from multifamily residential areas should be no more than two stories tall. Three or four story buildings would be appropriate closer to Owen Brown Place. All appropriate County regulations including parking must be met.”

D. Does my Program Fit with the Current Zoning?

The program for the redevelopment of Owen Brown Village Center includes three mixed-use buildings and a new Owen Brown Community Center overlooking a village square. The current Giant supermarket will be redeveloped separately, and will be kept as a supermarket in the program. The tallest building will be five stories, short of the seven-story height limit. Despite the relatively high density of the redeveloped village center, at least 50% of the site will

be used as open space. After researching the zoning requirements, it is believed that the current program fits with the current zoning.

E. Major Village Center Redevelopment Process

i. Step 1: Village Center Community Planning Process

- **Step 1A. Notice of Intent (NOI) to Develop.** The Petitioner delivers the NOI to the applicable Village Board and the Department of Planning and Zoning (DPZ) at least 60 days prior to the first pre-submission community meeting.
- **Step 1B. Village Center Community Plan (VCCP).** The Village Board may create or update the VCCP within 60 days of receiving the NOI.
- **Step 1C. Village Center Concept Planning Workshop.** The Petitioner shall initiate and participate in a Village Center Concept Planning Workshop with the community. This shall be done at least 1 week from the NOI and at least 30 days before the first pre-submission community meeting.
- **Step 1D. Results of Workshop.** The Petitioner creates a concept Plan and the Village Board creates or updates the Village Center Community Plan based on the results of the workshop.
- **Step 1E. First Pre-Submission Community Meeting.**
- **Step 1F. Second Pre-Submission Community Meeting.** This is to be held at least 30 days after the first pre-submission community meeting.
- **Step 1G. Design Advisory Panel (DAP) Meeting.** At this meeting, the Petitioner presents a concept plan and design guidelines to DAP. This meeting is to be held prior to PDP amendment submission to DPZ. Members of the community are able to submit written comments.

- ii. **Step 2: Zoning Process to Amend Preliminary Development Plan (PDP)**
- **Step 2A. Petitioner Submits PDP Amendment Petition to Department of Planning and Zoning (DPZ).**
 - **Step 2B. Notice Sent to Village Board.** Within two days of acceptance of a Major Village Center redevelopment petition, DPZ sends a notice to the Village Board requesting a Community Response Statement.
 - **Step 2C. Community Response Statement.** Within 45 days from the notice sent to the Village Board, the Village Board sends a Community Response Statement to DPZ.
 - **Step 2D. DPZ Schedules a Planning Board Meeting Date.**
 - **Step 2E. DPZ Prepares Technical Staff Report.** DPZ prepares a technical staff report to be issued to the Planning Board two weeks prior to the Planning Board meeting date, approximately three weeks in advance. Community input can be provided at a meeting.
 - **Step 2F. DPZ Presents the PDP Amendment Petition to the Planning Board.** The Planning Board reviews the DAP recommendations, Community Response Statement from the Village Board, and the DPZ Staff Report Recommendation. Then the Planning Board issues their recommendation in approximately two to three weeks. Community members are invited to the Planning Board review to provide feedback.
 - **Step 2G. Zoning Board Action.** The Zoning Board evaluates the Major Village Center redevelopment plan based on the DPZ Staff Report, Planning Board recommendations, and compliance with Section 125.0.J.5 of the Zoning Regulations. Community input is welcomed at the Zoning Board meeting. Following its evaluation, the Zoning Board issues a decision and an order. If approved, the Petitioner proceeds to Step 3 – Land Development Review Process.

iii. Step 3: Land Development Review Process

- **Step 3A. Submission of Plans to DPZ.** The follow are four separate plans which are required submissions:
 - Amended Comprehensive Sketch Plan (ACSP);
 - Amended Final Development Plan (AFDP);
 - Environmental Concept Plan (ECP);
 - And Site Development Plan (SDP). The Petitioner presents the SDP to the Design Advisory Panel prior to the SDP submission to DPZ.
- **Step 3B. Review of Plans by Subdivision Review Committee (SRC).** The SRC meeting is held three to four weeks after the initial application date. The community is allowed to provide input via letters, emails, or phone calls. If required, plans are to be revised in this step. There is a 45-day re-submittal deadline. The re-submitted plans must be submitted to DPZ, thus repeating Step 3A.
- **Step 3C. Plan is Approvable.** This may require revised plan submission to specific SRC Agencies. The four plans each have separate deadlines. The ECP Plan process will be described in the steps ending with the suffix “-A”, while the ACSP, AFDP, and SDP Plan processes will be described in the steps ending with the suffix “-B” and will be numbered in alphabetical order if warranted.
- **Step 3D-A. Environmental Concept Plan (ECP) Originals (Mylars) Submitted for Signature Approval.** This occurs 45 days or less from the Technically Complete Letter. After this, the review process for the ECP Stage is complete.
- **Step 3D-B. Planning Board Public Hearing/Meeting.** The community is allowed to attend the meeting and provide feedback. While a hearing is required for the ACSP,

meetings are required for the AFDP and the SDP. The Planning Board will make its decision at each hearing and meeting.

- **Step 3E-B1. Amended Comprehensive Sketch Plan (ACSP) Originals (Mylars) Submitted to DPZ for Signature.** There is a 45-day deadline from the Planning Board's Decision and Order. Once submitted, the entire process must be repeated from Step 3A for AFDP and SDP. The submission of ACSP Mylars to DPZ for signature signifies the end of the review process for the ACSP Stage.
- **Step 3E-B2. Amended Final Development Plan (AFDP) Originals (Mylars) Submitted to DPZ for Signature.** There is a 180-day deadline from the Planning Board approval.
- **Step 3E-B3. Developer Agreement Process (if applicable for Site Development Plan [SDP]).** This process executes the Developer's Agreement and payment of fees, and has a 180-day deadline from Planning Board approval.
- **Step 3F-B2. AFDP Signed and Recorded at Land Records Office by DPZ.** Following the signing and recording of the AFDP, the review process is complete for the AFDP Stage.
- **Step 3F-B3. Submission of Original SDP for Signature.** There is a 180-day deadline from the Planning Board approval. Following the submission of the original SDP, the review process is complete for the SDP Stage.

F. Planned Unit Developments

Howard County does not have any regulations relating to planned unit developments (PUDs). A phone call with Howard County Planner Randy Clay revealed that the closest thing

Howard County has to PUDs are density overlay districts according to Chapter 106.0 of the Zoning Regulations; however, those regulations do not apply to NT Zones.

G. Covenants

Covenants in Owen Brown are binding legal obligations between the Owen Brown Community Association and each lot owner in the village.¹⁰ Covenants in Owen Brown assure residents of certain standards for land use, architectural design, and property maintenance throughout the village, and also provide membership in the Owen Brown Community Association and establish the mechanism for the operation of that association.

H. Stormwater Management and Erosion and Sediment Control Regulations

The 2000 Maryland Stormwater Design Manual and the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control both conform to the Stormwater Management Act of 2007, or “The Act”. The Act defines Environmental Site Design (ESD) as “using small scale stormwater management practices, nonstructural techniques, and site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources.”

Developing a plan begins with gathering, mapping, and analyzing information about the physical characteristics of the site.¹¹ The proposed development site should be visited in order to clearly understand its elevation, vegetative, drainage, and soil characteristics. The designer will need to map wetlands, seeps, streams, forests, critical areas, and buffers, as well as downstream areas sensitive to damage from erosion and sedimentation. Investigating soil characteristics is also recommended. Identifying the soil types enables the designer to identify areas that should

¹⁰ <http://www.owenbrownvillage.org/covenants.html>

¹¹ 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control

remain undisturbed. The first required plan, the concept plan, requires the mapping of natural resources, vegetative buffer strips, highly erodible soils, and slopes with grades steeper than 15 percent. These mapped areas are to be protected from erosion using additional measures or are to remain undisturbed.

The site development plan establishes the footprint of the proposed project and identifies the impacts of the proposed impervious surfaces on the existing natural conditions. This will better protect natural resources. A narrative describing how erosion and sediment control will be integrated into the stormwater management strategy needs to be included in the site development plan, as well as the preparation of detailed designs, computations, and grading plans for review and approval. An overlay plan showing stormwater and erosion and sediment control practices is required as part of the site development submission. After approval from the County, the applicant will then proceed with final plan preparation.

Final erosion and sediment control plans must include the limit of disturbance, the location of each sediment control practice, contours for sediment traps and sediment basins, associated construction notes, details, and representative cross-sections, as appropriate. Depiction of standard symbols on the plan needs to consider the footprint required for the ESD tools. Existing and proposed contours need to be shown at an appropriate interval. Drainage areas must be delineated for sediment control practices whose sizing is based on the drainage area, and, when necessary, design computations must be provided. When phasing is necessary, the sediment control plan must include initial, interim, and final phase sediment control practices, as appropriate. A sequence of construction must be provided with enough detail to guide the construction, maintenance, and removal of the erosion and sediment controls.

Design Process for New Development

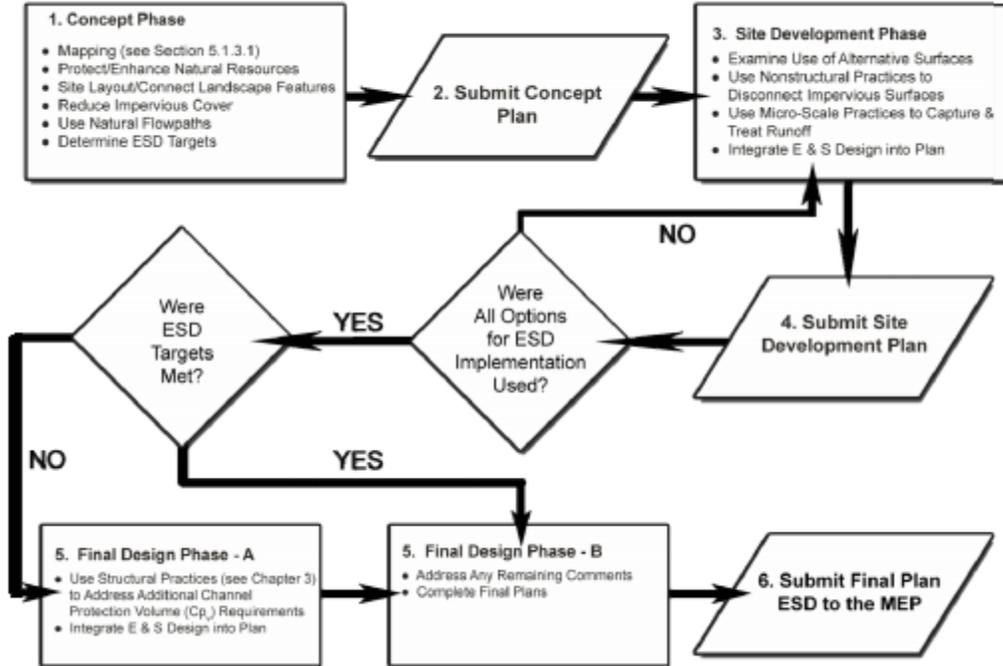


Figure 23. A chart highlighting the stormwater management design process for new development

4. Design and Environmental Analysis

A. Importance of Design

It is my opinion that the most successful real estate developers are also the most judicious about design. Gerald Hines is a prime example of this, incorporating sleek, intelligent architectural designs into his projects.¹² Conversely, Donald Trump is also known for incorporating tacky designs into his projects that have gone on to signify his brand.¹³ Despite the extreme difference between the two aforementioned developers, both have used design as a mechanism for creating their brands and creating value.



Figure 24. Trump International Hotel in Las Vegas differentiates itself from its competitors by being covered in 24-carat gold and having the word "Trump" plastered all over it.

Columbia founder James Rouse invested a painstaking amount of time designing Columbia and its villages. While it is my understanding that Columbia was created to support one of Rouse's largest malls, Rouse may have overdeveloped the Mall in Columbia at the

¹² <http://www.houstonchronicle.com/business/real-estate/article/Hines-hosts-giants-of-architecture-for-landmark-6445349.php>

¹³ I once stayed at the Trump International Hotel in Las Vegas. It was a wonderful hotel, and it was covered in 24-carat gold. I have never seen any of Trump's other buildings in person, but it is safe to say that anyone who feels the need to cover any of their high-rises in 24-carat gold is tacky.

expense of some of the village centers. While every village center has retail and dining options within a short distance from residences, the Mall and the surrounding buildings have larger, more diverse retail and dining options within a five-minute drive of many village centers because of the Mall's status as a large retail destination. This makes the design of Columbia somewhat flawed. Some of Columbia's design problems will be fixed by developing Elkhorn Crossing as a walkable, mixed-use complex.

B. LEED

My research of market competitors revealed that amongst apartment buildings, LEED is not yet a true market differentiator in Columbia: the only competitor with any LEED certification is the Metropolitan, which is LEED Silver. Unlike the Metropolitan, Owen Brown Village Center is being redeveloped into a mixed-use community with multiple buildings. Thus, I thought that using the Neighborhood Development Plan LEED v4 checklist would be more appropriate for Owen Brown Village Center's redevelopment instead of only for the construction of Elkhorn Crossing.

Owen Brown Village Center, once redeveloped, will be certified LEED Silver. It will receive most of its points from the design of the community, which seeks to reduce vehicle trips to other parts of Columbia while attracting new residents to an older village center. The largest point categories Owen Brown Village Center seeks to score points in include a Preferred Location, Walkable Streets, Compact Development, Housing Types and Affordability, Mixed-Use Neighborhood, and Innovation. Figures 25 and 26 depict a breakdown of the proposed project LEED point distribution.



**LEED v4 for Neighborhood Development Plan
Project Checklist**

Project Name:
Date:

Owen Brown Village Center
13-Mar-16

Yes	?	No			
13	0	10	Smart Location & Linkage		28
Y			Prereq	Smart Location	Required
Y			Prereq	Imperiled Species and Ecological Communities	Required
Y			Prereq	Wetland and Water Body Conservation	Required
Y			Prereq	Agricultural Land Conservation	Required
Y			Prereq	Floodplain Avoidance	Required
5			Credit	Preferred Locations	10
		2	Credit	Brownfield Remediation	2
		7	Credit	Access to Quality Transit	7
2			Credit	Bicycle Facilities	2
3			Credit	Housing and Jobs Proximity	3
		1	Credit	Steep Slope Protection	1
1			Credit	Site Design for Habitat or Wetland and Water Body Conservation	1
1			Credit	Restoration of Habitat or Wetlands and Water Bodies	1
1			Credit	Long-Term Conservation Management of Habitat or Wetlands and Water Bodies	1
33	4	4	Neighborhood Pattern & Design		41
Y			Prereq	Walkable Streets	Required
Y			Prereq	Compact Development	Required
Y			Prereq	Connected and Open Community	Required
9			Credit	Walkable Streets	9
6			Credit	Compact Development	6
4			Credit	Mixed-Use Neighborhoods	4
7			Credit	Housing Types and Affordability	7
1			Credit	Reduced Parking Footprint	1
2			Credit	Connected and Open Community	2
		1	Credit	Transit Facilities	1
		2	Credit	Transportation Demand Management	2
1			Credit	Access to Civic & Public Space	1
1			Credit	Access to Recreation Facilities	1
1			Credit	Visitability and Universal Design	1
		2	Credit	Community Outreach and Involvement	2
		1	Credit	Local Food Production	1
		2	Credit	Tree-Lined and Shaded Streetscapes	2
1			Credit	Neighborhood Schools	1

Figure 25. LEED v4 Neighborhood Development Plan scorecard - Part One

Yes	?	No			
8	9	14	Green Infrastructure & Buildings		31
Y			Prereq	Certified Green Building	Required
Y			Prereq	Minimum Building Energy Performance	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Construction Activity Pollution Prevention	Required
	5		Credit	Certified Green Buildings	5
	2		Credit	Optimize Building Energy Performance	2
1			Credit	Indoor Water Use Reduction	1
	2		Credit	Outdoor Water Use Reduction	2
1			Credit	Building Reuse	1
		2	Credit	Historic Resource Preservation and Adaptive Reuse	2
		1	Credit	Minimized Site Disturbance	1
4			Credit	Rainwater Management	4
		1	Credit	Heat Island Reduction	1
		1	Credit	Solar Orientation	1
		3	Credit	Renewable Energy Production	3
		2	Credit	District Heating and Cooling	2
		1	Credit	Infrastructure Energy Efficiency	1
2			Credit	Wastewater Management	2
		1	Credit	Recycled and Reused Infrastructure	1
		1	Credit	Solid Waste Management	1
		1	Credit	Light Pollution Reduction	1
5 0 1 Innovation & Design Process 6					
5			Credit	Innovation	5
		1	Credit	LEED® Accredited Professional	1
0 0 4 Regional Priority Credits 4					
		1	Credit	Regional Priority Credit: Region Defined	1
		1	Credit	Regional Priority Credit: Region Defined	1
		1	Credit	Regional Priority Credit: Region Defined	1
		1	Credit	Regional Priority Credit: Region Defined	1
59	13	33	PROJECT TOTALS (Certification estimates)		110
Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points					

Figure 26. LEED v4 Neighborhood Development Plan scorecard – Part Two

C. Stormwater Management and Erosion and Sediment Control Features

Stormwater management features at the redeveloped Owen Brown Village Center will include green roofs located on all buildings in lieu of traditional roofs, planting trees in the

grassy area between the sidewalk and the curb to improve shade, permeable paving to allow water to permeate through impervious surfaces (this is famously taxed in Maryland, although efforts to repeal the “Rain Tax” are currently being debated in Annapolis¹⁴), and the use of the existing topography for stormwater retention ponds. A phone conversation with Howard County Planner Randy Clay revealed that one of the reasons for Lake Elkhorn’s creation was for stormwater management purposes. This means that any new development in Owen Brown Village Center could incorporate Lake Elkhorn into its stormwater management plans by utilizing the lake and the stream currently running through the site in a culvert for stormwater retention.

D. Design Features

Owen Brown Village Center, once completed, will feature a street grid. The street grid will include a new collector road connecting the two sides of Cradlerock Way, making it easier to get around Owen Brown. The driveway connecting the Owen Brown Place apartment towers to Cradlerock Way will be converted into a street, which will connect to the new collector at a roundabout junction. At the center of the roundabout will be a statue of Owen Brown. Although Owen Brown is the namesake of the Village of Owen Brown, most people are oblivious to his role in the anti-slavery 1859 Harpers Ferry raids in Harpers Ferry, VA (now WV).¹⁵

Howard County’s Zoning Regulations make no mention of setbacks; nevertheless, Elkhorn Crossing will have a 15-foot setback from the sidewalk in order to accommodate outdoor dining. The buildings will also be mixed-use, with retail uses on the lower level and apartments on floors two through five. This is to encourage walkability and to enhance the value

¹⁴ <http://www.abc2news.com/news/political/maryland-senate-unanimously-approves-repeal-of-states-rain-tax>

¹⁵ https://en.wikipedia.org/wiki/John_Brown%27s_raid_on_Harpers_Ferry

of the site. There will be a large New England-style village square across the street from the facility to serve as an extension of Lake Elkhorn Park. On the eastern side of the park, the Giant supermarket will be preserved. East of the Giant and immediately north of Elkhorn Crossing, additional apartments will be constructed.

E. Building Materials

Most buildings in Owen Brown Village Center have brick exteriors. Every building except for the McDonald's in the current village center has a brick exterior. The major reason why most buildings have brick facades can be found in the Owen Brown Covenants: the Owen Brown Community Association, as well as the Resident Architectural Committee and the Executive Architectural Committee, have to approve of each building's architectural design before construction.¹⁶ If the redeveloped village center is too aggressive architecturally, then it is likely that the Owen Brown Community Association would vigorously oppose the redevelopment of the site. Each building in the redeveloped village center will feature brick exteriors, with each building's exterior featuring a different type of brick and configuration. This is to preserve a "small town" feel on the site while allowing each building to stand out architecturally. The ground-level retail at Elkhorn Crossing will be built using a concrete podium. The residential units above the podium will all be stick-built. Elkhorn Crossing will also have a brick façade; however, the masonry will not be load bearing.

¹⁶ <http://www.owenbrownvillage.org/covenants.html>



Figure 27. Rockland, Maine is a village whose downtown utilizes brick structures in a manner similar to what is proposed for the redeveloped Owen Brown Village Center.

F. Building Amenities

All residents at Elkhorn Crossing will receive a key for 24-hour access to the parking lot and all amenities on the site. Some of the amenities on the site include a fitness center, a party room, and a fenced-off swimming pool to be shared between residents of Elkhorn Crossing and the apartment complex to be built next door to the property. Each room will come unfurnished; however, a gourmet kitchen, walk-in closets, a variety of floor options, and washer and dryer connections will be provided in each unit.

Elkhorn Crossing will feature 13,080 square feet of gross retail space and 66,480 square feet of gross residential space. This equates to six retail units and 84 residential units. There will be 11,780 square feet of common areas. For a building totaling 91,340 square feet in usable area, this leads to a building efficiency ratio of 87%.

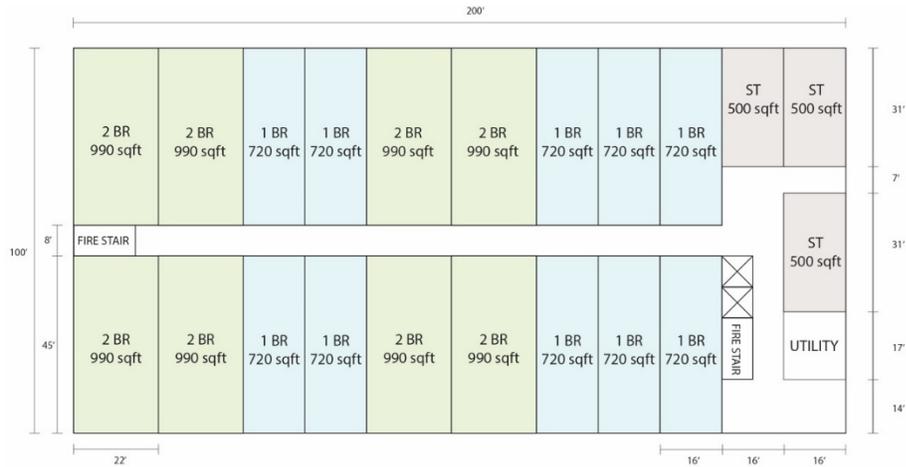


Figure 28. A floor plan detailing the layout of the residential units on floors two through five of Elkhorn Crossing

Unit Type	Monthly Rent	# of Units	% of Units	Unit Size (SF)
Studio	\$1,103	12	14%	500
1 BR/1 BA	\$1,604	40	48%	720
2 BR/2 BA	\$2,248	32	38%	990
TOTAL	--	84	--	69,680

Figure 29. A breakdown of the types of residential units available.

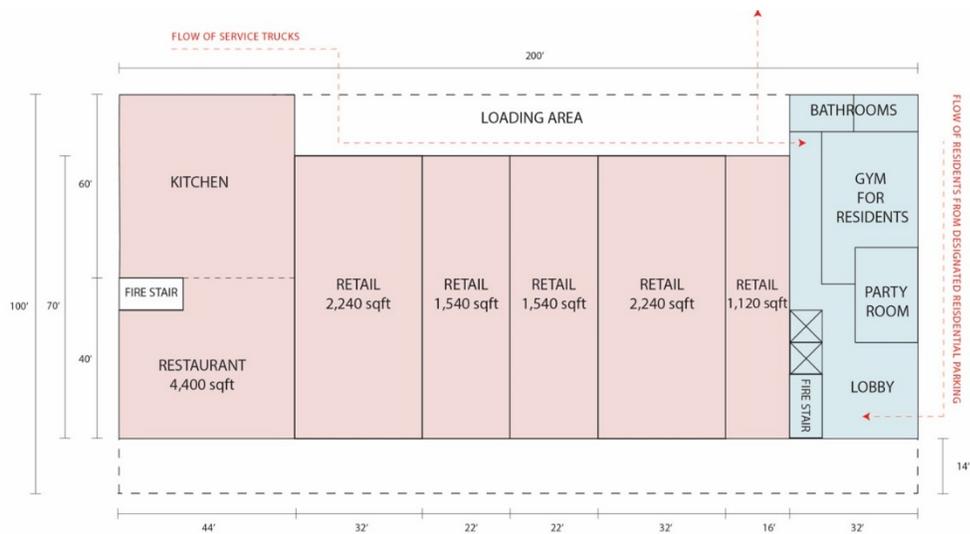


Figure 30. A floor plan detailing the layout of the retail units on the first floor of Elkhorn Crossing.

Unit Type	Retail Unit Size (SF)	Monthly Rent (PSF)	# of Units	% of Units
Restaurant	4,440	\$27.00	1	17%
Retail	2,240	\$27.00	2	34%
Retail	1,540	\$27.00	2	34%
Laundromat	1,120	\$27.00	1	17%
TOTAL	13,120	--	6	--

Figure 31 A breakdown of the types of retail units available.

G. Operations

Only four new buildings are to be constructed on the entire site, including Elkhorn Crossing, two new mixed-use apartment buildings to complement Elkhorn Crossing, and a relocated Owen Brown Community Center. The Giant and the Owen Brown Interfaith Center will only receive minor alterations. Figure 32 shows the proposed layout of Elkhorn Crossing with the locations of loading docks and dumpsters.

i. Loading Docks

Loading docks will not be constructed for the two northernmost buildings on the site, the Owen Brown Interfaith Center and the relocated Owen Brown Community Center. The two southernmost buildings, including Elkhorn Crossing, will have their loading docks behind the building and in front of a 90-space parking lot.

ii. Dumpsters

Dumpsters will be located adjacent to each building's loading dock. For the Interfaith Center and the Community Center, the dumpster will be located against the main building, facing the rear parking lot.

5. Financial Analysis and Project Financing

A. Methodology

Instead of calculating the financial numbers associated with all buildings in the redeveloped Owen Brown Village Center, a pro forma will only be created for Elkhorn Crossing. Elkhorn Crossing will be a mixed-use building featuring six retail units and a residential lobby on the first floor and 84 residential units on floors two through five.



Figure 32. A site plan for the redeveloped Owen Brown Village Center. Elkhorn Crossing is the southwest most building on the property.

B. Sources of Funds

70% of the total development cost from the development of Elkhorn Crossing will be financed by debt. The debt that will be used will come from a construction loan totaling \$15,070,942. The amortization period for the loan will be 35 years, and the expected interest rate on the construction loan will be 4.0%. The annual debt service payment will equal \$800,764. The interest rates on construction loans are being touted as “historically low”. For this project, a developer with a good reputation would have no problems finding an interest rate of 4%.

Equity will be used for funding the remaining 30% of Elkhorn Crossing’s total development cost. The type of equity that will be used is developer’s cash, totaling \$6,458,975. I plan on getting this money from family members, personal savings, and current investments my great-grandmother made many years ago. No external equity, such as investor’s equity with low-income housing tax credits, will be used for this project.

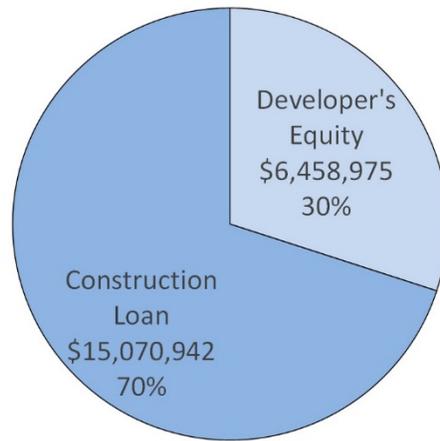


Figure 33. A pie chart indicating funding sources for the project

C. Uses of Funds

The entire Elkhorn Crossing project is expected to cost \$21,529,917. The project will begin with the acquisition of all parcels in the current Owen Brown Village Center that are

currently being used as retail, as well as a few parcels owned by the Columbia Association that have not been appraised by Howard County. The acquisition cost of the land required for Elkhorn Crossing will be \$2,925,406. The design phase will cost the developer \$1,226,488. The construction costs, or hard costs, will total \$14,516,350, while the soft costs will total \$4,088,161.

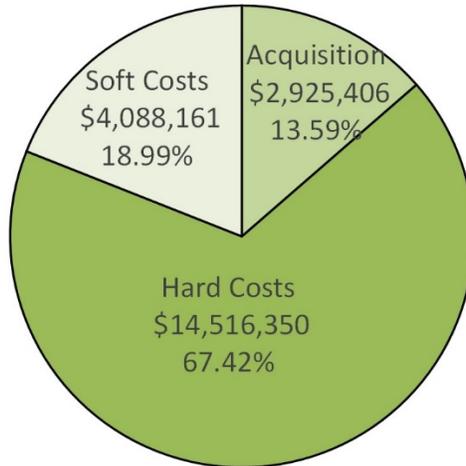


Figure 34. A pie chart indicating funding uses for the project

D. Calculation of Returns

The starting triple-net (NNN) retail rate is \$27.00 per square foot, and has been adjusted to reflect FY 2019 rents. Residential unit prices were also adjusted to reflect project FY 2019 rents, and start at \$1,103 for a studio, \$1,604 for a one-bedroom unit, and \$2,248 for a two-bedroom unit. Income will also be generated from parking at the redeveloped village center, which will cost \$100 per year. While CoStar revealed that few properties in the Columbia area that have paid parking for its residents, the \$100 per year rate is justified because the parking facility located behind the site will be secured due to safety concerns. After incorporating the \$0.25 per square foot for Capital Reserves and the Annual Debt Service of \$800,764, a positive cash flow will not be achieved until the project is 95% occupied.

All financial ratios calculated for Elkhorn Crossing were calculated for Year 2 on the pro forma, the first year in which full occupancy was projected. The return on equity, or cash-on-cash, was calculated by dividing the cash flow by the equity. For Year 2, the return on equity is 26.09%. For the loan to value ratio, or LTV, I divided the mortgage principle by the appraised value in Year 2. Many of the ratios, shown in Figure 35, are considered desirable. While the debt coverage ratio and the break-even ratio are slightly higher than desired, the financial ratios indicate that Elkhorn Crossing will be highly profitable.

RETURN ON COST (YEAR 2)			
cash flow before tax	\$1,334,210	6.20%	
total development cost	\$21,529,917		
LOAN TO VALUE (YEAR 2)			
mortgage principle	\$15,070,942	57.32%	less than or equal 70%
appraised value/ cost	\$26,290,821		
DEBT COVERAGE RATIO (YEAR 2)			
NOI	\$1,708,903	2.13	1.2 to 1.35
annual debt service	\$800,764		greater or equal 1.2
DEBT SERVICE RATIO (YEAR 2)			
annual debt service	\$800,764	46.86%	50% to 80%
NOI	\$1,708,903		
GROSS RENT MULTIPLIER (YEAR 2)			
purchase (sale) price	\$2,925,406	1.32	5.50 to 9.00
potential gross income	\$2,210,207		less than 9
BREAK EVEN RATIO (YEAR 2)			
operating expense + debt service	\$1,302,067	58.93%	70% to 85%
gross operating income	\$2,209,439		less than or equal 85%
OPERATING EXPENSE RATIO (YEAR 2)			
operating expense	\$501,304	22.69%	35% to 50%
gross operating income	\$2,209,439		
RETURN ON EQUITY/CASH ON CASH (YEAR 2)			
cash flow	\$ 1,685,368	26.09%	
equity	\$6,458,975		

Figure 35. A table of the financial ratios for the project upon stabilization.

E. Exit Strategy

In order to calculate when to sell the property, I calculated the internal rate of return, or IRR, for each year from Year 2 until Year 10. While the IRR is highest in Year 3 of the project,

the IRR decreases each year after that. The IRR in Year 10 of 20.77% is considered attractive to lenders and developers alike for new construction in a proven market like Columbia. After Year 10, the IRR would drop below the return on equity rate, which is 20.66% in Year 10. This would indicate that Year 10 would be the best year to sell the project. The high IRR, return on equity, and return on cost rates ensure a considerable return for the developer and guarantees the lender of the developer's ability to pay back the construction loan.



Figure 36. To determine the best time to sell the property, I calculated the Return on Cost, Return on Equity (or Cash on Cash), and the IRR for each year from Year 2 until Year 10.

F. Calculation of Property Tax Credits

No property tax credits will be used on Elkhorn Crossing. Low-Income Housing Tax Credits (LIHTC) will not be used because of the low-income housing already at Owen Brown

Village Center, at the Shelter Foundation's Owen Brown Place property. Green tax credits discovered on dsireusa.org were not used because none of the federal and state tax credits listed on the site are applicable to the project.

County-level tax credits are offered, according to Howard County's web site, but do not appear to apply to the site. Parcels along Washington Blvd. (U.S. Route 1) in North Laurel, Savage, Jessup, and Elkridge, as well as those touching parcels along Washington Blvd. with visibility from the roadway, are eligible for tax credits helping to reimburse the cost of infrastructure improvements.¹⁷ Tim Pula, the Senior Development Director at Beatty Development, mentioned a high concentration of poverty exists along the Route 1 Corridor due to the proximity of multiple correctional facilities and industrial facilities.¹⁸ There is also a Property Tax Credit for Commercial and Industrial Properties within Howard County.¹⁹ With this tax credit, I decided against using it because of the "job creation" requirement of the tax credit and the lengthy approval process involved with the tax credit. While new jobs will technically be created when the retail is delivered in Elkhorn Crossing, the difference between the number of jobs eliminated during the redevelopment of Owen Brown Village Center and the number of jobs created during the delivery of the redeveloped village center will be negligible.

¹⁷ <https://www.howardcountymd.gov/route1taxcredit>

¹⁸ Personal communication

¹⁹ <https://www.howardcountymd.gov/Departments/Finance/Billing-and-Payments/Real-Property-Taxes/Tax-Credits/Commercial-Credits>

6. Construction Management and Scheduling

A. Construction Contract

The construction contract that will be used for the construction of Elkhorn Crossing is the American Institute of Architects' (AIA) Document A201 – 2007 General Conditions of the Contract for Construction. This document describes the general conditions of the contract for construction. The A201 contract is the most widely used of all standard construction contracts.²⁰ The A201 contract provides provisions for change orders, payments and completion, construction risk, insurance, and claims and disputes. The A201 contract also describes who is responsible for the handling of the discovery of burial grounds, archaeological sites, and wetlands. The A201 contract is an agreement between the owner or developer, the general contractor (GC), subcontractors (subs), the architect(s), lawyers, and any other parties involved in the construction of the project.

The AIA describes the A201 as “an integral part of the prime owner-contractor agreement,” and has been widely cited in litigation cases since 1911.²¹ The A201–2007 is the 16th edition of the A201 document, and is the result of many years of discussions between the AIA and owners, contractors, subcontractors, engineers, lawyers, and architects. The document was created not only as an update to the 1997 edition of the document, but was also created while considering future construction trends. The AIA revises A201 on a ten-year schedule, meaning that the next edition will be released in 2017.

²⁰ <https://www.ndoi.com/dictionary/a201-construction-contract>

²¹ <http://www.aia.org/groups/aia/documents/pdf/aia076835.pdf>

AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name and address)

THE ARCHITECT:
(Name and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
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7	CHANGES IN THE WORK
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12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

init.

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Figure 37. The first page of the A201 Document highlights all the subjects discussed in the contract document.

B. Construction Costs

Construction costs, or hard costs, for the construction of Elkhorn Crossing will cost \$14,516,350, or 67.42% of all uses of funds. The core and shell of the building, or the base building, is projected to cost \$120 per square foot. The core and shell will total \$10,960,800, making up 75.51% of all construction costs. This takes into consideration the brick exterior and the stick-built construction. The FF&E lobby furniture and art will cost the developer \$250,000. The lobby is to be decorated in a manner which signifies class, reflective of the property's

marketed status as one of Columbia’s most upscale communities. The tenant improvement allowance for the ground-level retail will be \$80 per square foot. This equals \$1,227,200 for 15,340 square feet of retail. Finally, a hard costs contingency will be created in the event of an error or an oversight during the construction process. This contingency equals 10% of all hard costs, equivalent to \$1,346,500. In the event where some or the entire contingency is not used, that money will be returned to the developer.

Construction				
Demolition & Abatement	\$2.15	sf	111,742	\$240,245
Base Building	\$120.00	sf	91,340	\$10,960,800
FF&E lobby furniture/art				\$250,000
Retail TI	\$80.00	sf	15,340	\$1,227,200
Parking Lot	\$7,000.00	space	90	\$630,000
Hard Costs Contingency	10%	%	Hard Costs	\$1,208,105
Subtotal				\$14,516,350

Figure 38. A list showing all construction costs associated with the construction of Elkhorn Crossing.

i. **Parking**

The parking lot was designed to include parking spaces for 90 vehicles. Each parking space in the surface parking lot behind Elkhorn Crossing will cost \$7,000. The remaining 18 parking spaces that are required by the zoning code will be accounted for by on-street parallel parking. This results in a cost of \$630,000 for the parking lot. The on-street parking will be funded and constructed by Howard County, and will be provided on the surrounding streets.

C. Construction Schedule

Construction of Elkhorn Crossing is expected to take 32 weeks to complete from the end of the Design phase until the beginning of the Lease-Up Period. First, it will take 2 weeks to drive the piles and 4 weeks to excavate the building to a depth of 33 feet. Then, the footings will take 2 weeks to install, while the slab on grade will take 4 days to complete based on a rate of

5,000 square feet per day. After this, the 4 building floors will each take 1.5 weeks to complete, while the roof support system will take 2 weeks to complete. The building skin for the building, which is 200 feet long, 100 feet wide, and 50 feet high, will take 6 weeks for the subcontractor to finish. Roofing will take 2 weeks, or 2,500 square feet per working day, to complete. Mechanical and electrical will take 13 weeks to complete, since it takes 2.5 weeks to complete each floor. Finally, the building finishes will take 8 weeks to complete, or 1.5 weeks per floor.

D. Project Schedule

The design phase for Elkhorn Crossing will start with the filing of the Notice of Intent. The next 16 months will be spent communicating with residents via community meetings, working with the Department of Planning and Zoning to submit development plans, and securing public approvals for the project. By this time, the property will have been purchased for the project. There are to be at least four meetings with residents and multiple meetings with public officials to ensure that the project is approved, according to the Howard County Department of Planning and Zoning. Planners are often used as tools to achieve political means, so it would be helpful to try and court politicians who could help ensure the project's success.

After all public approvals have been received, the design phase will begin. During this time, architects and civil engineers will be hired to oversee the design of each unit on the site, how many units are to be included in the project, and the general appearance of the site. Attorneys will also be consulted with continuously during the process to ensure that the project conforms to local zoning laws and other pertinent laws.

The beginning of lease-up will overlap with the latter half of the construction phase. It is during this overlap when the building will be leased. Lease-up will be detailed in another section. Following the end of the construction phase, the building will continue leasing for another month

until the Grand Opening of Elkhorn Crossing. The building is not expected to be fully leased upon opening of the project; however, Elkhorn Crossing will begin to generate revenue during this period.

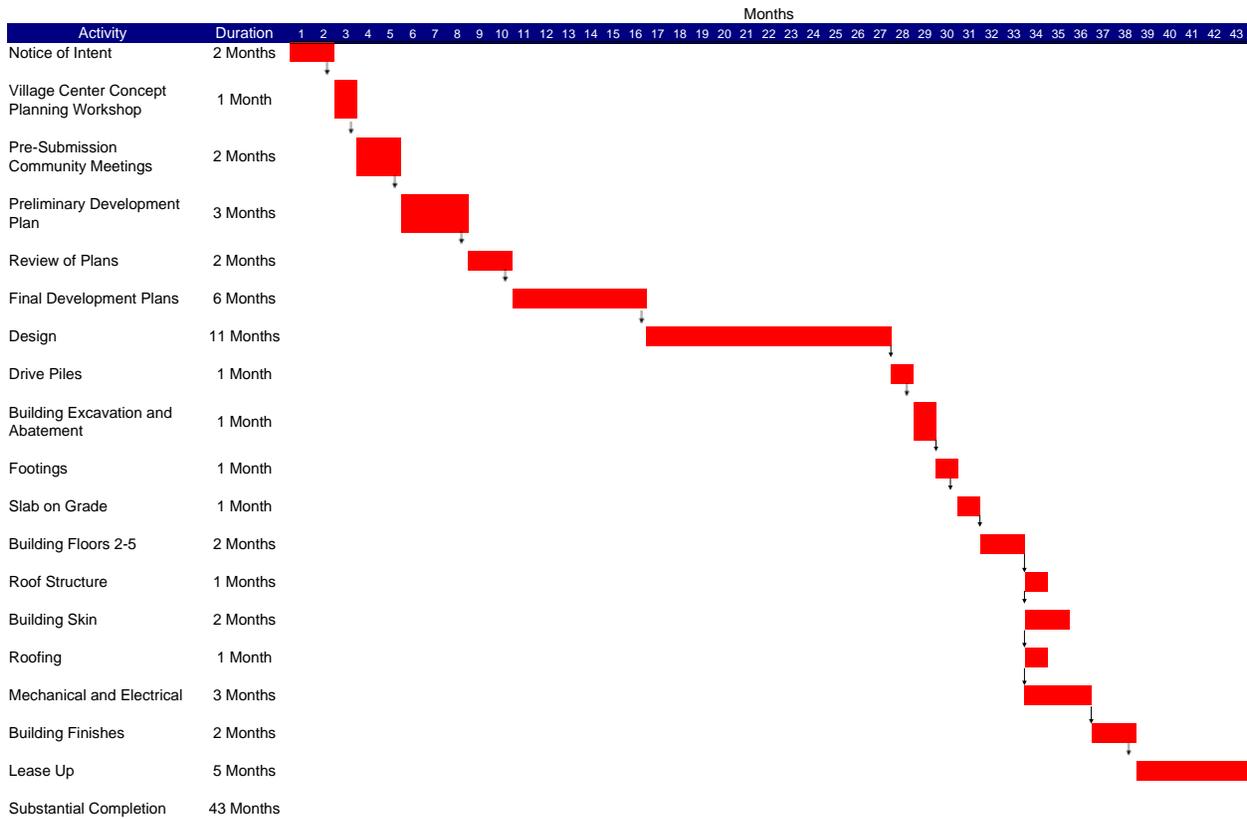


Figure 39. The project schedule for Elkhorn Crossing.

7. Marketing and Management

A. Marketing Options

In order to help improve the public’s knowledge about what Elkhorn Crossing has to offer, a plethora of marketing options will be used. The main method that will be used is internet marketing. Most trendy rental communities utilize online marketing as part of their strategy to attract residents.²² The main three sources of internet marketing include Facebook, web sites with apartment listings, and the project’s website.

Facebook is a great way to let the public know about what the property has to offer. A Facebook page would be created for Elkhorn Crossing, and a marketing consultant would be hired to frequently update the page. The page would include information about the property, including photos, important dates, unit sizes, information on any vacancies, and calendar events for any marketing events.



Figure 40. The Facebook page for The Metropolitan in Columbia Town Center. The Metropolitan even held a marketing event for residents to commemorate National Jelly Bean Day.

²² Personal experience

A second but less trustworthy way to market the property is by using by using an apartment-listing site such as Apartments.com, Apartment Finder, and Craigslist. Craigslist is how many people find their apartments these days: it is free to post an ad in most markets²³, and it is free to respond to an ad. While Apartments.com and Apartment Finder are both for-profit web sites, there is a smaller chance of being conned while using these sites. Ads need to be posted on a daily basis due to the high volume of listings from property owners, subletters, and people looking for roommates. The marketing consultant who is in charge of managing the Facebook page would also update the post(s) on apartment listing sites.

The final way the property will be marketed is through a new website. The website will have floor plans and rent prices, and will include a link to sign up for a mailing list. Most apartment communities, in my experience, use this mailing list more frequently than Facebook. Mailing lists allow for more personalized communication with potential customers; however, the marketing consultant must be careful not to send too many emails. I have seen emails from my apartment community that have ended up in my Junk Mail folder.

Signage will be posted along all major roads in the Columbia area to inform travelers about the newest high-end residential community that Columbia has to offer. Major roadways where signage could potentially be posted include Broken Land Parkway, Snowden River Parkway, MD 32 (Patuxent Freeway), and U.S. Route 29 (Columbia Pike). Many new communities use signage to improve visibility, and that is exactly why signage will be used in this case.

²³ It is unclear whether it costs anything to post a classified ad on Craigslist for a rental property in the Baltimore metropolitan area. Craigslist charges for postings in some markets, including the San Francisco and New York markets.



Figure 41. An example of signage Elkhorn Crossing will use to advertise to travelers about the property.

The best way to reach out to potential residents on a personal level is through leasing and marketing events. Many of the premier rental communities in College Park do this, such as The Varsity and the Enclave at 8700. Large properties, such as The Metropolitan, will typically hold a housing fair in which people looking for housing will meet with rental communities and their representatives in person at a relaxed event. The rental communities will provide gifts to the people attending these housing fairs as a way to guarantee a signed application. Some of these “gifts” range from free t-shirts to free rent for a few months for signing up in advance.

Once residents have signed their leases and have moved in, marketing to current residents is a requirement. The reasoning for this is simple: people who extend their leases will allow marketing to non-residents to decrease and will reduce the property’s vacancy rate. Events do not need to directly encourage residents to re-sign their leases; they just need to improve resident morale. A high level of resident satisfaction with the community will make residents feel obligated to re-sign their leases. Some events that could be held include a BBQ night, a movie night, an open bar, and by hiring a massage therapist to give residents who attend massages.²⁴

²⁴ Personal experiences

B. Marketing Target Demographics

The target demographics for Elkhorn Crossing include Millennials and young families. Millennials, as mentioned earlier, are less likely to want to live in the suburbs than older generations. Younger families, particularly those from Generation X, also tend to be more open to living in a dense, walkable environment in the suburbs. The marketing strategies towards Millennials and Generation Xers will be different.

Millennials tend to be less concerned about price and more concerned about amenities.²⁵ One way to pique millennial interest in Elkhorn Crossing is by explaining how it combines the best of suburbia with the best of urban living: it offers amenities that can be found in Fells Point or Adams Morgan for a fraction of the cost. Elkhorn Crossing would be an ideal community for Millennials working at nearby Fort Meade or Arundel Mills. The southern part of the Baltimore metropolitan area has a large number of jobs compared to the rest of the metropolitan area due to its proximity to Washington, DC; however, there are a lack of attractive housing options with the amenities Millennials are seeking in this part of the Baltimore metropolitan area. Thus, an idea target demographic would be Millennials in the military.

Generation Xers are more flexible than Millennials. Most are in their 30s and 40s now, and are at or near the peak of their careers. Therefore, Generation Xers do not desire amenities as much as they desire comfortable living situations and the proximity to major job centers. Generation Xers can afford to either own a property or rent a property. The best way to garner the interest of a Gen Xer is by stressing how renting is a better value than owning a property. The key marketing strategy to Gen Xers would be that by renting at Elkhorn Crossing, they could

²⁵ The author is a Millennial

save thousands of dollars that they would have otherwise been required to pay on property taxes by living so close to where they work.

C. Management

Many developer/owners are not interested in managing their developments: there is not enough profit margin from managing a property. The only way to make a profit on managing a property is by charging superfluous fees. The management of the property will be contracted to an outside firm that has experience managing medium-sized properties. While there will be fees for parking that will be collected by the developer/owner, most of the fees would be enacted by the management company. The developer/owner must approve all fees before they can be enforced.

The building will be a controlled-access building that could only be accessed by a card that must be swiped upon entrance to the building, the building's amenities, the elevator, and the room. The card will be handed to residents by management. Guests and small children can only enter the building with the use of a resident's card. Finally, a security guard will be employed during late nights and community events to help reduce crime on and around Elkhorn Crossing. Residents can feel secure that they will not be harmed at Elkhorn Crossing.

D. Absorption and Lease-Up

According to Costar, the vacancy rate in Columbia among rental properties is 4%. The absorption rate for the Owen Brown Multifamily Submarket is -0.33 units per month, meaning that every three months a resident moves out of Owen Brown. The negative absorption rate is reflective of a submarket that is stable and has no new deliveries in the near future. There also appears to be a lack of product variety in Owen Brown. There are no high-end rental communities in Owen Brown, and the only high-end rental community that has been delivered in

Columbia with Millennials as the target demographic is The Metropolitan. Thus, it is difficult to predict the absorption rate for a property targeting Millennials in Owen Brown.

The best way to calculate the absorption rate for Elkhorn Crossing is to extrapolate data from the lease-up of The Metropolitan. Following delivery in 2015, The Metropolitan had an absorption rate of 22 units per month.²⁶ The Metropolitan’s absorption rate was as high as it was because there is more demand for a high-end community in Columbia Town Center, also the location of the largest concentration of office and retail jobs in Columbia.

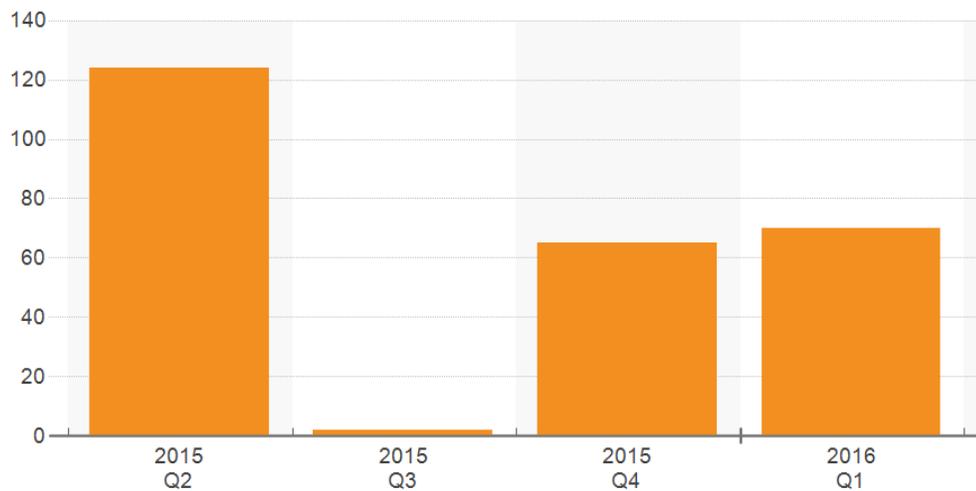


Figure 42. Quarterly absorption rates for The Metropolitan were weakest in the 3rd Quarter of 2015 and strongest in the 2nd Quarter of 2015. The project was delivered in the 1st Quarter of 2015.

While Elkhorn Crossing will be in an excellent location, it is still driving distance from most major employers in the area. Because most employment in the region can only be accessed by automobile from Owen Brown, a more modest absorption rate of 16-18 units per month will be used for Elkhorn Crossing. This absorption rate means that the property will achieve 95%

²⁶ CoStar

occupancy at the end of the 4th month or at the beginning of the 5th month of the operations phase.

E. Rent Concessions

CoStar data revealed that there were no concessions at The Metropolitan. Furthermore, rent concessions are not a priority for most properties in the Columbia area. Thus, it is wise not to offer any rent concessions unless absorption is less than anticipated. If absorption is less than expected, two-year leases with free rent for six months will be implemented as a means to attract new residents to the property. This would effectively cut the potential gross income in half for one year of the holding period, but it would secure a higher occupancy rate.