Anchorage Housing Market Analysis Appendix D: Pro Forma Feasibility Analysis

Final

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Prepared for:
Municipality of Anchorage

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Appendix D: Table of Contents

Section 1 Background

This appendix evaluates the financial challenges associated with compact development in the Anchorage market, to identify feasibility challenges that will affect implementation of any new policies that increase density. It is part of a larger analysis of supply and demand for compact development forms in Anchorage. It has the following sections:

- Methods
- Feasibility issues specific to Anchorage
- Assumptions and findings
- Implications

Compact development is desirable to many local governments as a method of improving the efficiency of service provision, reducing environmental impacts, and altering the urban form in a way that improves pedestrian facilities and public transit ridership. Compact development can use limited land supplies efficiently while increasing the supply of housing – a particularly important outcome in land-constrained Anchorage. Higher density development can also benefit the developer and/or property owner. More dense development means more units per acre, which reduces land costs as a proportion of total development costs and reduces infrastructure costs on a per-unit basis. There are also benefits for residents: commute times may be shorter, energy costs lower, and access to services and retail may be more convenient, lowering transportation costs.

Despite these advantages, compact development forms are challenging to develop and sell in many urban areas. The reasons are many, and include community perceptions of negative impacts of new units, increased costs, lack of demand for smaller units in locations without access to urban amenities, and lack of available capital and financing to support attached and multifamily development, which is perceived as a risky development type. Communities across the nation face these challenges when evaluating the feasibility of increasing the density of their housing types.

Section 2 Methods

To evaluate the feasibility of more compact development forms, ECO worked with Municipality staff to create four hypothetical prototypes on hypothetical sites. This analysis is based on the existing Title 21 Land Use Code. ECO then created development pro formas that project development costs and revenues to estimate developer return. The pro formas identify real estate market challenges to the development of compact housing. They rely primarily on interviews with the Anchorage development and lending community for underlying assumptions, but also reference findings from a rent survey[1], industry-standard construction cost estimating sources[2], and a housing demand analysis conducted for other parts of this process.

Because the developments are hypothetical and are not located on specific sites, and because site conditions can alter the development costs in ways that significantly affect development feasibility, the assumptions underlying the analysis are presented in ranges. To identify the kinds of site conditions that are commonly found in Anchorage and understand the range of impact that those conditions might have on development costs, ECO presented preliminary results of the analysis to the project advisory committee and received feedback about development conditions and achievable rents that are reflected in this appendix.

This approach to evaluating development feasibility has several limitations:

1) The assumptions in the pro formas reflect a current understanding of the market from those interviewed; any number of factors could change those assumptions and produce different results.
2) The pro formas are for hypothetical developments and are not site-specific. Costs of development and achievable rents / sales prices can vary significantly based on the location of the property. For these reasons, we present assumptions and results in a range.
3) The pro formas did not factor in developer tax implications or creative approaches to financing (e.g., tax credits, partnerships, etc.) that could improve the chances of feasibility.
4) We assume that development is occurring on infill sites that are smaller and generally more likely to be "development ready" (served by infrastructure, flat, undeveloped, uncontaminated). We understand that such sites are rare in the Anchorage market, and to

[1] AHFC Annual Rental Market Survey, 2011

[2] Engineering News Record

account for the additional costs associated with bringing a site to readiness, we present cost numbers in a range. The low end of the range only reflects development in the most optimistic scenario.

In short, the results of these pro formas are useful for planning purposes and to inform policy development, as a snapshot of the major financial variables that affect feasibility in the Anchorage market. They provide a high-level look at what variables affect compact housing feasibility in the Municipality, but are not intended as the basis for financing or developing any specific housing or mixed-use project.

Section 3 Feasibility Issues Specific to Anchorage

Every development environment has peculiarities that affect local development feasibility, and Anchorage is no exception. The three factors that were most discussed in interviews, committee meetings, and with Municipality staff are: (1) development code that allows for " horizontal condominiums", (2) site and development conditions, and (3) availability of neighborhoods with developable land that could support density near retail and other service amenities. This section describes those variables.

SITE CONDOMINIUMS[3]

Recently the majority of compact housing in Anchorage has been developed using a "*horizontal site condominium*" development model. While the term *site condominium* is frequently used, the ownership structure of a *site condominium* is separate from the building style of "*horizontal condominiums*." In order to understand the regulatory and market motivations for this style of development, three different and interrelated factors are involved: the market demand for "*horizontal condominiums*;" the motivation to use a *site condominium* ownership structure rather than a full-service condominium; and the different regulatory requirements on a condominium development verses a fee-simple subdivision.

Due to the financial incentives described below and to the preference in Anchorage for private garages and exterior front doors without common interior hallways, in the 1990's the development community shifted away from stacked multi-family condominium development to what we will refer to here as "*horizontal condominium*" development. This type of development has multiple single-family, duplex, or townhouse structures on one lot. "*Horizontal condominiums*" appear similar to a fee-simple subdivision, but the land is not subdivided, rather it is held in common ownership. What is unique in the Municipality's zoning code that permits "*horizontal condominiums*," is that more than one principle structure are permitted in the multi-family zoning districts (R-2M, R-3, and R-4).

A "*horizontal condominium*" can either be a full-service or a *site condominium*. In a conventional full-service condominium the interior of

[3] *Note: Municipality of Anchorage staff who are familiar with the code guiding site condominium development provided the text for this section of the appendix. ECONorthwest has incorporated it here without edit.*

each unit (wall to wall) is individually owned but the land, building exterior, and common areas are jointly owned and maintained through HOA dues. In a *site condominium*, the owner of a dwelling unit also owns the exterior of their home (excluding common walls) and the building footprint. The owner is responsible for the maintenance of the roof, siding, landscaping, and driveway. One advantage of structuring a "*horizontal condominium"* as a *site condominium* is that the sales price for a *site condominium* can be higher than a full-service condo because the cost to maintain the exterior of the unit is not included in the HOA dues. With lower HOA dues, buyers can qualify for a higher mortgage and the price point can increase.

Since the land in a "*horizontal condominium"* is not legally subdivided, Municipal subdivision regulations do not apply to the interior infrastructure improvements. The zoning regulations do apply, but only to the tract as a whole. For example, the set back requirements apply only to the perimeter of the tract, not to what appears to be individual lots. In the 1990's several poorly developed condominium projects created a bad reputation for "*horizontal condominiums"* with substandard road construction, inadequate emergency response access, and inadequate lighting, sidewalks, and parking.

In response, in 2004, the Municipality adopted AMCR 21.90, "Multiple Dwelling Unit Residential Development on a Single Tract," commonly referred to as the "site condo ordinance". This ordinance established development standards for "*horizontal condominiums"* regarding street design, lighting, emergency response, and parking. Today, *"horizontal condominiums"* are built to a similar standard as a regular subdivision, with some exceptions including slightly narrower streets and no requirements for sidewalks. Some issues remain unclear such as when a street is considered a driveway. However, developing administrative review criteria for such large and diverse projects remains a challenge.

There are many key reasons why "*horizontal condominiums"* are an attractive development model including:

- With a "*horizontal condominium*," the developer does not need to subdivide and plat the parcel. This platting process can be costly and time consuming. The process can easily take up to one year and frequently includes a public hearing.
- A "*horizontal condominium"* can increase density since it does not have the same set back requirements as a platted subdivision. In a platted subdivision, each individual parcel must comply with the set

back requirements for the zoning district. However, in a "*horizontal condominium*," the setbacks only apply to parcel as a whole.

- In a "*horizontal condominium*," since there are no interior lot lines in the development, there is more flexibility in designing infrastructure. For example, street lights are typically located along a street thus widening the area dedicated for public use. However in a "*horizontal condominium*" since the land is commonly owned, street lights can be located anywhere, provided that the lighting requirements are met. As another example, in a platted subdivision, the sewer and water mainlines generally follow dedicated streets and do not cross property lines. However in a "*horizontal condominium*" without interior property lines, there is greater flexibility in locating the utilities, which can reduce cost.

SITE AND DEVELOPMENT CONDITIONS

Anchorage's climate, geography, and economic conditions contribute to higher development costs. One widely-used source of construction cost estimating data (Engineering News Record) recommends using a multiplier of 137 for development in the Anchorage market, which means they estimate construction to be 37% more costly in Anchorage than in an the U.S. on average.[4]

The reasons are many: a short construction season; a history of less-stringently-regulated development that has lead to a lack of a contiguous street and sidewalk grids and unexpected contamination on sites (even those zoned for residential use); the presence of peat which must be removed to allow adequate structural integrity; higher costs for materials that must be shipped long distances to reach Anchorage; a smaller and less flexible labor pool resulting in higher labor cost; a lack of available sites in appropriate locations; and others. These factors add costs that can reduce development feasibility. The following bullets provide additional details on a few of these site and development conditions that affect overall feasibility. While not all of these issues are unique to Anchorage, many are more prominent in the area.

- **Environmental contamination.** Contamination comes in the form of buried oil or septic tanks, and soil and water contamination from previous uses. It is a factor that is difficult to account for when planning for development because, in some cases, the contamination

[4] 2009 Engineering News-Record Square Foot Cost Book

is unknown until development begins. Our interviews indicate that, for this reason, many banks like to see strong contingency funds ranging as high as 10% of the total construction cost dedicated just to environmental issues before they will finance a project.

- **Infrastructure and utility access and availability.** Many sites in Anchorage don't have access to appropriate water and / or sewer service, and may not have adequate sidewalks. Larger sites may not have adequate internal road access / circulation. Providing these utilities can add cost to a project.
- **Peat removal.** Construction cannot occur on peaty soils; they must be removed and replaced. Every cubic foot of peat removed and replaced with gravel costs from $0.80 to $1.00. If a site has more than eight feet of peat, the structure would require pilings, which increase costs to a point that residential development is almost certainly unfeasible.[5]

These issues are discussed further in later sections of this report.

ACCESS TO URBAN AMENITIES

Many developers across the country have found that compact housing forms are easier to finance and sell when they are located near retail and other types of amenities (grocery stores, coffee shops, transit access, etc.) The reasons relate primarily to consumer demand: people are willing to live in smaller units, and sometimes even pay more for less living space, in exchange for a pleasant urban environment, convenient access to their daily needs, and lower transportation costs. One study conducted in Portland, Oregon, found a positive statistical relationship between the range of urban amenities available in proximity to a development and achievable residential pricing in its units. Financial viability has been consistently identified as the primary obstacle to achieving higher density urban development forms in many markets. As achievable pricing is directly related to project viability, this study indicates that a strategy to support and expand the urban amenity base in an area can support increased housing density in development patterns.[6]

[5] Estimates provided by Tim Potter of Dowl HKM.

[6] *An assessment of the marginal impact of urban amenities on residential pricing*, Johnson Gardner Consulting, 2007. Study conducted for Metro, the regional government for the Portland Metropolitan region, in Oregon.

Traditionally, in mid- to small-sized cities and in the neighborhoods of larger cities, "main street" architecture forms provided the type of physical space that supports this amenity. Historic main street retail districts are pedestrian-oriented, centrally-located, and provide neighborhood-serving retail opportunities for nearby residents. Before the current down-economic cycle began, such areas were the target for redevelopment of mixed-use residential neighborhoods.

Because most of Anchorage developed after the advent of the automobile, few such walkable neighborhood centers exist. This limits the ability of developers to capitalize on existing urban form and activity to support rental prices. This situation especially affects the feasibility of the kinds of higher-end compact development forms (more expensive condos, executive apartments) that require a complete package of amenities to successfully compete with larger, more suburban style homes at similar price points.

Section 4 Assumptions and Findings

This analysis explores the feasibility of compact development forms in the Anchorage market today based on the existing Tile 21 Land Use Code. With the exception of the small lot single family example, we have developed prototypes that are allowable by zoning code, and constructed on relatively small lots with minimal parking provided at the surface. The analysis is not intended to result in a prototype that is market feasible, but rather to evaluate and roughly quantify the gap for these more compact types given the construction costs and rents / sale prices that are achievable today.

As stated in the methods and limitations section above, the analysis of feasibility began with hypothetical prototypes on infill sites. Our interviews and research found that infill sites have a range of "readiness" for development, with many variables ranging from environmental contamination to access issues potentially affecting development costs. Very few sites within the Municipality are well-served with infrastructure, appropriately located and zoned for compact development forms, **and** clean and ready for construction. Because our analysis is not site-specific, and cannot address the cost associated with site preparation, we present our results in a range and test the variables that affect feasibility for sensitivity. In other words, our assumptions are intentionally fuzzy to account for the uncertainty associated with hypothetical development; and to provide a plan-level understanding of the factors that most affect feasibility.

DESCRIPTION OF PROTOTYPES: SITE ASSUMPTIONS

There are several ways that each of our prototype sites could be configured to meet various zoning code requirements for yard area, parking, floor area ratio (FAR), and other site design features. Because our evaluation is high level and hypothetical, we have not created site plans that provide a specific layout of design and structural elements on a site, and all estimates should be assumed to be approximate. Again, **the purpose of the pro forma is to get to an order-of-magnitude understanding of feasibility and gap, rather than to create a developable program on a particular site.** However, mathematically, all of the site elements (yard area, building footprint, parking, etc.) can fit on the parcel size assumed.

- A **single-family detached** prototype, assumed to be developed on a 3000 sq. ft. parcel, wood-frame construction. We assume an 1800 sq. ft.

unit, and have modeled a for-sale (rather than a for-rent) product. The Anchorage zoning code currently does not permit 3000 sq. ft. parcels for fee simple single family homes except through a PUD, Planned Community, or cluster housing, development. All these options include a public hearing process and minimum site size requirements that exceed the size of most parcels available for infill development. However, many cities seeking to encourage compact housing allow for small lot single family. This prototype was chosen to see if it would be financially feasible in Anchorage, as it has proven a successful infill model in other urban markets.

- An **infill townhome** (attached single-family) prototype, wood-frame construction. We assume eight 1800 sq. ft. units on about 22,000 sq. feet of land. We assume it was developed in the R-2M zone, which allows no more than eight units on a 20,000 sq. ft. lot. An important note on this prototype: the prototype is only code compliant if it is developed as a condominium, rather than as a fee simple development (see earlier sections for definitions of these terms). If it is developed as a fee simple development, the code (21.45.220- Townhouse) would require 3500 sq. ft. of lot per unit. The site for this prototype would need to be 28,000 sq. ft. The implications of this difference are discussed in more detail in the sections that follow.

- A **mid-rise residential development**, assumed to have 30,000 gross[7] square feet of residential development on three floors, a total of 25 residential units averaging 1000 sq ft, and a total of 40 parking spaces[8]. The building is assumed to be in the R-4 zone, and to comply with that code.[9] We have assumed wood-frame construction over a concrete / steel podium. The building is assumed to sit on a 20,000 sq ft lot, which cannot accommodate all 40 parking spaces *and* the building footprint, given the required yard area for residential development in the zoning code and FAR requirements.[10] At least some of the parking must be provided in a structure of some sort (tuck under, or as a floor of parking added to the residential floors). In this prototype, we have assumed that

[7] 25,500 sq ft of leasable space, or an 85% efficiency standard.

[8] 25 units on 3 floors is about 8 units per floor. With an average of about 1000 sq ft per unit, and accounting for hallways, etc., 8 units could easily fit in a 10,000 sq ft floor plate. We assume 1.5 spaces for each 1 bedroom unit and 1.75 spaces for each 2 bedroom unit. We assume 350 sq ft for each parking space, for a total of nearly 14,000 sq feet of parking needed.

[9] The code has no height restrictions, a maximum FAR of 2.0, maximum lot coverage of 50% (in this case, a footprint of 10,000 sq ft). A 20,000 sq foot lot is the smallest lot size allowable for this prototype, because of the maximum lot coverage requirement.

[10] In this case, about 2500 sq feet, or 100 sq ft per unit.

one story of parking would be added to the building, with the remainder provided at surface.

- A **mixed-use development** with a residential component that is substantially similar to the one described above, but with the addition of a first floor with 3,000 sq ft of retail use. This development is also assumed to be wood-frame construction over a concrete and steel podium. To accommodate the additional parking associated with the retail uses, we assume a total of 47 parking spaces. The building is assumed to sit on a 15,000 sq ft lot, which, again, cannot accommodate all the parking spaces *and* the building footprint, given other zoning requirements. In this prototype, we have assumed that about 7,000 sq ft of parking is provided as tuck-under parking at the same level as the retail parking (for a total building footprint of 10,000 sq ft). An additional roughly 10,000 sq ft of parking will still be needed, which we assume to be added to the structure as a full floor of parking. The site is assumed to be in the B-2B zoning.[11]

[11] Allows no fewer than 25 dwelling units per acre. We have assumed two parking spaces per 1000 sq ft of retail, and residential parking requirements that match the R4 code.

COSTS AND PRICE POINT ASSUMPTIONS

Table 1 below provides additional details about the prototypes and the assumptions underlying the pro forma evaluation. In particular, it presents a range of construction costs and achievable rents / sales values, based on conversations with advisory committee members and interviews. Note that, in some cases, the range is quite large. Factors that affect development costs and rents are described in the section following this overview table.

Table 1. Overview of prototypes and assumptions, Pro-forma analysis of four prototypes; Anchorage Alaska, 2011

	Single-family Detached	Townhomes: Individual lot	Mid-rise residential	Mid-rise mixed-use
Land value	$6 -8	$6 -8	$12-20	$15 - 20
Rent or sale value per square foot	$140-160	$135-155	$1.20 - 1.40	$1.20 - 1.40 Residential $1.50 Retail
Construction costs (estimated at "all-in"/ sq. ft.)	$140-$170	$135-$165	$220 - 270	$220 - 270, plus $20 TIs

Source: ECONorthwest, 2011. Prototypes developed in collaboration with Municipal staff. Assumptions based on interviews with developers, lenders, and others familiar with Anchorage market.
Note #1: "All-in costs" refer to hard costs (construction materials, labor, fixture), soft costs (design, fees, permitting), and site preparation. It does not include financing costs, which are accounted for separately.
Note #2: "Tis" refer to "tenant improvements", which are typically added to the development costs for retail spaces.

The cost and revenue numbers presented in Table 1 are in a broad range. Our interviews and conversations highlighted some of the factors that could push these numbers to the higher end of the range.

On the cost side, many of the variables relate to site preparation, but other variables also contribute:

- **Environmental contamination.**
- **Infrastructure and utility access and availability.**
- **Peat removal.**
- **Demolition and grading.**
- **Permitting process required.**

The presence of any one or two of these issues on a given site may push the total development costs closer to the top end of the range shown in Table 1. If multiple issues are present on a single site, it may be

undevelopable for any use, because the cost associated with addressing these issues is so high.

On the revenue side, the variables that would push the revenue numbers to the higher end of the range are primarily location and amenities. Appendix E (case studies) provides more detailed discussion of the type of amenity package that is most marketable in Anchorage, but based on our research, some of the amenities that residents prefer are storage, heated parking spaces, and access to nearby retail or trails.

OTHER ASSUMPTIONS

Other variables can also greatly affect the cost side of the feasibility equation. They are:

- **Parking provision.** The need to provide parking in a structure, rather than at grade, can increase the cost of providing parking by as much as 20% (or even more) depending on how that parking is constructed. Underground parking is rarely possible in Anchorage because soil types make it cost prohibitive. Some of the prototypes described in this analysis have cost structures that account for parking provision in structures or as tuck-under. Our assumptions for parking are described along with the prototypes, and generally follow Municipality of Anchorage development code.
- **Financing costs.** In the current market, equity (or cash down payments) requirements are quite high. Many banks require as much as 30 to even 40% of project costs be paid up-front in the form of equity. A developer without sufficient access to capital to cover these financing costs may need to borrow equity on the open market. Equity lenders charge a premium for this upfront capital because it is a fairly risky investment for them. Some equity lenders are charging as much as 15 – 20% interest. In some situations, equity financing is simply not available, and projects cannot move forward. The single family and townhome prototypes, which have much lower total development costs, are more likely to be developed with cash equity from the developer. We have tested the sensitivity of the financing terms; the results are detailed in the findings section.
- **Others assumptions.** Because the pro forma projects cash flow over time, we have assumed annual increases in rent and operating costs of 3% per year, a 5% vacancy rate at stabilization (which may be high given the current low vacancy rate in Anchorage), and an ongoing management fee of 5% of annual income. These are fairly standard

assumptions; changes in these assumptions have minimal affect on overall feasibility, and we did not test them for sensitivity.

FINDINGS

The pro forma analysis found that the feasibility of these development types varies by prototype. The single-family (small lot) prototype and the townhome prototypes are closest to feasible. Details follow:

SINGLE-FAMILY DETATCHED

The single-family detached prototype is closest to financially feasible, based on the assumptions in this analysis. However the Municipality's current zoning regulations do not allow for single-family homes built on a lot smaller than 6,000 square feet outside of certain special circumstances.

With "best case" assumptions for cost and revenue (low-end site acquisition and construction costs; high-end sales prices; see Table 1, page 12) for ranges), this prototype costs about $265,000 to develop, and sells for about $288,000. Assuming the developer is willing to invest his or her own equity in a project, and has sufficient equity to achieve favorable bank loan terms (at least 20%), the prototype could generate enough income to be attractive. With these same best case assumptions, the project generates a 1.43 debt coverage ratio, and a .65 loan to value ratio. While not all banks and all developers would be interested in this project, we think that some would.

Although the single-family compact housing model is the closest model to being profitable, the pro forma results are very responsive to any changes in assumptions. Increasing the assumption about site acquisition costs from $6 per sq ft to $8 per sq ft, for example, decreases the profitability of this project such that a developer would probably not build it. Similarly, reducing the sales price to the low end of the range reduces profitability to a point where banks might not finance the construction of the project.

Developers interested in this type of product would want to find the best possible sites to increase the likelihood of success.

TOWNHOME

The **townhome** prototypes are also very close to feasible, based on the assumptions in this analysis, including an assumption that the developer does not have to borrow high-interest equity on the open market (i.e., that

he or she has access to about 30% of the project cost in cash without borrowing).

With "best case" assumptions for revenue (low end land and construction cost assumptions, and high end sales prices; see Table 1 for ranges), the prototype generates a loan to value ratio of .61 and a debt coverage ratio of 1.5. Both of these are healthy indicators. It also generates a return for the developer: the total sales price for all eight units, minus the total resources needed for construction and financing, returns about $173,000 on a nearly $2M construction project. Again, we are not suggesting that *all* developers and *all* banks would automatically invest in a project like this one. But, reasonably risk-averse ones might choose to invest.

Similar to the single-family detached prototypes, however, the pro formas are very sensitive to small changes in assumptions. Increasing the amount of equity required, increasing development costs, or decreasing the achievable price point are some of the assumption changes that make the single-lot townhome infeasible.

In this prototype, we also see some of the developer's motivation to use a "*horizontal condominium*" process, rather than a subdivision, for compact development forms. A condominium approach allows the developer to slightly lower the development costs and reduce the amount of land he or she needs (as described above, based on nuances of the code), which in turn increases the certainty for the developer and for the financers that the development will be successful. A fee simple development approach would require a land subdivision process, which increases costs both in dollars and in time. It would also increase the amount of land required for the project to 28,000 sq ft, which would add (based on the assumptions in our analysis) about $37,000 to the development costs just for land. This is one of the main factors that drives developers to a condominium structure when developing compact housing: it reduces the margin of error and increases the profit margin.

MULTI-FAMILY PROTOTYPES

Neither the mid-rise **multi-family development** nor the **mixed-use development** prototypes are feasible from a financial perspective. The table below provides details:

Table 2. Rough Feasibility estimate for Mid-Rise and Mixed-Use

	Mid-rise residential		Mixed-use	
	Best case	Worst case	Best case	Worst case
Assumptions				
Land value	12	20	15	20
Rent	1.4	1.2	1.4 / 1.5	1.2 / 1.4
Construction costs (all-in)	230	270	230	270
Cap rate	6%	9%	6%	9%
Financing package	stabilized	current	stabilized	current
Bottom line				
Total development costs (TDC)	$5.6M	$6.9M	$7.6M	$8.9M
Fair Market Value (FMV) income approach	$6.7M	$3.8M	$7.6M	$4.5M
"Created value" (FMV - TDC)	$1.1M	-$3.1M	$0	$-4.4M
Debt Coverage Ratio	1.05	.84	.93	.69
"Equity repayment gap"	$-1.2M	$-3.9M	$-2M	$-3.2M

Source: ECONorthwest, 2011. Sources for assumptions described in text. "Stabilized financing package" is 20% equity at 12% return on equity and 80% bank loan at 6.5%; "current financing package" is 30% at 15% return on equity and 70% bank loan at 7.5% interest.
Note that some developers may be able to get better terms in the current market. Descriptions of terms in text.
Note: Because these development projects are hypothetical and the prototypes are not designed thoroughly enough for accurate costing, our pro forma analysis is high level and does not consider some of the tax benefits and other nuances that a more detailed evaluation of a specific project might. If these same assumptions are plugged into a different pro forma model with different or additional variables considered, the results are likely to be different.

A few notes on the terms in Table 2 that will be helpful to understand when interpreting results:

- We have not assumed any changes to the prototype itself between best case and worst case scenarios. While we show a range of financial and cost factors, in all cases, the prototype itself meets Anchorage Municipal Code as described in the sections above. Total development costs therefore include parking, open space, and other requirements. More discussion on this point follows.
- Fair market value is generated based on an income approach using the cap rate and the revenues described in the income section. The market value is very sensitive to changes in cap rate. A decrease in cap rate[12] greatly improves the fair market value results.
- "Created value" refers to the difference between the total development costs and the fair market value. It is one very simple measure of feasibility. If a building costs more to build than it is worth in the market, it will not generate much interest from developers or banks.

[12] The cap rate is a measurement used in the appraisal and lending community to estimate the value of a property based on the income it produces. Our interviewees consistently reported a 9% cap rate in the Anchorage market. Note that a higher cap rate means a lower market value.

- Debt coverage ratios (DCRs) are used by banks to assure that a project will generate sufficient net operating income to cover debt payments. A DCR of 1.0 would mean that the revenue generated was sufficient to cover bank loans; banks prefer to see DCRs over 1.0, for obvious reasons.
- The "equity repayment gap" compares summed equity and required return on equity to the project's stream of income over the term of the equity loan to determine whether the project generates enough cash to pay back equity lenders.

The results in Table 2 reflects accurately the range of feasibility outcomes that we heard when interviewing developers: it is very challenging to produce compact housing and mixed-use products in the Anchorage market, no matter how you alter the variables. A developer interested in this type of development would face major challenges. In the worst case scenario:

- Banks require a high portion of equity in these projects, because they are perceived as risky. Because total project costs are higher for these more complex development types, it is less likely that the developer would have sufficient capital, and would need to buy equity on the open market.
- Parking is expensive (but necessary) to provide. We are assuming that at least some of the parking is not provided at grade (i.e., is some combination of structured and tuck-under parking), which costs as much as 10 to 20 times more than providing parking at grade.
- The cap rate is high (9%), making it more difficult for the relatively low achievable rent rates to produce appraised value that will be enticing to traditional lenders.
- Construction costs are high, probably reflecting some complication associated with site preparation.

Importantly, in the worst case scenario for both development types, making changes to any of these single factors alone does not change the outcome of the feasibility analysis. If the cost assumption associated with the provision of parking is assumed to be $0 (if we assume no cost associated with parking), the feasibility gap narrows significantly, but the project still does not produce sufficient profit to entice a developer and lender. Reducing the cap rate helps to improve fair market value, but does not affect the debt coverage ratio or ability to repay equity. The developer would essentially need free equity (in the form of a grant, tax credit, or

other form that does not require repayment) to begin to bring these projects into a feasible range.

In the best case scenario, the picture is less dreary. With a lower cap rate, the mid-rise residential building is worth more in the market than it costs to build it. The debt coverage ratio is over 1.05, meaning that it is generating revenue beyond what is required to pay the bank loan. The mixed-use building is not far behind, with a debt coverage ratio below (but near) 1.0. However, neither project generates enough income to pay off expensive equity loans, and would not be financeable in the configuration shown in Table 2.

A patient equity lender could make the difference for these projects. If, for example, the developer used personal equity, wanted to hold the property for a long period of time, and could wait to receive the pay off; or if a lower-interest, possibly public-sector loan could replace more expensive equity, in the best case scenario, these projects might be financeable. Reducing parking requirements, or providing shared parking with surrounding developments, or other creative approaches to addressing parking needs could also bring these projects closer to feasibility by reducing construction costs.

However, the best case scenario requires an alignment of site and market characteristics that we understand from interviewees is very rare in the Anchorage market. The site would have to be well-located and marketable to potential occupants, clean and flat, and well-served by infrastructure. And the financing and general real estate market would have to improve significantly.

Overall, the main factors affecting feasibility are:

- **Limited access to equity**, and the conservative response of the financial community to bank loan lending.
- **Costs of development**. Construction costs are higher in the Anchorage market for the many reasons outlined in this appendix, including water table and soils issues, contamination, labor, cost of transportation of materials, and non-contiguous and incomplete availability of infrastructure and utilities. In response, developers try to reduce their costs, which in some case leads to a lower quality product. New lower quality product coming on line can create a cycle that keeps rents low in the market and distorts the market's ability to produce higher-end product, because none is available as a comparable product for the lending community.
- **Underdeveloped demand for compact forms**. The mixed-use and mid-rise residential prototype cost more to develop than single-

family homes do, primarily because of a more expensive construction type to support a multi-story development and the need to provide structured parking. Rent levels (an indicator of demand) are not high enough to support new high-quality construction.

Section 5 Implications

Like many communities across the nation, the current market for new development in Anchorage constrains the ability of developers to provide a more compact development form of sufficient quality to meet development goals. In the short-term, subsidy of some form will be required to make it feasible. While development costs may be higher in Anchorage than in other places, this situation is also not unique to Anchorage. Many communities provide subsidies to encourage development types that are consistent with goals of increasing density.

Those subsidies might take the form of low-interest loans to replace expensive equity; tax credits; or gap financing. Subsidies work best when they are targeted to overcome specific gaps in feasibility, without adding too many requirements (which add cost) to the development process. If public-sector money is part of the development process, some "public good" (e.g., workforce housing, , a mix of uses that might not otherwise be included, or increased open space) must be met through the development process. The public and private-sectors will probably need to do more to understand each other's motivating factors, and work together to overcome gaps in feasibility.

Anchorage, may consider focusing on a logical "place to start" – a neighborhood with an existing base of higher density housing and retail amenities that could grow to include new developments that increase its vibrancy. Public sector planning and support to improve specific streetscapes and make them more pedestrian-friendly and inviting, coupled with targeted subsidies for adjacent development, could help to create a district where housing and retail amenities can be created simultaneously. Over time, a few successful residential or mixed-use projects might help to "prove the market" for compact residential in Anchorage. If a few high-quality, well-located mixed-use or mid-rise residential developments can be built and successfully sold or rented, it might begin to show that these types of development are possible in Anchorage, and bring additional private-sector resources to the table.

Other ECO products will combine the results of the feasibility study in this appendix with an analysis of land supply and demand to more fully define the policy implications associated with attempts to increase the amount of compact housing available in the Anchorage market.