

Mercer Island Town Center Economic Analysis Memorandum

Discussion Draft

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Prepared by:



Prepared for:





*Community Attributes Inc. tells data-rich stories about communities
that are important to decision makers.*

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INTRODUCTION

Background and Purpose

The City of Mercer Island enacted a moratorium on new development generally in the southeast quadrant of its Town Center. The moratorium is intended to temporarily prevent the submittal of development applications while the City reevaluates certain development regulations. Specifically, the City is interested in considering a requirement for commercial uses on the ground floor of new buildings where it is currently not mandated in approximately half of the TC_3 and TCMF-3 zones as well as a small portion of the TC-4 zone. To inform any potential changes to these development regulations, the City wishes to evaluate the demand for additional ground floor commercial uses and the feasibility of requiring such uses in new buildings. This memorandum summarizes an analysis of development feasibility across various development prototypes that would be consistent with these code changes.

Methods

This study uses market data analysis and pro forma modeling to assess the feasibility of various development prototypes. The model estimates the expected costs and revenues (less the cost of land) associated with each development type to determine whether the project would create sufficient value to cover the developer's acquisition of the development site. Regulatory assumptions are based on the City of Mercer Island Municipal Code. Assumptions related to market conditions—including lease rates and capitalization rates—are derived from an analysis of proprietary real estate data and comparable properties. This study also estimates the potential demand for new commercial development in Town Center. This analysis is based on taxable retail sales data from the Washington Department of Revenue (DOR) and population forecasts from the Washington Office of Financial Management (OFM).

Organization of this Report

This report is organized as follows:

- **Feasibility Findings** presents the key findings from the analysis including an assessment of market support for each development prototype.
- **Current Development Regulations** summarizes the current regulations in the Town Center zones subject to the moratorium.

- **Market Conditions** provides a profile of the market for multifamily and commercial uses in Town Center, in addition to an estimate of future supportable retail space by square feet.
- **Feasibility Analysis** provides detailed documentation of the inputs and outputs used to assess the economic feasibility of four development prototypes.
- A **Glossary** is included at the end of this report.

FEASIBILITY FINDINGS

Assessing the feasibility of changes to any development regulations is critical to ensure that any new regulations will result in development that meets the City's vision for Town Center. Currently, the TC-3 and TCMF-3 zones in the Town Center restrict development to 39 feet but do not require the inclusion of commercial uses on the ground floor. The TC-3 zone allows for mixed-use developments, while the TCMF-3 subarea only permits single-use multifamily projects.

A ground floor commercial requirement may be feasible in some projects, as a demand analysis indicates that Mercer Island could support more than 30,000 square feet of additional retail development through 2040, based on current spending patterns and projected population growth. As a major commercial Center in Mercer Island, Town Center could accommodate some of this retail development.

To understand how the inclusion of retail space on the ground floor affects project feasibility, this study examines four development types, including:

- Three-story multifamily
- Three-story 2-over-1 mixed-use
- Four-story 3-over-1 mixed-use
- Five-story 4-over-1 mixed-use

This analysis indicates that the inclusion of retail on the ground floor has a generally negative impact on project feasibility. While projects that include retail may be feasible, the inclusion of retail generally decreases the project value (Exhibit 1 through **Exhibit 4**).

This analysis also examines the economic feasibility of each development type over a range of capitalization rates: 4.75%, 5.00%, and 5.25%. Capitalization rates reflect perceived risk in an investment and are calculated on the sale of an investment property as the net operating income (NOI) divided by the sale price. Capitalization rates are therefore necessary to estimate the market value of the development prototypes. This study uses a range of rates because capitalization rates are the output of a transaction, and each transaction is different.

Three-story multifamily projects and four-story mixed-use projects (with retail on the ground floor) show positive economic surplus¹ (residual land

¹ Economic surplus is one measure of the economic feasibility of a potential development. It is calculated by subtracting the costs of land from the residual land value, which is the amount a developer theoretically has available to cover the cost

value minus land acquisition costs) at capitalization rates of 5% and below (**Exhibit 2** and **Exhibit 3**). Five-story mixed-use projects show positive economic surplus across all capitalization rates modeled, suggesting that four floors of multifamily units at current market rates and anticipated construction costs can support one floor of retail (**Exhibit 4**) The three-story mixed-use prototype generates very low or negative economic surplus under all capitalization rates modeled, suggesting that two floors of multifamily units at current market rates and anticipated construction costs may not support one floor of retail (**Exhibit 2**).

Exhibit 1. Economic Surplus Summary, 3-Story Multifamily

Prototype	3-story: Multifamily		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	26,250		
Built Square Feet	78,750		
FAR	1.1		
Maximum Building Height	39		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$254	\$228	\$204
Economic Surplus (/sf)	\$90	\$65	\$42

Sources: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

of land after accounting for all other costs, including the developer’s return on investment. Positive economic surplus indicates that the development project generates enough revenue to afford the cost of land acquisition.

Exhibit 2. Economic Surplus Summary, 3-Story Mixed-Use

Prototype	3-story: 2-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	26,250		
Built Square Feet	78,750		
FAR	1.1		
Maximum Building Height	39		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$186	\$163	\$142
Economic Surplus (/sf)	\$24	\$3	(\$17)

Sources: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

Exhibit 3. Economic Surplus Summary, 4-Story Mixed-Use

Prototype	4-story: 3-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	48,750		
Built Square Feet	195,000		
FAR	2.6		
Maximum Building Height	45		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$318	\$257	\$202
Economic Surplus (/sf)	\$61	\$37	\$16

Sources: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

Exhibit 4. Economic Surplus Summary, 5-Story Mixed-Use

Prototype	5-story: 4-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	48,750		
Built Square Feet	243,750		
FAR	3.3		
Maximum Building Height	55		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$446	\$369	\$298
Economic Surplus (/sf)	\$88	\$64	\$43

Sources: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

CURRENT DEVELOPMENT REGULATIONS

Adopted development regulations in Town Center dictate which uses can be built, and generally govern the overall density and intensity of development through height limits and other form-based standards. More specifically, the Town Center (TC) zones include form-based code requirements that permit mid-rise mixed-use development throughout most of Town Center. In some areas zoned TCMF mixed-use projects are not allowed, and only single-use multifamily projects may be built. **Exhibit 5** indicates the maximum building height and maximum floors allowed across the various TC zones. The zones permit four- and five-story heights north of SE 29th/30th Streets, while limiting development to three stories south of those streets.

Exhibit 5. Key Development Regulations in the Town Center Zone

Subarea	Maximum Height (Ft.)	Maximum Floors	Use
TC-5	63	5	Mixed
TC-4	51	4	Mixed
TC-4 Plus	63	5	Mixed
TC-3	39	3	Mixed
TCMF-4	51	4	Multifamily
TCMF-3	39	3	Multifamily

Source: City of Mercer Island, 2021.

TC zone parking requirements differ according to building use. **Exhibit 6** illustrates the parking requirements for each use. Requirements for retail, office, library, and museum uses are based on gross square footage, while requirements for residential uses are based on the number of housing units. Requirements for hotels are based on the number of guest rooms and the number of employees per shift.

Exhibit 6. Town Center Zone Parking Requirements

Use Type	Parking Requirement
Retail (Stalls per Gross SF)	
General Retail	2-3 per 1,000 sf
Restaurant/Deli/Bakery/Food	5-10 per 1,000 sf
Hotel	1 per guest room plus 0.67 per employee, plus 5 per 1,000 sf of retail/office
Office (Stalls per Gross SF)	
Financial Services	3-5 per 1,000 sf
Health, Barber, Beauty	4-5 per 1,000 sf
Other Professional Services	3-5 per 1,000 sf
Residential (Stalls per Unit)	
Multifamily	1-1.4 per unit*
Senior Multifamily	0.3-1 per unit

Source: City of Mercer Island, 2021.

*Site-specific exemption to allow less than one stall per unit may be granted based on a detailed parking analysis and with approval of the code official.

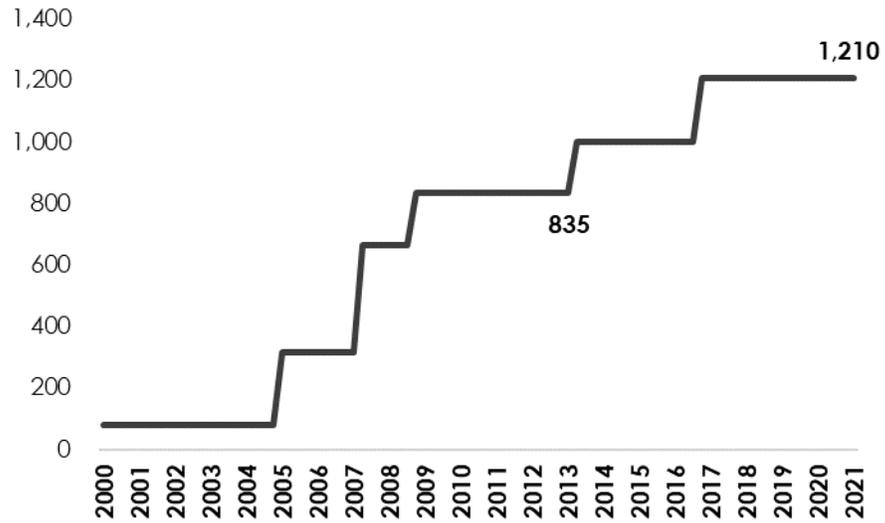
MARKET CONDITIONS

A detailed market analysis for retail and multifamily uses in Mercer Island informs an assessment of demand for retail uses in Mercer Island. The data are also used to inform inputs to the pro forma model used to evaluate project feasibility. The following data are critical to estimating market support for each use.

Multifamily

Exhibit 7 illustrates the change in Mercer Island's Town Center multifamily inventory since 2000. Inventory, as measured by units, has increased by 375 units since 2010 (from 835 to 1,210).

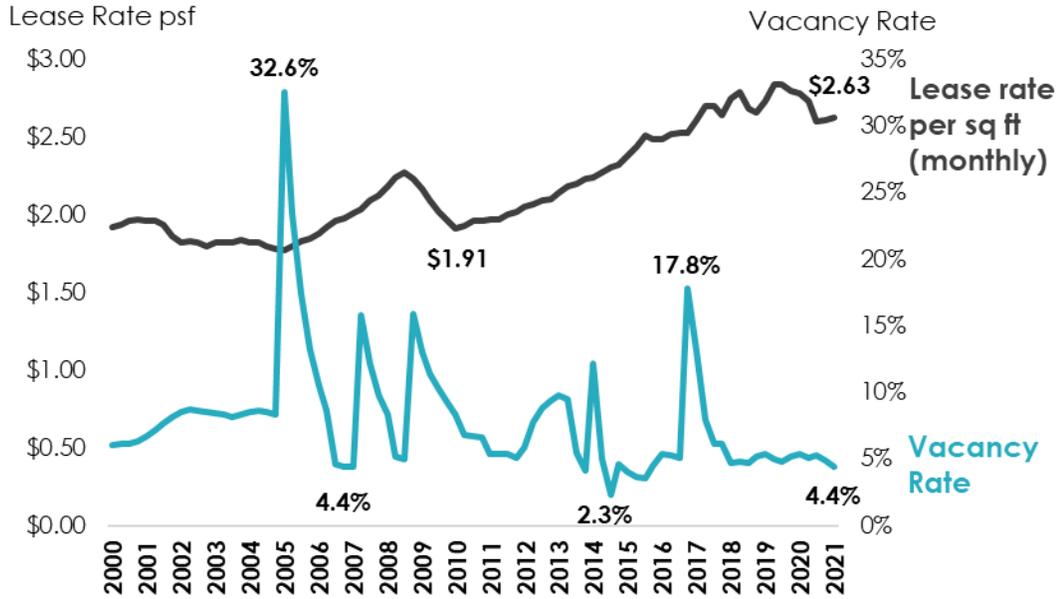
Exhibit 7. Multifamily Inventory (Units), Mercer Island Town Center, 2000-2021



Source: CoStar, 2021.

Exhibit 8 illustrates lease and vacancy rate trends for multifamily uses in Town Center since 2010. It should be noted, multifamily lease rates are presented as monthly rates, as is standard for residential lease rates. Lease rates fell during the Great Recession but rose from \$1.91 per square foot in 2010 to \$2.84 per square foot in 2019 before falling to \$2.63 per square foot in 2020. Declining rates in 2020 may be related to the economic effects of the COVID-19 pandemic. Vacancy rates have varied as new development occurs, with spikes in vacancy when new units come to market and take time to be absorbed. Once new units are absorbed, multifamily vacancy in Town Center appears to stabilize below five percent.

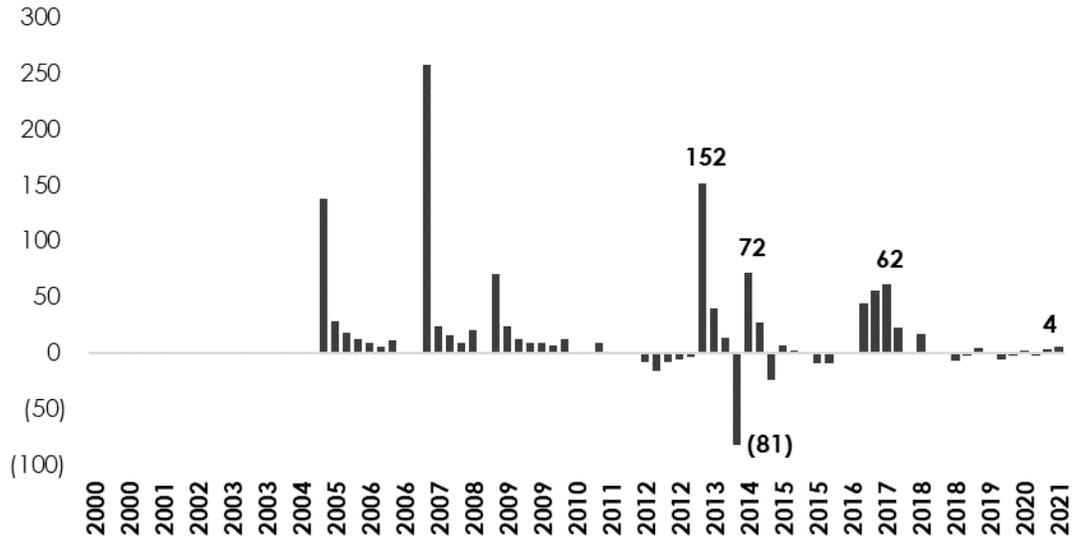
Exhibit 8. Multifamily Rent per Square Foot and Vacancy Rates, Mercer Island Town Center, 2000-2021



Source: CoStar, 2021.

Exhibit 9 shows generally positive absorption of multifamily units in Town Center since 2000. This trend includes the net-positive absorption of 398 units since 2010. Low vacancy, in combination with few new deliveries and low levels of positive or negative absorption may indicate a stable multifamily market with some churn as old tenants move out and new tenants move in.

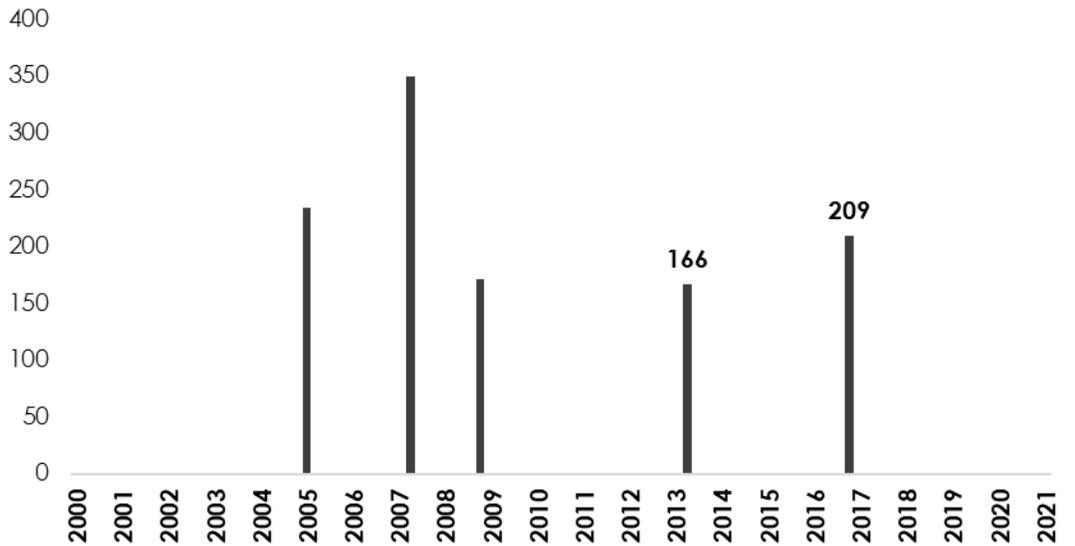
Exhibit 9. Multifamily Absorption, Units, Mercer Island Town Center, 2000-2021



Source: CoStar, 2021.

Exhibit 10 identifies multifamily units delivered in Town Center since 2000. Most recently, two developments have delivered 166 units (in 2013) and 209 units (in 2017).

Exhibit 10. Multifamily Deliveries, Units, Mercer Island Town Center, 2000-2021

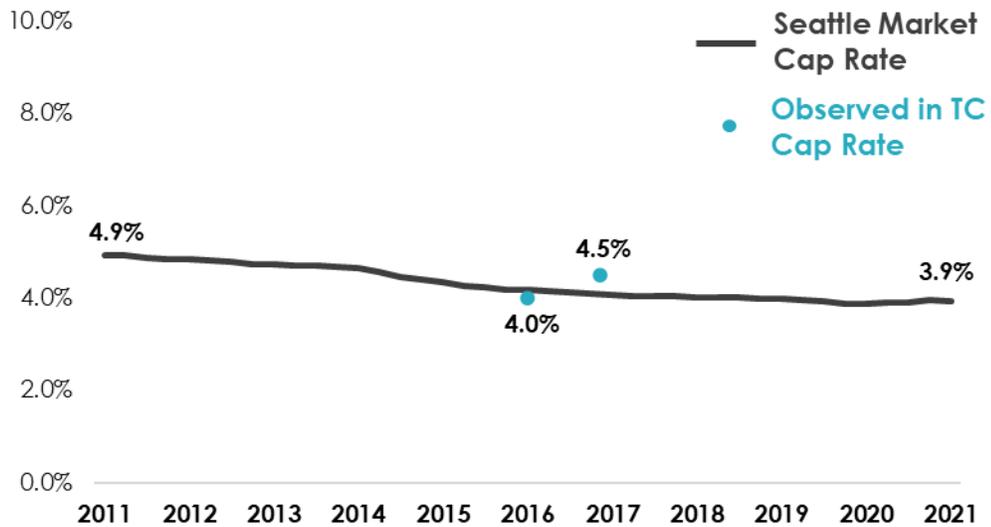


Source: CoStar, 2021.

Capitalization rates are an indicator of perceived risk for a development opportunity and are calculated on the sale of an income-generating property as the NOI divided by the sale price. Low capitalization rates generally

reflect investor confidence in an investment opportunity, as indicated by strong NOI. **Exhibit 11** indicates that capitalization rates in the wider Seattle market fell from 4.9% in 2011 to 3.9% at the outset of 2020, before rising by less than a tenth of a percent through the first quarter of 2021. Two multifamily buildings in Town Center have transacted since 2011, and they traded at capitalization rates of 4% and 4.5%.

Exhibit 11. Multifamily Capitalization Rates, Mercer Island Town Center and Seattle Market, 2011-2021

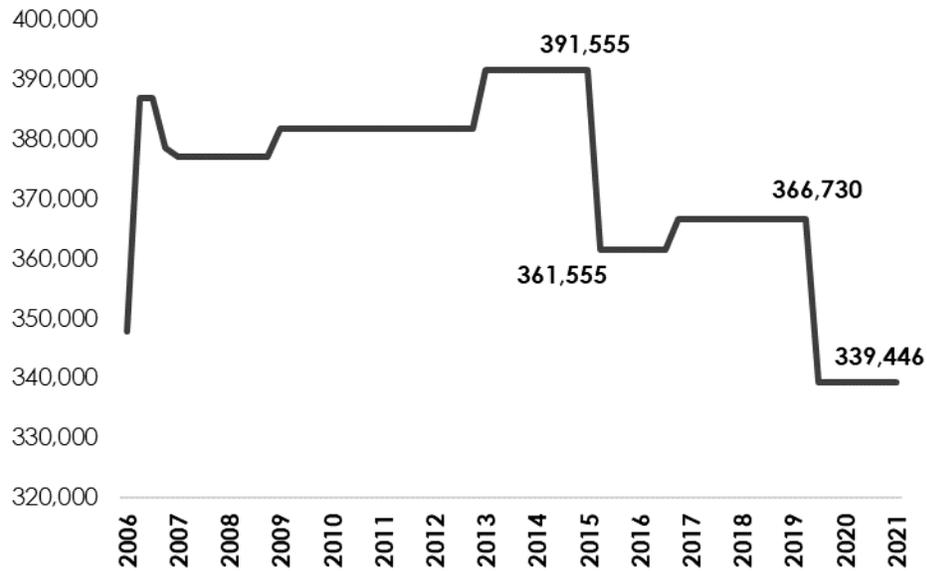


Source: CoStar, 2021.

Retail

Exhibit 12 illustrates the change in Town Center retail inventory (in square feet) between 2006 and 2021. In contrast to the growing multifamily inventory, retail space in Town Center has decreased by 11.1% from 381,830 square feet in 2010 to 339,446 square feet in the first quarter of 2021.

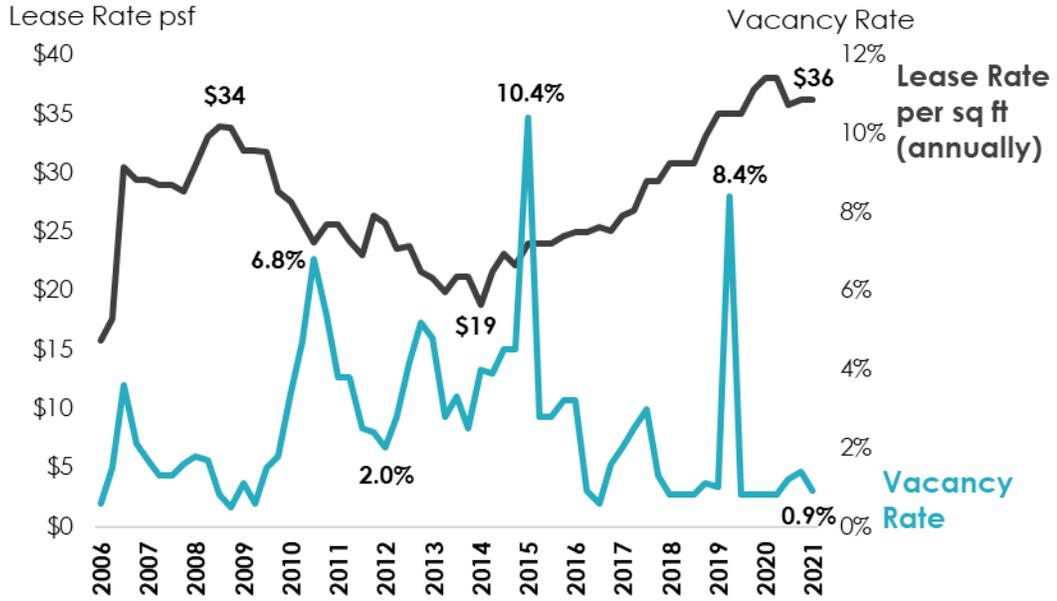
Exhibit 12. Retail Inventory (SF), Mercer Island Town Center, 2006-2021



Source: CoStar, 2021.

Exhibit 13 illustrates trends in retail lease and vacancy rates from 2006 to 2021. Lease rates are presented as annual rates, as is standard for retail lease rates. Lease rates declined from a peak in 2008 to \$19 per square foot in 2014 before growing steadily from 2014 to 2021. Currently, the average lease rate for retail space in Town Center is about \$36 per square foot. Retail vacancies have ebbed and flowed during this time, with peak vacancy at 10.4% in 2015; currently, however, vacancy rates for retail in Town Center are extremely low at less than 1%.

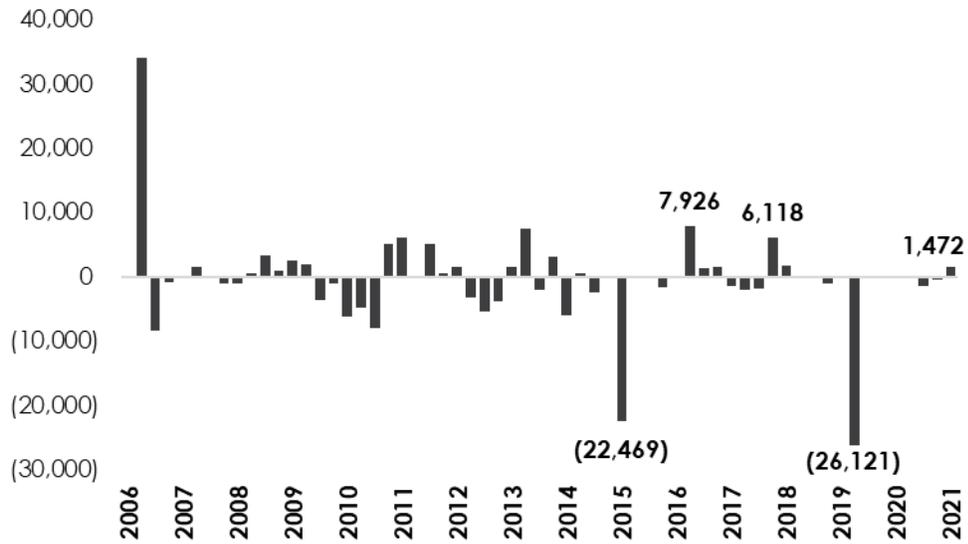
Exhibit 13. Retail Rent and Vacancy Rates, Mercer Island Town Center, 2006-2021



Source: CoStar, 2021.

Town Center has net-negative absorption of retail space since 2010, per **Exhibit 14**. This is in large part due to losing more than 48,000 square feet of inventory in the first quarter of 2015 and the second quarter of 2019 combined. Because of the decrease in inventory, vacancy rates have remained low despite negative absorption.

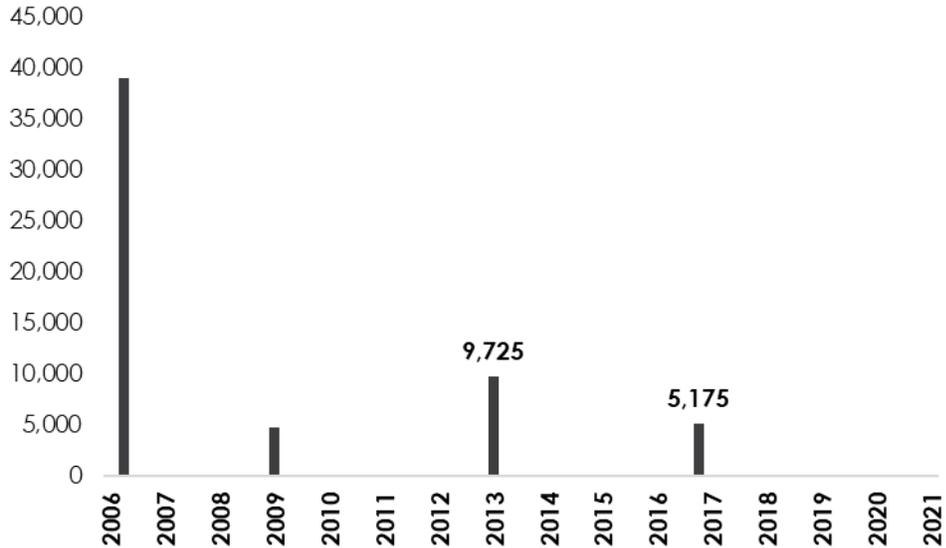
Exhibit 14. Retail Absorption, Square Feet, Mercer Island Town Center, 2006-2021



Source: CoStar, 2021.

Exhibit 15 identifies retail deliveries in Town Center since 2006. In that time, there have been four projects that included a retail component, with the most recent addition to retail inventory in 2016.

Exhibit 15. Retail Deliveries, Square Feet, Mercer Island Town Center, 2006 - 2021



Source: CoStar, 2021.

Future Demand for Retail

Exhibit 16 indicates that forecasted population growth could support nearly 30,00 square feet of new retail space through 2040. Mercer Island’s population is projected to grow by about 970 people between 2019 and 2040. The City’s taxable retail sales per capita in 2019 amounted to about \$20,100. Holding taxable retail sales per capita constant, Mercer Island could expect an additional \$19.5M (2019 dollars) in retail sales from population growth alone by 2040. Assuming retail sales per square foot of \$600, those sales would support about 32,500 square feet of additional retail space throughout Mercer Island, and Town Center would be well-positioned to capture some of that growth. There are currently about 2,600 vacant retail square feet in Town Center, so assuming those vacancies would be occupied before new retail space is built, the City’s population growth could support new construction of about 30,000 retail square feet through 2040.

Exhibit 16. 2040 Population and Supportable Retail Growth

Factor	Amount
2019 Population	25,680
2040 Population	26,650
2019-2040 Population Growth	970
2019 Taxable Retail Sales	\$515,155,800
2019 Taxable Retail Sales per Capita	\$20,100
2040 Additional Retail Demand	\$19,497,000
2040 Retail Additional Supported SF	32,500
Minus 2021 Vacant SF	(2,570)
2040 Retail SF Growth	29,930

Source: Puget Sound Regional Council, 2016; Washington Office of Financial Management, 2019, Washington Department of Revenue, 2020; CoStar, 2021; Community Attributes, 2021.

FEASIBILITY ANALYSIS

This section provides an overview of the pro forma modeling used to assess the feasibility of the various development types included in this study.

Development Types

In order to assess the effects of prospective changes in intensity and program, this study uses pro forma modeling for a baseline scenario (three-story single-use multifamily, as allowed by right under current zoning) and three other prototypes at varying building heights and with ground floor retail. An overview of these scenarios is given in **Exhibit 17** and **Exhibit 18**. The Baseline prototype is currently allowed by TC-3 and TCMF-3 provisions, while Prototype 1 reflects the same building height with a commercial ground floor requirement (**Exhibit 17**).

**Exhibit 17. Residual Land Value Model Development Characteristics,
Baseline and Prototype 1**

Development	Characteristics
Baseline	3-Story: Multifamily
Site Size (Square Feet)	75,000
Building Footprint	26,250
Built Square Feet	78,750
FAR	1.1
Maximum Height	39
Floors	3
Retail	0
Residential	3
Parking Type	Surface Level
Prototype 1	3-Story: 2-Over-1 Mixed-Use
Site Size (Square Feet)	75,000
Building Footprint	26,250
Built Square Feet	78,750
FAR	1.1
Maximum Height	39
Floors	3
Retail	1
Residential	2
Parking Type	Surface Level

Source: City of Mercer Island, 2021; Community Attributes, 2021.

Exhibit 18 presents prototypes 2 and 3, which also reflect a commercial ground floor requirement, but would require changes to the zoning to permit additional height (four stories in Prototype 2 and five stories in Prototype 3).

**Exhibit 18. Residual Land Value Model Development Characteristics,
Prototype 2 and Prototype 3**

Development	Characteristics
Prototype 2	4-Story: 3-Over-1 Mixed-Use
Site Size (Square Feet)	75,000
Building Footprint	48,750
Built Square Feet	195,000
FAR	2.6
Maximum Height	45
Floors	4
Retail	1
Residential	3
Parking Type	Structured
Prototype 3	5-Story: 4-Over-1 Mixed-Use
Site Size (Square Feet)	75,000
Building Footprint	48,750
Built Square Feet	243,750
FAR	3.3
Maximum Height	55
Floors	5
Retail	1
Residential	4
Parking Type	Structured

Source: City of Mercer Island, 2021; Community Attributes, 2021.

Model Inputs

The following inputs were used in the pro forma model to evaluate development feasibility for each of the preceding prototypes. Inputs are organized into three categories: construction and other costs, space inputs, and revenue and financial inputs. Each was informed by detailed market analysis.

Cost Inputs

Construction (hard) cost assumptions and inputs to the pro forma model are given in **Exhibit 19**, while assumptions related to other costs associated with developing the prototypes, such as soft costs (including permitting fees and architectural design) and land acquisition are found in **Exhibit 20**.

Exhibit 19. Construction (Hard) Costs per Square Foot, Mercer Island Area

Type	Input
Building	
3-story: Multifamily	\$184 per sq ft
3-story: Two Floors Multifamily Over One Floor Retail	\$184 per sq ft
4-story: Three Floors Multifamily Over One Floor Retail	\$192 per sq ft
5-story: Four Floors Multifamily Over One Floor Retail	\$189 per sq ft
Parking	
Surface Level Parking	\$6,000 per stall
Structured Parking	\$45,500 per stall

Source: RS Means, 2021; Community Attributes, 2021.

Building

Construction costs were obtained via the construction cost database RS Means. Construction costs per square foot can vary greatly depending on development type and materials (wood frame versus steel and concrete). The building code dictates which construction types may be used based on building height, intended use and other factors. For the purposes of this study, all prototypes are assumed to be built with wood-frame construction.

Parking

This study assumes the three-story prototypes will use surface lots to provide the number of parking spaces required by the Mercer Island Municipal Code. Because four- and five-story buildings provide a larger number of housing units, and therefore are required to provide a larger number of parking spaces on site, this study assumes those prototypes will require structured parking garages. Structured parking costs are estimated to be roughly \$45,000 per stall, versus \$6,000 per stall on a surface lot.

Exhibit 20. Mercer Island Pro Forma Cost Inputs

Type	Input
Site Costs	
Land	\$160 per sq ft
Development Costs	
Soft Cost	30% of hard costs
Tenant Improvements (Retail Only)	\$25 per sq ft
Landscaping Costs	\$10 per sq ft
Interest Reserve	
Loan amount	70% of development costs
Average % outstanding	50% of loan
Interest rate	6%
Months of construction	12

Source: King County Assessor, 2021; Community Attributes, 2021.

Site Costs

Land cost captures the price per square foot needed to acquire the development site. The input was informed by an analysis of past land sales associated with comparable developments in the area, as recorded by the King County Assessor.

Other Development Costs

Soft costs are any costs not directly related to the physical construction of a development. These costs include those associated with design, permitting, marketing, etc. These costs can vary from project to project but are generally estimated at 30% of hard costs.

Tenant improvements are custom alterations a building owner will make to a commercial rental space as a part of the rental agreement. These costs are only applicable to commercial space and are estimated at \$25 per square foot.

Landscaping costs capture any improvements needed on the development site that will not be occupied by a parking lot or structure or the building itself. These costs are estimated at \$10 per square foot of land.

Interest Reserve

The interest reserve acts as an account established by a lender, used to fund a loan's interest payments during the construction term of a development. It is a lump sum cost that is captured in the pro forma model to accurately assess economic feasibility.

Space Inputs

The following inputs cover the location and building characteristics used for the pro forma model (**Exhibit 21**).

Exhibit 21. Mercer Island Pro Forma Space Inputs

Type	Input
Site and Building Characteristics	
Site Size	75,000
3-story building footprint	35% of site size
4- and 5-story building footprint	65% of site size
Efficiency Rates	
Multifamily	90%
Retail	60%
Net Rentable Square Feet (multifamily)	
Studio	500
One Bedroom	650
Two Bedroom	900
Multifamily Units	
Studio	25% of total units
One Bedroom	50% of total units
Two Bedroom	25% of total units
Multifamily Affordability	
Unit requirement	10% of total units
3-story affordable rent	70% of AMI
4- or 5-story affordable rent	60% of AMI

Source: Community Attributes, 2021.

Site and Building Characteristics

The site size represents the lot size assumed for the different development prototypes. This input was informed by comparable developments and by analyzing potential parcels on Mercer Island. Given this information, the site size was held constant across each of the four prototypes tested.

The square footage of the base floor of a development is the building footprint. This input was informed by comparable developments and calculated as a percent of the site size.

Efficiency Rates

Efficiency rates represent the portion of a building's gross square footage that is rentable (net).

Multifamily Units

This study assumes that the prototypes would provide studio, one-bedroom and two-bedroom units. These units range in size from 500 to 900 square feet

per unit. These assumptions are based on an assessment of comparable properties.

Multifamily Affordability

The Mercer Island Municipal Code requires that multifamily projects in Town Center provide a certain number of housing units at rental rates deemed affordable by the U.S. Department of Housing and Urban Development (HUD). Based on code requirements, 10% of units must be dedicated as affordable at 60% to 70% of area median income (AMI).

Revenue and Financial Inputs

Exhibit 22 presents the revenue and financial inputs used in the pro forma model. These include lease rates, vacancy rates, capitalization rates, and expenses.

Exhibit 22. Mercer Island Pro Forma Revenue and Financial Inputs

Type	Input
Lease Rates	
Studio	\$3.10 per sq ft (monthly)
One Bedroom	\$3.05 per sq ft (monthly)
Two Bedroom	\$3.00 per sq ft (monthly)
Retail (NNN)	\$35 per sq ft (annually)
Surface Level Parking	\$40 per stall
Structured Parking	\$100 per stall
Vacancy Rates	
Multifamily	5%
Retail	10%
Capitalization Rates	
High	5.25%
Medium	5.00%
Low	4.75%
Expenses	
Operating Expenses	35% of EGI

Source: CBRE, 2021; CoStar, 2021; Community Attributes, 2021.

Lease Rates

Lease rate assumptions are informed by an analysis of local market data obtained through CoStar as well as an analysis of comparable units in Town Center. New construction is assumed to rent at rates that are marginally higher than currently demonstrated rents.

Vacancy Rates

Vacancy rate assumptions are informed by an analysis of local market data obtained through CoStar as well as an analysis of comparable retail spaces in Town Center. Due to tenant turnover and potentially longer lease-up periods, a higher vacancy rate is assumed for retail than for multifamily.

Capitalization Rates

A range of capitalization rates are assumed for use in the pro forma model. Because capitalization rates are not static and because they are influential in estimating project value, this study uses a range of rates. The range used is informed by analysis of data from CBRE.

Expenses

Operating expenses are expenses a property owner incurs in managing a multifamily property, including wages for staff and building and grounds maintenance. These expenses are assumed to be 35% of effective gross income.

Model Outputs

To evaluate the feasibility of new development projects, this study uses a pro forma model that generates an estimate of residual land value and economic surplus based on anticipated cost and revenue drivers. Economic surplus is one measure of the economic feasibility of a potential development. It is calculated by subtracting the costs of land from the residual land value, which is the amount a developer theoretically has available to cover the cost of land after accounting for all other costs, including the developer's return on investment. Positive economic surplus indicates that the development project generates enough revenue to afford the cost of land acquisition. The estimated economic surplus for each development prototype can be found in Exhibit 23 through Exhibit 26.

Of the four prototypes analyzed, the three-story multifamily development returned the highest economic surplus per square foot, ranging from \$42 to \$90 (Exhibit 23). Positive economic surplus means the development is likely to be economically feasible.

Exhibit 23. Economic Surplus Summary, 3-Story Multifamily

Prototype	3-story: Multifamily		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	26,250		
Built Square Feet	78,750		
FAR	1.1		
Maximum Building Height	39		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$254	\$228	\$204
Economic Surplus (/sf)	\$90	\$65	\$42

Source: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

Exhibit 24 summarizes the economic surplus generated by the three-story mixed-use development prototype. This prototype has a maximum building height of 39 feet and the first floor is assumed to be retail space. It is not considered feasible at the higher end of the capitalization rate range, returning a negative \$17 economic surplus per square foot at a 5.25% capitalization rate. The economic surplus is marginal (\$3 per square foot) at the medium capitalization rate and \$24 per square foot at the lowest capitalization rate modeled.

Exhibit 24. Economic Surplus Summary, 3-Story Mixed-Use

Prototype	3-story: 2-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	26,250		
Built Square Feet	78,750		
FAR	1.1		
Maximum Building Height	39		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$186	\$163	\$142
Economic Surplus (/sf)	\$24	\$3	(\$17)

Sources: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

The four-story mixed-use prototype, with a maximum building height of 45 feet and an assumed retail first floor, generated positive economic surplus across all of the capitalization rates modeled (**Exhibit 25**).

Exhibit 25. Economic Surplus Summary, 4-Story Mixed-Use

Prototype	4-story: 3-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	48,750		
Built Square Feet	195,000		
FAR	2.6		
Maximum Building Height	45		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$318	\$257	\$202
Economic Surplus (/sf)	\$61	\$37	\$16

Source: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

Exhibit 26 summarizes the economic surplus generated by the five-story mixed-use development prototype. This prototype returned the second highest range of economic surplus among the development prototypes analyzed.

Exhibit 26. Economic Surplus Summary, 5-Story Mixed-Use

Prototype	5-story: 4-Over-1 Mixed-Use		
Summary			
Site Size (Square Feet)	75,000		
Building Footprint	48,750		
Built Square Feet	243,750		
FAR	3.3		
Maximum Building Height	55		
Feasibility			
Capitalization Rate	4.75%	5.00%	5.25%
Residual Land Value (/sf)	\$446	\$369	\$298
Economic Surplus (/sf)	\$88	\$64	\$43

Source: CBRE, 2021; CoStar, 2021; Office of Policy Development and Research, 2021, RS Means, 2021; Community Attributes, 2021.

GLOSSARY

Residual Land Value (RLV) – The residual land value of a potential development is the amount of money a developer has left to purchase land, after taking into consideration the potential value of the property less the expected development costs.

Economic Surplus – Economic surplus is one measure of the economic feasibility of a potential development. It is calculated by subtracting the costs of land from the residual land value, which is the amount a developer theoretically has available to cover the cost of land after accounting for all other costs, including the developer's return on investment. Positive economic surplus indicates that the development project generates enough revenue to afford the cost of land acquisition.

Capitalized Value – Capitalized value the market value of an investment property, calculated by dividing the net operating income by the capitalization rate.

Capitalization Rate – Capitalization rates are calculated as the net operating income (NOI) generated by an investment property divided by the property's value or sale price. In the model used by this study, assumed capitalization rates are used to estimate the market (or capitalized) value of each prototype.

Effective Gross Income (EGI) – Effective gross income is the income generated by a revenue-generating property after subtracting losses due to vacancy.

Net Operating Income (NOI) – Net operating income is the income generated by a revenue-generating property after subtracting losses due to operating expenses (from EGI).

Hard Cost – Hard costs are costs associated with the physical construction of a building. They include materials and building costs, in addition to contractor fees.

Soft Cost - Soft costs are any costs not directly related to the physical construction of a building. These costs include those associated with as design, permitting, marketing, etc.

Tenant Improvements – Tenant improvements are custom alterations a building owner will make to a rental space as a part of the rental agreement.

Interest Reserve - The interest reserve acts as an account established by a lender, used to fund a loan's interest payments during the construction term of a development.

Area Median Income (AMI) – Area median income is the midpoint of a region's income distribution. It is used to calculate affordable housing rent prices.

Floor area ratio (FAR) - Floor area ratio is the ratio of a building's gross floor area (total gross building square feet) to the size of the lot it is built on.