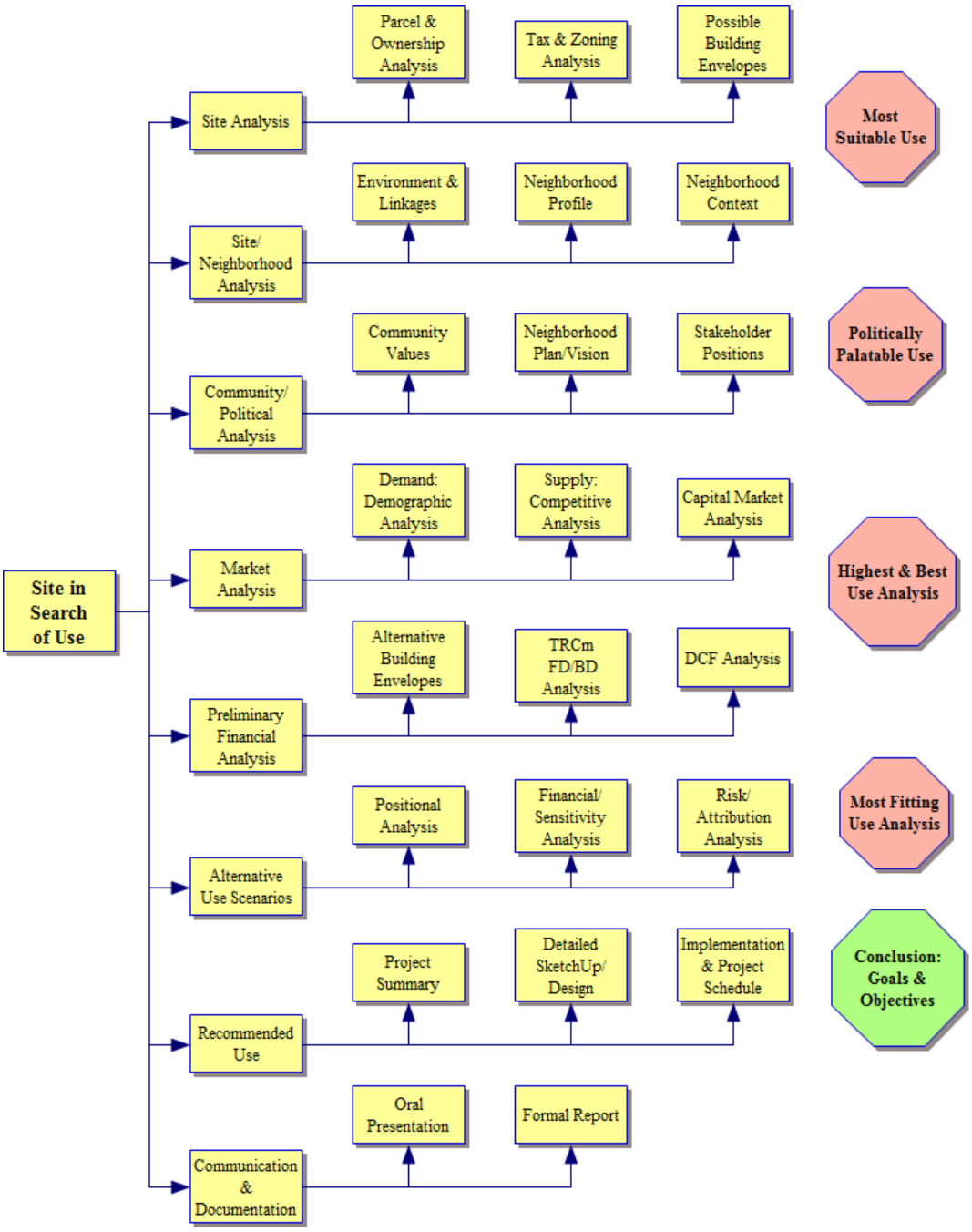
Site in Search of Use: Most Fitting Use Analysis

Preface

Real estate development decisions constitute irretrievable commitments of scarce resources of land, labor, materials and capital. As such, it is imperative that land use decisions focus on optimizing the utilization of resources within given sets of constraints

goals for the projects is to help you develop a framework that you can use to determine the most appropriate use for a given subject property (i.e., site in search of use). This type of analysis can require a number of steps, depending on the scope of your study and the goals and objectives you are trying to satisfy. The objective of this primer is to provide you with some general parameters and examples that you may want to apply in your alternative use analysis. In addition to the narrative in this case, you will have access to the basic Excel models that are presented in the tables. You should feel free to modify these templates or apply them as you deem appropriate to support your project analysis. Please note that it is not necessary to include these tables or detailed analysis in your report, although you should document how you arrive at your recommended development scenario. The example presented in this primer assumes there is an existing building on the site. If you have an existing building on your site, you should consider recycling or renovation of that facility along with demolition and new construction. You can run the numbers on such a decision as in this case or make the decision based on use other criteria (e.g., functional obsolescence, physical deterioration).

Site in Search of Use



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Introduction

Overview

This primer on Alternative Use Analysis is organized into three components. The first component provides a brief snapshot of the skill sets, models and analytical techniques you have developed up to this stage. If you do not understand them, you may want to refer back to them to make sure you can follow the rationale presented in this primer. If you need additional help in understanding the underlying math and models, please refer to the accompanying Excel templates. The second component presents a systematic method of exploring alternative uses, including building envelopes, total replacement costs, and Frontdoor/Backdoor analysis. The third component explores various techniques for comparing and contrasting alternative use scenarios to arrive at a final use.

Required Skill Sets and Understanding

In order to follow the discussion and examples presented in this primer, we have made certain assumptions relative to your level of understanding of prior materials.

Building Envelopes

It is assumed that you understand the basic calculation of building envelopes in light of zoning constraints or other factors that affect the permissible scale of development for your site. Please note that this case uses very basic assumptions; you can override them or modify them to incorporate your own conclusions, which may be based on other considerations such as neighborhood scale, ingress/egress and market analysis. That is, you do not have to run the template as given. However, you should incorporate the basic analytical framework and independent variables that affect your conclusion (e.g., parking, building height, building efficiency or load). As part of your building envelopes and/or site design and planning, you should allocate your site to various components (e.g., parking, building, and open space), which can be based on zoning and land use constraints, or on design criteria that you choose to apply (e.g., ingress/egress, traffic volumes, potential user requirements).

Total Replacement Costs

You should understand the basic approach to cost estimation, including land, hard costs, soft costs, and how to treat known and unknown costs. You should also be able to apply various costs of capital, both debt and equity, to arrive at a final cost for each use. As noted in the instructions, you may add 2-5% in rough figures to your actual construction costs to accommodate "green building" elements. Note that these will affect the economics of the project, and in turn, should be discussed.

Frontdoor/Backdoor Analysis

We have reviewed FD/BD analysis in class, applying the two perspectives to answer the question regarding rent required or cost justified. In an alternative use analysis, you apply the same basic model, with the key difference being that you are comparing different projects with different building envelopes, costs, and markets. Thus, you may want to run this analysis several times or modify the results to incorporate other factors

or requirements that you are imposing. In addition, try to apply the rental structure model to the analysis when you are fine tuning your results. If you are working with apartments, you should convert your rents to $/unit for purposes of comparison and market targeting.

Residual Land Values

One of the key decisions you will have to make is how to determine the "excess value" the various projects provide on top of the costs. In essence, you are looking at the "residual land value," which is defined as the difference between the Backdoor Total Replacement Cost Justified (TRCj) and the Frontdoor Total Replacement Cost Market (TRCm) necessary to produce the asset. In general, the land use with the highest residual is the "Highest and Best Use."

Alternative Uses

One of the key requirements for alternative use analysis is an understanding of the evaluative criteria that various user groups bring to the table depending on their needs. In applying the alternative use models, it is important to be able to empathize with potential users, thus allowing you to quantify their needs and preferences that affect the importance they attach to static, environmental, and linkage attributes. Additionally, you should be sufficiently familiar with these criteria to allow you to "rate" the attractiveness of a site for the major user groups (i.e., 1-10 on key criteria). These two steps allow you to determine the Most Suitable Use from the perspective of potential tenants. Given this insight, the alternative use analysis should also explore the Highest and Best Use which looks at the question from the developer/owner's perspective with an eye toward maximizing residual land value. Finally, alternative analysis should explore the Most Fitting Use which introduces externalities associated with sustainability and community and public impacts.

Decision Model

The final requirement in applying alternative use analysis is that you must be able to specify the decision model you will apply and the criteria the conclusion must address and satisfy. This involves a determination of whether you are pursuing Highest and Best Use, or Most Fitting Use, or some combination of the two approaches. At the same time, you must be able to specify the relative importance assigned to financial, market, and other criteria that affect the investment side of the equation, as well as the neighborhood and community side that affect the political palatability and market acceptance of the ultimate use. This is especially true where you place high importance on community acceptance and benefits, or where your use depends on rezoning or permitting that provides a platform or forum for opposing views to influence the decision.

Stage I: Exploration of Alternative Development Scenarios

Alternative Use: Legally Permissible

The first step in alternative use analysis is to explore the alternative use scenarios, beginning with the current use as a starting point. As noted in Table I, the building operates at a

relatively low load factor (i.e., efficiency or percent leasable to percent actual), which can be improved from 80% to 90% by renovating the building, which will increase the revenue units (i.e., rentable square feet) from 18,449 to 20,775 square feet. Since the renovation will also increase the rent per square foot ($/sf) the space could command, this improvement is worth considering over more aggressive alternatives entailed with leveling the building and recycling the space. It should be noted that the annual market rent of $12/sf and $16/sf for the current building are the "net rents."

Table I: Building Constraints

Component	As Is: Release	Renovate	New Use 1	New Use 2
Inputs				
Gross Site Area	43,560	43,560	43,560	43,560
Lot Coverage Ratio	90%	90%	70%	70%
FAR Maximum	3	3	2	3
Building Design				
Number of Floors	1	1	2	5
Revenue Unit Size (SF)	1	1	1	1
Load (Efficiency) Factor	80%	90%	92%	85%
Parking				
Index (#/1,000)	2	2	3	3
SF/Stall	350	350	350	350
Number of Stories	1	1	1	1
Outputs				
Improvement Size				
Building	23,061	23,061	19,672	24,394
Parking	16,143	16,143	20,656	25,613
Revenue Units				
Building	18,449	20,755	18,098	20,735
Current Net Rent/SF/Year	$12.00	$16.00		
No. of Parking Stalls	46	46	59	73

Once the existing use and the land use constraints for the potential use candidates are identified, the maximum building area and site allocation can be calculated. To explore the utilization of the site, the outputs also indicate the effective building, parking, and open space coverage, as well as the Floor Area Ratios.

Table II: Site Allocation

Component	As Is: Release	Renovate	New Use 1	New Use 2
Inputs				
Building Footprint (SF)	23,061	23,061	9,836	4,879
Parking	16,143	16,143	20,656	25,613
Open Space	4,356	4,356	13,068	13,068
Total Site	43,560	43,560	43,560	43,560
Site Allocation Check	0%	0%	0%	0%
Outputs				
Building Coverage	53%	53%	23%	11%
Parking Coverage	37%	37%	47%	59%
Open Space	10%	10%	30%	30%
FAR Actual	0.90	0.90	0.93	1.15

Derivation of Total Replacement Costs (TRCm)

Cost Inputs

The first two scenarios explore the reuse of the current building. As such, there is no "new" building cost for the current use scenarios, although there is a renovation cost for the second option of $15/sf.

Table III: Cost Inputs

Component	As Is: Release	Renovate	New Use 1	New Use 2
Cost/SF				
Building	$0.00	$0.00	$100.00	$120.00
Renovation Cost	$0.00	$15.00	$0.00	$0.00
Demolition Cost	$0.00	$0.00	$8.00	$8.00
Parking	$0.00	$0.60	$1.70	$1.70
Landscaping	$0.00	$0.75	$2.50	$2.50
Land	$5.00	$5.00	$5.00	$5.00
Other Costs	$40,000	$30,000	$30,000	$40,000
General Requirements	5.20%	5.20%	5.20%	5.20%
Architectural & Eng.	7.00%	7.00%	7.00%	7.00%
Builders Overhead	2.50%	2.50%	2.50%	2.50%
Builders Profit	6.0%	6.0%	6.0%	6.0%
Legal & Organizational	$10,000	$20,000	$20,000	$20,000
Construction Interest				
Interest Rate	0.00%	8.00%	6.00%	6.50%
Months to Build	0	8	12	16
Total Financial Fees	1.5%	2.0%	2.4%	2.4%

Cost of Capital

Once the cost schedule for hard costs and soft costs (e.g., fees) is established, the TRCm to prepare for leasing can be calculated. As noted, the cheapest option is to reuse the existing facility as is and renew the leases. However, it is not clear from an investment perspective which of the alternatives is the most attractive. It should be noted that the costs of capital may differ by scenario since they will entail different risks and have access to different sources of capital.

Table IV: Costs of Capital

Component	As Is: Release	Renovate	New Use 1	New Use 2
Permanent Financing				
Loan-to-value Ratio	70%	80%	80%	80%
Interest Rate	6.0%	7.0%	6.5%	6.5%
Term in Years	30	30	30	30
Payments/Year	12	12	12	12
Equity Cap Rate	8.0%	8.0%	10.0%	10.0%

Total Replacement Costs

Since the first two uses assume the site "as is," the total building and land costs can be calculated by capping the current net income by the equity cost of capital. In this case, the current Net Income/sf was $12.00/sf for the 18,449 rentable square feet. Assuming the buyer is looking at the project on an Unleveraged basis, the current value can be calculated by capitalizing the total net income by the Equity Discount rate of 10% which the building costs for the new uses are based on the various components and fees, while the renovation costs and demolition costs are assumptions. As noted in the table, the most expensive option is the New Use 1, and the cheapest is to continue the as is and merely release the premises to create value.

Table V: TRCm

Component	As Is: Release	Renovate	New Use 1	New Use 2
Acquisition Cost: Land & Building	$2,767,341	$2,767,341	$2,767,341	$2,767,341
Demolition Costs	$0	$0	$184,489	$184,489
New Building Cost	$0	$0	$1,967,226	$2,927,232
Renovation Costs	$0	$345,918	$0	$0
Parking Cost	$0	$9,686	$35,115	$43,543
Landscaping Costs	$0	$3,267	$32,670	$32,670
Fixed Costs	$2,767,341	$3,126,212	$4,986,841	$3,028,043
Known Fees (e.g. Arch, Eng)	$50,000	$124,286	$509,437	$113,965
Unknown Financial Fees	$29,896	$126,058	$248,160	$178,885
Total Replacement Cost Market	$2,847,237	$3,376,556	$5,744,438	$3,320,894

Frontdoor/Backdoor Analysis

Overview

Before the TRCm can be converted to income, the "leakage" or claims that differentiate Gross Income from Net Income must be deducted. To that end, the requirements must be stated for each use category.

Table VI: Expense Ratios

Component	As Is: Release	Renovate	New Use 1	New Use 2
Vacancy Ratio	10.0%	6.0%	5.0%	6.0%
Expense Ratio	10.0%	8.0%	10.0%	12.0%
Property Tax Ratio	10.0%	10.0%	10.0%	10.0%
Reserve Ratio	2.0%	2.0%	2.0%	2.0%
Building Net Income Ratio	68.0%	74.0%	73.0%	70.0%

Frontdoor Model: Net Income Required

In order to explore the financial feasibility of the use alternatives, the analyst should calculate the Gross Income Required (GIr) from the market to provide the required return for each of the uses. As noted, we assumed an average annual market rent of $12/sf net rent in determining the value of the current use for acquisition. This figure is close to the required "Net Income" indicating the current use pencils out, although it may not be optimal (e.g., $16.88/sf Gross Income * 68% NIR = $11.50).

Table VII: Frontdoor Net and Gross Income Required

Component	As Is: Release	Renovate	New Use 1	New Use 2
Mcc	0.00599551	0.00665302	0.00632068	0.00632068
Wcc	0.00619685	0.00665575	0.00672321	0.00672321
Net Income Building Required	$17,644	$22,474	$38,621	$22,327
Gross Building Income Required	$25,947	$30,370	$52,906	$31,896
Building GIr/Unit/Month	$1.41	$1.46	$2.92	$1.54
Building GIr/Unit/Yr	$16.88	$17.56	$35.08	$18.46

Backdoor Model: Residual Land Values

Now that the required income levels have been generated, the analyst can explore the marginal benefits or premiums that can be captured by applying the current market rents. Assuming the rents in Table VIII are achievable in the market --note the current use rents are above market-- the excess land value of the various options can be determined. In essence, this excess value is the Backdoor Value using the Net Income in the market (GIr * NIR)/Wcc, and then netting that amount against the TRCm to generate the asset that will capture those rents. As noted, the current use close to market even after the renovation is completed leaving little upside.

Table VIII: Leasing Assumptions

Component	As Is: Release	Renovate	New Use 1	New Use 2
Rent/BLDG SF/Yr	$16.00	$18.00	$35.00	$19.00
Parking/Unit/Year	$0	$0	$0	$0
Other Income				

Table IX: Backdoor Cash Flows

Component	As Is: Release	Renovate	New Use 1	New Use 2
Gross Income				
Building Income	$295,183	$373,591	$633,447	$393,957
Parking Income	$0	$0	$0	$0
Other Income	$0	$0	$0	$0
Gross Income Market	$295,183	$373,591	$633,447	$393,957
Total Vacancy/Expenses	$94,459	$97,134	$171,031	$118,187
Building Vacancy	$29,518	$22,415	$31,672	$23,637
Building Operating Expenses	$29,518	$29,887	$63,345	$47,275
Building Property Taxes	$29,518	$37,359	$63,345	$39,396
Building Reserve Ratio	$5,904	$7,472	$12,669	$7,879
Net Income Market	$200,724	$276,457	$462,416	$275,770

Note that the model is set up to consider “other income” on top of rent which may or may not apply to alternative uses.

Table X: Residual Land Values

Component	As Is: Release	Renovate	New Use 1	New Use 2
Mcc	0.00599551	0.00665302	0.00632068	0.00632068
Wcc	0.00619685	0.00665575	0.00672321	0.00672321
Total Replacement Cost Justified	$2,699,279	$3,461,384	$5,731,588	$3,418,129
Total Replacement Cost Market	$2,847,237	$3,376,556	$5,744,438	$3,320,894
Excess Land Value	-$147,958	$84,828	-$12,850	$97,235
Value of Land Residual	$69,842	$302,628	$204,950	$315,035
Land Value / SF	$1.60	$6.95	$4.71	$7.23

In this case, the New Use 2 provides the highest residual land value, or premium over the actual land cost. Thus, in a traditional sense, if the analyst focuses solely on maximizing land value, the New Use 2 would be the optimal use, followed by the Renovation Option. The current use and New Use 1 would not pencil out and should not be considered unless they can be re-engineered.

Stage II: Determination of Highest & Best or Most Fitting Use

Background

The Highest & Best Use model is the default for real estate appraisal and investment analysis. While the model is widely applied, the increasing emphasis on sustainable development and community fit has created the need for a more balanced approach to development decisions that consider the implications on current and future generations, seeking a sustainable solution that has an enduring demand that extends beyond the immediate users'/owners' span of involvement. This is not to ignore the importance of the financial or investment side of the decision, but to temper it to ensure the use decision recognizes the importance of externalities.

Alternative Use Concepts

Most Suitable Use (MSU)

The notion of MSU is an input to both Highest & Best Use and Most Fitting Use analysis. This preliminary analysis is a critical input that looks at the suitability of the site from the respective perspectives of the potential uses. That is, each major land user will have different standards that affect how they rate a site in terms of its attractiveness for their particular use. This ranking will also affect the demand or "marketability" of a site for various users. In many cases, the scrutiny of a site through the eyes of potential users is essential to avoid a "field of dreams" dilemma (i.e., build it and they will come). For example, a developer may see a project that appears to be very successful and replicates that strategy on another site, which is not unacceptable unless the selected site and market context have similar attributes that contributed to the success of the initial project. If the compenents aren't remarkably similar, then the replica may be doomed to failure, which can take the form of the inability to rent up the property to the targeted users, or the bankruptcy or failure of the user at the new site. Another example is provided by the planning agency that creates incentives to encourage certain land usage without an understanding of the drivers of value that determine the long-term success and viability of such a use. This market intervention can result in

development that does not fit the business model of the intended users and is doomed to failure.

Politically Palatable Use
In a growing number of communities, development decisions are subjected to review by various stakeholders.

Highest & Best Use (H&B Use)

The H&B Use criteria include standard factors that address the legality of the use, the physical possibility of the use, the marketability of the use, the financial feasibility of the use in terms of providing acceptable risk-adjusted returns, and the maximization of residual land value.

- Legally permissible
- Physically possible
- Marketable
- Financial feasible
- Maximizes Land Value

Most Fitting Use (MFU)

In general, the MFU model blends the perspectives of the three major constituencies -- space producer, space user, and community/neighborhood-- to arrive at a compromise use that represents the optimal use in light of competing goals and objectives. In general, MFU applies the same core criteria in H&B Use analysis, with the exception of "maximization of land value." Rather, the MFU substitutes the "fit" criterion which incorporates the preferences and values of other constituencies outside of those directly involved in the ownership, development or usage of the property.

- Legally permissible
- Physically possible
- Marketable
- Financial feasible
- Maximizes "Fit" for multiple constituencies

Preliminary Analysis: Most Suitable Use Analysis

Rating of Product Attributes

One of the first stages in assessing MFU is to rate the site against the evaluative criteria of the potential users. In this case, the analysis adopts a generic user profile for the major property categories, and then compares those criteria against the full dimensionality of the subject property: static, environmental and linkage attributes. As noted in this exhibit, the actual profile of the site generated in previous analysis is evaluated against the standards for the potential uses. For example, a retailer will benefit from a shallow site with street frontage for visibility, rating a rectangular site an 8 (on a 10 scale with 5=neutral, 10=excellent), while an

office user might prefer a square site to fit ideal floor plate sizes, rating it a 5 or neutral. Similarly, industrial users will enjoy other uses in the area for employment and to avoid complaints on noise and pollution rating it an 8, while other uses will downgrade an industrial zone, placing it in the 2-3 range. As noted in the exhibit, the current industrial use ranks the highest, but largely on the strength of its current use and surrounding compatible uses. Thus, part of the decision will depend on the life cycle stage of the neighborhood and whether it can or will be upgraded to uses that are more compatible with other, more intense and often profitable uses that can support higher land values.

Table XI: Rating of Site Factors/Attributes per Use

Factors/Attributes	Office	Retail	Industrial	Apartment	Hotel
Static					
Size, Layout	5	8	8	6	5
Ingress/Egress	8	7	6	8	7
Topo/Drainage	5	3	3	7	7
Subtotal	18	18	17	21	19
Environs					
Land uses	3	3	8	2	3
Quality/Value	4	4	8	4	4
Safety/Security	6	6	8	5	6
Subtotal	13	13	24	11	13
Linkages					
Public	8	5	3	7	7
Vehicular	6	6	5	6	6
Pedestrian	8	2	5	7	6
Ancillary (support)	5	3	6	8	3
Adjusted (for # vars)	20.25	12	14.25	21	16.5
Total	51.25	43	55.25	53	48.5

It should be noted that the need to adjust the linkage scores was necessitated by the fact that linkages had 4 attributes, compared to 3 for the other uses. Since the ratings were additive, they were adjusted downward by multiplying the total score by ¾ (e.g., (8+6+8+4)*.75 = 19.5). Using these raw scores, the Industrial use is the highest rated in terms of tenant suitability, followed by Office and Apartment.

Weighting of Saliency or Importance of Attributes per User Segment

In addition to rating the subject property against the standards of the user segments, more precision can be obtained by weighting the various attributes to try to replicate the importance or saliency the alternative uses would attach to factor.

Table XII: Factor Weighting for Alternative Uses

Factors/Attributes	Office	Retail	Industrial	Apartment	Hotel	Average
Static	40%	20%	30%	30%	40%	32%
Environmental	30%	30%	10%	40%	30%	28%
Linkages	30%	50%	60%	30%	30%	40%
~~Total~~	~~100%~~	~~100%~~	~~100%~~	~~100%~~	~~100%~~	~~100%~~

As noted, in Table XII, industrial users place the most importance on the linkages (60%), followed by static attributes and environmental attributes (30% and 10%, respectively).
It should be noted that the "environmental factor" focuses on the surrounding area or land uses, rather than more traditional environmental criteria. Thus, the low importance placed on environment by the industrial uses is understandable since they are much more pragmatic and less focused on their surroundings than other uses. On the other hand, apartment and other commercial uses place more importance on the neighborhoods or surrounding environs.

Once the weights have been assigned to the major factors (e.g., Static, Environmental and Linkages), the suitability of the site for various users can be recalibrated by multiplying the ratings by the weightings (note: this could be applied at the attribute level rather than factors).

Table XIII: Suitability based on Weighted Ratings

Factors/Attributes	Office	Retail	Industrial	Apartment	Hotel	Average
Static	7.2	3.6	5.1	6.3	7.6	6.0
Environmental	3.9	3.9	2.4	4.4	3.9	3.7
Linkages	6.1	6.0	8.6	6.3	5.0	6.4
Total	17.2	13.5	16.1	17.0	16.5	16.0

As noted in Table XIII, once the weightings are applied, the MSU shifts from Industrial to Office or Apartment. At this stage, the analysis can shift to more traditional H&B Use or MFU deliberations.

Highest and Best Use

Application I: Unweighted H&B Use Analysis

In this phase, the analyst rates the alternative use candidates on the traditional five feasibility criteria using a scale of 1-10. Since the Industrial Use is the current use, it is given the highest rating for being Marketable. On the other hand, the retail, apartment, hotel and office uses are something of a long shot, depending on the ability of the developer to reposition the site or over come its environs. For such uses, the decision to pursue such a use may be dependent on the ability to find an anchor tenant or to somehow establish confidence that a potential tenant(s) can be found. As noted, the current Industrial use ranks slightly behind Office and Apartment as the H&B Use due in large part to the "maximization of value" criterion.

Table XIV: Unweighted H&B Use

Criterion		Office	Retail	Industrial	Apartment	Hotel	Average
Legally Permissable		8	8	9	8	8	8.2
Physically Possible		8	8	10	8	8	8.4
Marketable		7	2	10	7	4	6
Financially Feasible		6	5	4	7	7	5.8
Maximum Value		9	4	2	7	7	5.8
Total Scores		38	27	35	37	34	34.2

Application II: Weighted Current Industrial Use

To add more precision to the H&B Use decision, weights can applied to the various criteria to reflect their relative importance to the decision. This weighting can be extracted from the market based on observation, or compiled through primary research.

Table XV: Weighted Highest & Best Use Analysis

Criterion		Office	Retail	Industrial	Apartment	Hotel	Average
Legally Permissable	10%	0.8	0.8	0.9	0.8	0.8	0.82
Physically Possible	10%	0.8	0.8	1.0	0.8	0.8	0.84
Marketable	30%	2.1	0.6	3.0	2.1	1.2	1.8
Financially Feasible	20%	1.2	1.0	0.8	1.4	1.4	1.16
Maximum Value	30%	2.7	1.2	0.6	2.1	2.1	1.74
	100%	7.6	4.4	6.3	7.2	6.3	6.36

As noted in Table XV, in this case the analyst assigns the most importance to the "marketability" and “maximization of value,” followed by the financial feasibility and the legal/physical possibilities. As indicated in the table, the current Industrial use slips further, with Office moving into first place followed by Apartment.

Application III: Attribution Analysis in H&B Use

Once the weighted (or unweighted) scores are calculated, the analyst should explore the underlying rationale behind the relative positioning of the alternative uses to identify the factors that most affected their rankings. This can be achieved by applying a form of attribution analysis, as illustrated in Table XVI. Mathematically, the attribution analysis consists of calculating the relative contribution to the final ratings from each of the criteria. For example, the Industrial use gets much of its ranking based on the strength of its Marketability, a rating associated with the fact it is the current use. On the other hand, the Office and Apartment uses are average on that criterion. However, Office and Apartment get the highest ratings from the “maximization of value” criterion which is one of the key goals of H&B Use analysis. Assuming an office developer can prelease the space or market research argues that the area is becoming more attractive to office users (e.g., urban infill, revitalization ala South Lake Union) the current Industrial use would lose further ground, especially on the weighted basis. For example, if the office rating on Marketability was raised to 9 (vs. 7 in table XV), the use would become the clear winner in the H&B Use sweepstakes.

Table XVI: Attribution Analysis

Criterion		Office	Retail	Industrial	Apartment	Hotel	Average
Legally Permissable		11%	18%	14%	11%	13%	13%
Physically Possible		11%	18%	16%	11%	13%	14%
Marketable		28%	14%	48%	29%	19%	27%
Financially Feasible		16%	23%	13%	19%	22%	19%
Maximum Value		36%	27%	10%	29%	33%	27%
		100%	100%	100%	100%	100%	100%

Sensitivity of Highest & Best Use Options

While it might make sense to pick the uses with the highest ratings, either weighted or unweighted, in reality it makes sense to subject such tests to stress analysis or to try to understand why uses rank the way they do. To that end, it is useful to look at attribution analysis, which explores the relative factors that contribute to the final ratings, either weighted or unweighted. This method, as illustrated in Table XVI, reveals the relative contribution of the individual weighted ratings for each criterion, with Industrial bolstered by Marketability, and Office, Apartment and Hotel strengthened by Maximization of Value. This is clearer when the deviations are compared to the average across uses for each category. In this way, the weighted scores can be compared to the weighted averages, so it becomes clear which ratings and criteria skew the results to the conclusion.

Most Fitting Use

Incorporating Community Values

Once the analyst has explored the "fit" of the site with potential users, the determination of Most Fitting Use can be expanded to include other constituencies ranging from the broader community to the tax base impacts. Using this broader approach, the analyst can solve for the optimal use that provides the best overall, aggregate fit among the site, users, investors, and community players. As noted in this exhibit, the community may have different preferences for the use of a particular site or district, seeking to obtain greater urban efficiencies and improve the overall harmony and quality of life it affords its residents.

Table XVII: Community Benefits/Values

Factors/Attributes	Office	Retail	Industrial	Apartment	Hotel	Average
Market						
Economic	8	6	3	8	7	6.4
Tax Base	8	6	2	7	9	6.4
Infrastructure	6	6	3	9	8	6.4
Neighborhood						
Design / Fit	5	7	2	7	7	5.6
Compatible Use / Synergy	6	5	3	9	4	5.4
Satisifies Needs	6	6	3	9	8	6.4
Total	39	36	16	49	43	36.6

As noted in Table XVIII, on an unweighted basis, the Apartment Use jumped to the top of the pack in terms of community values. As with the other alternative use analyses, it may be useful to assign weights to the various attributes. In this case, rather than applying the weights to the categories (Market and Neighborhood), the weights are assigned to the individual attributes in each category.

Table XVIII: Weighted Community Benefits

Factors/Attributes	Wgt	Office	Retail	Industrial	Apartment	Hotel	Average
Market							
Economic	15%	1.2	0.9	0.45	1.2	1.05	1.0
Tax Base	15%	1.2	0.9	0.3	1.05	1.35	1.0
Infrastructure	10%	0.6	0.6	0.3	0.9	0.8	0.6
Neighborhood							
Design / Fit	20%	1	1.4	0.4	1.4	1.4	1.1
Compatible Use / Synergy	20%	1.2	1	0.6	1.8	0.8	1.1
Satisifies Needs	20%	1.2	1.2	0.6	1.8	1.6	1.3
Total	100%	6.4	6	2.65	8.15	7	6.0

Thus, on both unweighted and weighted bases, the Most Fitting Use conclusion can shift dramatically if viewed only through the eyes of the community. In this case, Apartment and Office dominate the preferred uses, with the current Industrial use losing further ground.

Most Fitting Use: A Balanced Approach

Unlike the traditional feasibility tests and the Highest & Best Use analysis in which "maximization of value" dominates the analysis, the determination of MFU involves a more balanced approach that blends in the perspectives of the tenant (MSU), the developer/owner (H&B Use), and the community (Community Benefits). Table XIX (a) presents the aggregate scores from each phase of the analysis. As noted in Table XIX (a), the ratings for the three perspectives --MSU, H&B Use, and Community Benefits-- are inconsistent due to differences in the number of factors applied to each category.

Table XIX (a): Aggregate Weighted Ratings/Perspective

Criteria		Office	Retail	Industrial	Apartment	Hotel	Average
Most Suitable Use		17.2	13.5	16.1	17.0	16.5	16.0
Highest & Best Use		7.6	4.4	6.3	7.2	6.3	6.4
Community Benefits		6.4	6	2.65	8.15	7	6.0

To adjust for differences in scaling and attributes, the ratings can be standardized by dividing them by the average for each category as presented in Table XVII (b). Mathematically, the scores are the observed rating for the use in each category, divided by the average for the category.

Table XIX (b) Standardized Ratings/Perspective

Criteria		Office	Retail	Industrial	Apartment	Hotel
Most Suitable Use		1.1	-2.5	0.0	1.0	0.4
Highest & Best Use		1.2	-2.0	-0.1	0.8	-0.1
Community Benefits		0.4	0.0	-3.4	2.1	1.0
Average Ratings		2.7	-4.5	-3.4	3.9	1.3

The final stage of the MFU analysis may incorporate weighting the ratings from the respective perspectives. As noted in the table, the Apartment use becomes the clear winner, supplanting the Office use and leaving the current Industrial use in the dust.

Table XIX (c): Weighted Standardized Ratings

Criteria		Office	Retail	Industrial	Apartment	Hotel
Most Suitable Use	40%	0.5	-1.0	0.0	0.4	0.2
Highest & Best Use	30%	0.4	-0.6	0.0	0.3	0.0
Community Benefits	40%	0.1	0.0	-1.4	0.8	0.4
Average Weighted Ratings		1.0	-1.6	-1.4	1.5	0.5

Determination of Final Use Decision

Up to this point, the analysis of MSU, H&B Use, and MFU have been conducted on an aggregate basis, helping provide general guidance among alternative scenarios. Once the analyst has progressed to this stage, the top uses can be accepted and subjected to more detailed scrutiny in the form of more advanced design, market analysis, and financial analysis including Discounted Cash Flows. Depending on the strength of the conclusion, the use decision may be revisited, although the analysis can move forward to more advanced stages of design/analysis. While the detailed analysis presented in this primer may seem extensive, in reality the calculations are relatively straightforward and the exercise can force the analyst to take an objective look at alternative scenarios with relatively limited demands on resources and time.