

Town of Dover Community Center

Building Committee

- Choosing by Advantages
- Relative Cost Comparison

Jan 18, 2021

Building a vision Building consensus

1. Schedule Update -5 mins
2. CBA Process Example -30 min
3. Dover Evaluation Factors -30 min
4. Relative Costs- 15 min
5. BC internal – FAQ

Schedule Overview: Design Steps

Schedule

Dec. 1	Public Forum – Program Size
Dec. 7	BC Selects Alternates (4)
Dec. 14	BC Reviews Alts R-1 & N3.1
Dec. 22	BC Reviews Alts R-3 & N2
Dec. 23	Send Cost Estimate Package
Jan. 11	BC Review Plans / Elevations
Jan. 18	BC Reviews CBA Evaluation Matrix
Jan. 18	Initial Cost Estimates
Jan. 25	BC Confirms CBA, Public Mtg Draft
Feb 3	Public Mtg based on CBA
Feb 8 th	Based on CBA and Public Feedback, BC Selects 2 Alternates for Schematic

FEASIBILITY

Full Layout/ Elevations

Evaluation: Alternatives

Selection of (2) preferred alternatives using CBA (includes sustainability)

Options

- New Construction (2)
- Renovation/Addition (2)

SCHEMATIC

Schematic Design

Evaluation: Solutions

Schematic Design/ Site Design
Accurate SD Cost Estimates
Recommendation for Town Mtg.

Options

- New Construction (1)
- Renovation/Addition (1)



CBA Evaluation Example

Choosing-By-Advantages History and Uses

SOUND DECISION MAKING METHODS

Sound decision making methods include the following elements:

- Clearly define the problem you're trying to resolve
- Include key, reliable facts/data
- Include key viewpoints (decision makers + stakeholders)
- Avoid double/multiple counting
- Achieve consensus that the "correct" decision was reached

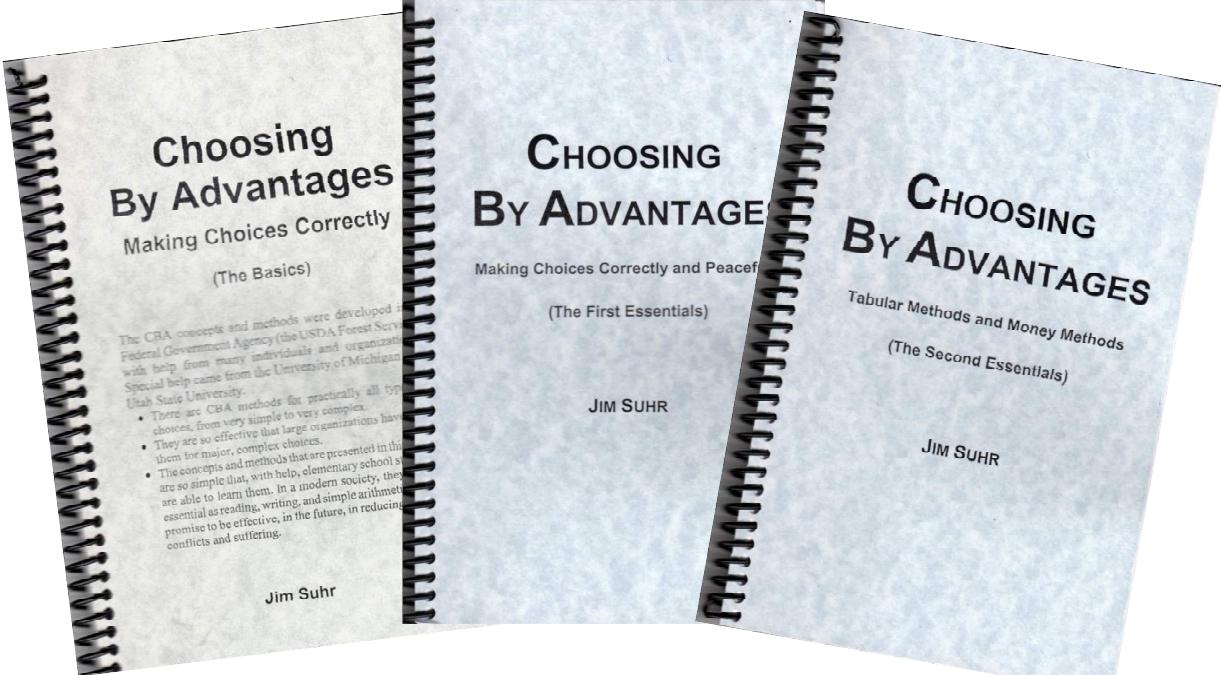
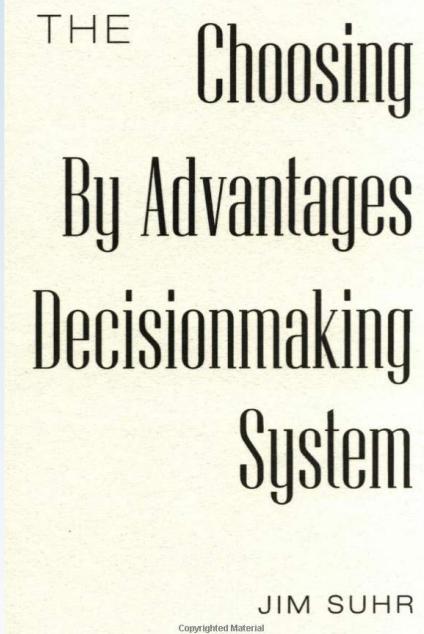


CHOOSING-BY-ADVANTAGES

An Introduction

“Decisions must be made based on the importance of advantages”

– Jim Suhr



Courtesy of Massport – Capital Programs & Environmental Affairs

CHOOSING-BY-ADVANTAGES

An Introduction

- Lean process to help facilitate decision making
- Focuses on Relative Advantages
- Identifies multiple factors by which various options / alternatives can be compared
- Attempts to base preferred alternative / option on objectively documented facts

Factor	Criterion	Option 1	Option 2A	Option 2B
Cost	Cost per square foot is more advantage to less cost.	\$1,000,000 TOTAL \$1,000,000 TOTAL Adv: 20,000 SF Adv: 20,000 SF	\$2,000,000 TOTAL \$2,000,000 TOTAL Adv: 30,000 SF Adv: 30,000 SF	\$1,500,000 TOTAL \$1,500,000 TOTAL Adv: 25,000 SF Adv: 25,000 SF
Schedule	Shorter is more desirable advantage	APPROX. 5 MONTHS Adv: 3 months Imp: 100	APPROX. 6.5 MONTHS Adv: 2 months Imp: 50	APPROX. 3 MONTHS Adv: 3.5 months Imp: 100
Construction Logistics/Phasing	Less construction phasing complexity is more desirable advantage	Work zone occurs within existing tower footprint and envelope Adv: Most complex code Imp: 100	Work zone occurs within existing tower footprint and envelope, but larger area than 3 and 1 Adv: More complex code Imp: 85	Work zone occurs within existing tower footprint and envelope, but parking-area of garage, but larger area than 3 Adv: More complex code Imp: 80
Permitting Code	Less code complexity is more desirable advantage	Minimal code impact Adv: Most complex code Imp: 80	Slightly more complex, due to larger project size Adv: Average complexity Imp: 90	Minimal code impact, but larger area than 1 Adv: More complex code Imp: 70
Feasibility & Technical Complexity	Less technical complexity is more desirable advantage	Minimal Adv: Most technically simple Imp: 60	Basic build-out of tower walkway structure Adv: More technically complex Imp: 50	Basic build-out of tower walkway structure, larger footprint than 2A Adv: Technically simplest Imp: 40
Impacts to Tenants	Less impact to tenants is more desirable advantage	Relocation from L17 to Temporary Trailers Adv: N/A Imp: 0	Option constructs swing space without relocating FAAs, but still requires modifications to 12B and 19B floors Adv: Marginally less impact to Imp: 20	Option constructs swing space without relocating FAAs Adv: Least impact to Imp: 65
Potential for Program Growth*	Higher square footage is more desirable advantage	Meets baseline condition of reification Adv: N/A Imp: 0	Add office and lobby floor area, 1350 SF Adv: Some potential for program growth Imp: 30	Adds office floor area, 750 SF Adv: Same potential for program growth Imp: 25
Unknowns/Risk	Less risk/uncertainty is more desirable advantage	Minimal Adv: Least risk involved Imp: 25	Requires build-out of tower concrete walkways Adv: Slightly less risk involved Imp: 25	Requires build-out of tower concrete walkways, additional office space Adv: Marginally less risk involved Imp: 10
MOST PREFERRED ATTRIBUTE		Option 1 Total importance of Advantages Imp: 365	Option 2A Total importance of Advantages Imp: 310	Option 2B Total importance of Advantages Imp: 390
LEAST PREFERRED ATTRIBUTE				
NEUTRAL/TRANSACTIONAL ATTRIBUTE				

1A	2A	2B	3	4A	4B
5 COST	6	4	5	2	3
5 SCHEDULE	6	4	6	2	3
3 LOGISTICS/PHASING	5	5	6	1	3
4 PERMITTING/CODE	6	3	5	4	2
3 FEASIBILITY (TECHNICAL COMPLEXITY)	6	5	4	1	3
3 IMPACTS TO TENANTS	1	2	6	2	6
2 PROGRAM GROWTH	1	3	3	4	5
1 UNKNOWN	6	3	2	1	2

*Beyond 600 SF (baseline CoS)

CHOOSING-BY-ADVANTAGES

When to Use?

- Major decisions
- Decisions with multiple alternatives (options)
- Decisions that are complex
- Decisions that have multiple stakeholders
- Decisions where the “thinking process” helps

Choosing-By-Advantages Process

CBA LANGUAGE

Alternative: Possible decisions, things, plans from which one is to be chosen

Factor: Element or component of a decision

Criteria: Rule or guideline for judging factors (musts and wants)

Attribute: Characteristic of one factor

Advantage: Difference between the attributes of two or more attributes

Paramount Advantage: Most important advantage among all

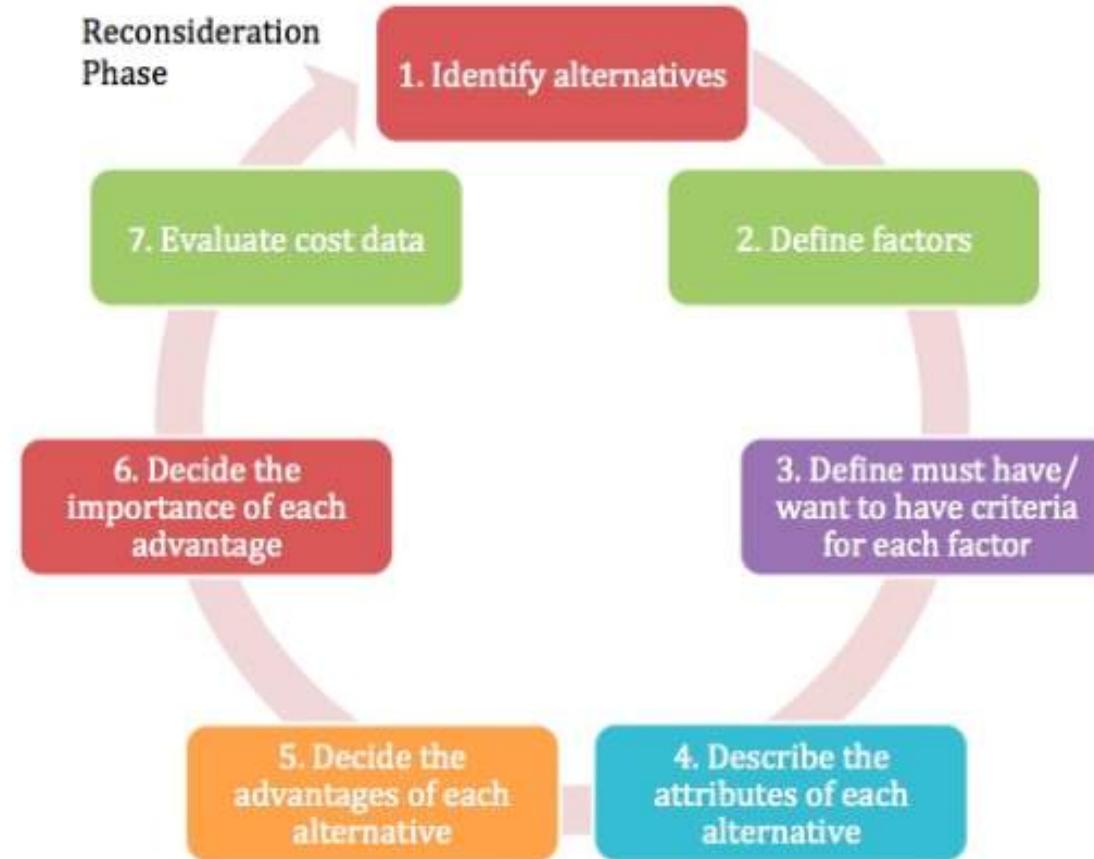
Importance: Stakeholders' vision of value of an advantage

Anchoring Principle: Use paramount advantage as an anchoring point to weigh other advantages

CBA MATRIX

Factors (Criteria)	Alternative 1		Alternative 2		Alternative 3	
Factor A (Criteria)	Attribute		Attribute		Attribute	
Factor B (Criteria)	Advantage	Imp	Advantage	Imp	Advantage	Imp
Factor C (Criteria)	Attribute		Attribute		Attribute	
Factor C (Criteria)	Advantage	Imp	Advantage	Imp	Advantage	Imp
Total Importance		Total Imp		Total Imp		Total Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

CBA PROCESS



1 – IDENTIFY ALTERNATIVES

Step 1
Identify
Alternatives
(options) that
will be
compared

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Factor A (Criteria)	Attribute		Attribute		Attribute	
Factor B (Criteria)	Advantage	Imp	Advantage	Imp	Advantage	Imp
Factor C (Criteria)	Attribute		Attribute		Attribute	
Total Importance		Total Imp		Total Imp		Total Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

Step 2
Define Factors
(components) for
decision making

2 – DEFINE FACTORS

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight (Criteria)	Attribute		Attribute		Attribute	
Stability (Criteria)	Advantage	Imp	Advantage	Imp	Advantage	Imp
Durability (Criteria)	Attribute		Attribute		Attribute	
total Importance	Advantage	Imp	Advantage	Imp	Advantage	Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

3 – DEFINE CRITERIA FOR EACH FACTOR

Step 3
Define
Criteria (rules
and
guidelines) for
judging
factors

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight	Attribute		Attribute		Attribute	
Lighter is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
Stability	Attribute		Attribute		Attribute	
Most stable is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
Durability	Attribute		Attribute		Attribute	
Most durable is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
total Importance		Total Imp		Total Imp		Total Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

4 – DEFINE ATTRIBUTES FOR EACH ALTERNATIVE

Step 4-1
Define Attributes
(characteristics) for
each
Factor based
on defined Criteria

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight	300 lb		150 lb		50 lb	
Lighter is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
Stability	Stable		Stable		Most Stable	
Most stable is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
Durability	Most Durable		Fairly Durable		Durable	
Most durable is better	Advantage	Imp	Advantage	Imp	Advantage	Imp
Total Importance		Total Imp		Total Imp		Total Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

Step 5-1

List the Advantage for each Factor compared to least preferred

Note: There is no advantage to least preferred Attribute

Step 5-2

Highlight most preferred Advantage for each Factor

5 – DECIDE ON ADVANTAGES FOR EACH FACTOR

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight	300 lb		150 lb		50 lb	
Lighter is better	-	Imp	150 lb	Imp	250 lb	Imp
Stability	Stable		Stable		Most Stable	
Most stable is better	-	Imp	-	Imp	Best	Imp
Durability	Most Durable		Fairly Durable		Durable	
Most durable is better	Best	Imp	-	Imp	Good	Imp
Total Importance		Total Imp		Total Imp		Total Imp
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

6 – DECIDE ON IMPORTANCE OF EACH FACTOR

Step 6-1

Define the Paramount Advantage (the most important advantage of all)

Step 6-2

Assign “0” to the least preferred Attributes (Underlined)

Factors (Criteria)	Concrete Canoe	Wooden Canoe	Fiberglass Canoe
Weight	<u>300 lb</u>	150 lb	50 lb
Lighter is better	-	0	150 lb Imp 250 lb Imp
Stability	<u>Stable</u>	<u>Stable</u>	<u>Most Stable</u>
Most stable is better	-	0	0 Best 100
Durability	Most Durable	<u>Fairly Durable</u>	Durable
Most durable is better	Best	Imp	0 Good Imp
Total Importance	Total Imp	Total Imp	Total Imp Total Imp
Capital Cost	\$\$\$	\$\$\$	\$\$\$

6 – DECIDE ON IMPORTANCE OF EACH FACTOR

Step 6-3 & 6-4
Decide on
Importance of
each Factor's
Advantage
against the
Paramount
Advantage

Step 6-5
Sum for
Total Importance
of each
Alternative

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight	<u>300 lb</u>		150 lb		50 lb	
Lighter is better	-	0	150 lb	30	250 lb	60
Stability	<u>Stable</u>		<u>Stable</u>		Most Stable	
Most stable is better	-	0	-	0	Best	100
Durability	Most Durable		Fairly Durable		Durable	
Most durable is better	Best	80	-	0	Good	50
Total Importance		80		30		210
Capital Cost	\$\$\$		\$\$\$		\$\$\$	

7 – EVALUATE COST DATA

Step 7-1
Add Cost Data

Step 7-2
Evaluate Cost
Data

Factors (Criteria)	Concrete Canoe		Wooden Canoe		Fiberglass Canoe	
Weight	<u>300 lb</u>		150 lb		50 lb	
Lighter is better	-	0	150 lb	30	250 lb	60
Stability	<u>Stable</u>		<u>Stable</u>		Most Stable	
Most stable is better	-	0	-	0	Best	100
Durability	Most Durable		<u>Fairly Durable</u>		Durable	
Most durable is better	Best	80	-	0	Good	50
Total Importance		80		30		210
Capital Cost	\$2000		\$3000		\$1000	

Recommend

CHOOSING-BY-ADVANTAGES OOPS

What could go wrong?

- Not considering ALL alternatives first
- Not representing ALL stakeholder factors
- Not having appropriate stakeholders in the session
- Not anchoring with data
- Letting “strong” voices control the direction
- Not arguing about the rankings/weighting – creative tension is good
- Double counting costs in the factors



Dover Evaluation Factors

Choosing by Advantages Factors & Criterion

Most Important Advantage Paramount Advantage

Feasibility Study - Selecting 1 New and 1 Renovation Alternatives		Alternatives: New Construction				Alternatives: Renovation of Existing Building(s)			
		N2 - New Split Level		N3.1 New - Two Story		R1 - Renovation Vertical Lobby		R3 - Renovation Save 1910	
General									
1	Universal Design	Attrib.: Criterion	1 stair/1 ramp, no stairwell, no elevator Fewest level changes with stairs, ramps & elevators	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: 1 stair/1 ramp, 2 switchback stairs, 1 elevator	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: 1 switchback stairwell, 1 triple run stair, 1 elevator Least Preferred
1	Fewest level changes with stairs, ramps & elevators	Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: 1 stair/1 ramp, 2 switchback stairs, 1 elevator	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: 1 stair/1 ramp, 2 switchback stairs, 1 elevator
Functionality									
2	Program Adherence to Space Opt 3	Attrib.: Advant.: Better	New construction allows best match to program	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: some programs oversized with available space Least Preferred	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Mostly right sized (exception meeting space)
2	Matches desired program requirements & right sizing	Attrib.: Advant.: Best	CoA near Community Room, One level so no overhead noises, Parks & Rec next to entry	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: CoA separate level from Community Room, Some overhead noise, Parks & Rec far from entry Least Preferred	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: CoA far from Community Room, no overhead noise, Parks & Rec next to entry
3	Advantageous Adjacencies	Attrib.: Advant.: Best	CoA near Community Room, Good Separation of Noisy Activities, Parks & Rec near entrance	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Footprint is least compact and leaves little room to the South for expansion	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Footprint is compact but orientation leaves little room to the South for expansion, can expand to the east
4	Compactness / Optimized for Expansion	Attrib.: Advant.: Good	Footprint is least compact and leaves little room to the South for expansion	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Footprint is compact but orientation leaves little room to the South for expansion	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Footprint is very compact and leaves room to the South for expansion
4	The most compact building is best, most room for expansion is best	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Medium-sized forecourt and limited view of Entry	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Large Forecourt and good view of Entry
5	Relation of entry and drop-off / Accessible parking	Attrib.: Advant.: Good	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Advant.: Best	Attrib.: Medium-sized forecourt and limited view of Entry Least Preferred	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Large Forecourt and good view of Entry
5	Largest forecourt & best view to main entrance	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Central Location separate from main parks & rec offices (same level)	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Central Location separate from main parks & rec offices (2nd floor)
6	Visual Control of entry (ies)	Attrib.: Advant.: Better	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Good	Attrib.: No Central Location and separate from main parks & rec offices (lower level) Least Preferred	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Central Location next to main parks & rec offices
6	Central control point nearest to Parks & Rec Offices	Attrib.: Advant.: Better	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Best	Attrib.: Largest footprint of building, direct access to outdoor spaces from community room and CoA	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Smaller footprint of building, direct access to outdoor spaces from community room and CoA Least Preferred
7	Programmed outdoor space	Attrib.: Advant.: Good	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Advant.: Best	Attrib.: Largest footprint of building, direct access to outdoor spaces from community room and CoA	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Smaller footprint of building, no direct access to outdoor spaces from community room, CoA no direct access to outside
7	Size of building footprint (smaller better) and direct connection to outdoors from CoA & Community Room	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: IMP.	Attrib.: Advant.: IMP.	Attrib.: Advant.: Good	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Advant.: Good
Experiential (user experience)									
8	Creates heart of community	Attrib.: Advant.: Best	Attrib.: one level and one heart	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: three levels and three hearts Least Preferred	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: two levels and two hearts
8	Visual connection between welcome area (heart) and other public spaces (fewer hearts & fewer levels are better)	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Good ratio perimeter to program spaces - all new window openings	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Good ratio perimeter to program spaces - more spaces on 2nd floor (good existing window size)
9	Daylighting, ventilation & connection to outdoors	Attrib.: Advant.: Better	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Best	Attrib.: Good ratio perimeter to program spaces - all new window openings	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Good ratio perimeter to program spaces - combination exists/ new, but coal has limited windows Least Preferred
9	Largest ratio of perimeter to program space with windows & largest size of windows	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: Best	IMP.: Advant.: IMP.	Attrib.: Advant.: Good	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Good
Community									
10	Town Center	Attrib.: Advant.: Good	Low pancake massing, unlike 2 story construction of other buildings in Town Center, engages Springdale Ave.	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: 2 Story responds to Town House and saves 1910 building, does not engage Springdale Ave.	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: 2 story massing and saves historic 1910 building relates well to Town House and Town Center, engages Springdale Ave.
10	Building Massing (height) Consistent with Town Center, Orientation engages Springdale Ave.	Attrib.: Advant.: Least Preferred	Attrib.: Advant.: IMP.	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Advant.: Good	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Good
Sustainability									
11	Potential SF Roof Area Available for PV's	Attrib.: Advant.: Best	Attrib.: 16,353 sf	Attrib.: 11,500 sf	Attrib.: Advant.: Good	Attrib.: 2,507 sf	Attrib.: 8,212 sf	Attrib.: Advant.: Good	Attrib.: Least Preferred sf more than least preferred
11	Largest SF is Better	Attrib.: Advant.: Best	Attrib.: Best: 13,846 sf more than least preferred	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Elevator optional, COA/ Kitch/ Comm Room/ Meeting & Flex are contiguous	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Elevator required, COA on different level from Kitch/ Comm Room/ Meeting & Flex
12	Resiliency: Co-location of shelter spaces	Attrib.: Advant.: Best	Attrib.: No elevator required, COA/ Kitch/ Comm Room/ Meeting & Flex are contiguous	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Elevator optional, COA next to Meeting, but separate from Kitch/ Comm Room (Flex upstairs)	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Elevator optional, COA next to Meeting, but separate from Kitch/ Comm Room (Flex upstairs)
12	Adjacency of COA suite, Community Room, Kitchen, Meeting and Flex Rooms to run efficiently	Attrib.: Advant.: Best	Attrib.: Advant.: IMP.	Attrib.: Advant.: Better	IMP.: Advant.: IMP.	Attrib.: Advant.: Good	Attrib.: Advant.: Good	IMP.: Advant.: IMP.	Attrib.: Advant.: Good
Total Importance of Advantages (IoAs)		Total IOA 0		Total IOA 0		Total IOA 0		Total IOA 0	

Choosing by Advantages Factors & Criterion



Feasibility Study - Selecting 1 New and 1 Renovation Alternatives

Functionality

2	Factor	Program Adherence to Space Opt 3
	Criterion	Matches desired program requirements & right sizing
3	Factor	Advantageous Adjacencies
	Criterion	Most qualities: CoA near Community Room, Good Separation of Noisy Activities, Parks & Rec near entrance
4	Factor	Compactness / Optimized for Expansion
	Criterion	The most compact building is best, most room for expansion is best
5	Factor	Relation of entry and drop-off / Accessible parking
	Criterion	Largest forecourt & best view to main entrance
6	Factor	Visual Control of entry (ies)
	Criterion	Central control point nearest to Parks & Rec Offices
7	Factor	Programmed outdoor space
	Criterion	Size of building footprint (smaller better) and direct connection to outdoors from CoA & Community Room

Alternatives: New Construction

N2 - New Split Level

N3.1 New - Two Story

Attrib.:	New construction allows best match to program		Attrib.:	New construction allows best match to program	
Advant.:	Better	IMP.	Advant.:	Better	IMP.
Attrib.:	CoA near Community Room, One level so no overhead noises, Parks & Rec next to entry	Attrib.:	CoA near Community Room, Some overhead noise, Parks & Rec away from entries	Attrib.:	
Advant.:	Best	IMP.	Advant.:	Good	IMP.
Attrib.:	Footprint is least compact and leaves little room to the South for expansion		Attrib.:	Footprint is most compact and leaves most room to the South for expansion	
Advant.:	Good	IMP.	Advant.:	Best	IMP.
Attrib.:	Medium-sized forecourt and limited view of Entry		Attrib.:	Large forecourt and clear view of Entry	
Advant.:	Good	IMP.	Advant.:	Best	IMP.
Attrib.:	Central Location separate from main parks & rec offices (same level)		Attrib.:	Central Location separate from main parks & rec offices (2nd floor)	
Advant.:	Better	IMP.	Advant.:	Good	IMP.
Attrib.:	Largest footprint of building, direct access to outdoor spaces from community room and CoA		Attrib.:	Smaller footprint of building, direct access to outdoor spaces from community room and CoA	
Advant.:	Good	IMP.	Advant.:	Best	IMP.

Alternatives: Renovation of Existing Building(s)

R1 - Renovation Vertical Lobby

R3 - Renovation Save 1910

Attrib.:	<u>some programs oversized with available space</u> Least Preferred		Attrib.:	Mostly right sized (exception meeting space)	
Advant.:		IMP.	Advant.:	Good	IMP.
Attrib.:	CoA separate level from Community Room, <u>Some overhead noise, Parks & Rec far from entry</u> Least Preferred	Attrib.:	CoA far from Community Room, no overhead noise, Parks & Rec next to entry	Attrib.:	
Advant.:		IMP.	Advant.:	Better	IMP.
Attrib.:	<u>Footprint is compact but orientation leaves little room to the South for expansion, can expand to the east</u>		Attrib.:	Footprint is very compact and leaves room to the South for expansion	
Advant.:		IMP.	Advant.:	Better	IMP.
Attrib.:	<u>Smallest forecourt but clear view of Entry</u> Least Preferred		Attrib.:	Large Forecourt and good view of Entry	
Advant.:		IMP.	Advant.:	Better	IMP.
Attrib.:	<u>No Central Location and separate from main parks & rec offices (lower level)</u> Least Preferred		Attrib.:	Central Location next to main parks & rec offices	
Advant.:		IMP.	Advant.:	Best	IMP.
Attrib.:	<u>Smaller footprint of building, no direct access to outdoor spaces from community room or CoA</u> Least Preferred		Attrib.:	Smaller footprint of building, direct access to outdoor spaces from community room, CoA no direct access to outside	
Advant.:		IMP.	Advant.:	Better	IMP.

Criteria for Success – For Evaluation / Choosing by Advantages

General

Prerequisite Project is within the Town's fixed budget of approximately \$13M, new or renovation

Prerequisite The building and site comply with all the Town bylaws and Town master plan goals

Universal Design Provides full A.D.A. and MAAB compliance, and pursue universal design principles

Schematic Design Maximizes grant opportunities

Cost is applied
at end of CBA
process

Functionality

Adherence to Space Option 3 Well-designed with efficient layout and maximal percentage of space (area) with **flexible uses**

Advantageous adjacencies Well-designed with **efficient layout** and maximal percentage of space (area) with flexible uses

Prerequisite Provides for multi-generational programming (babies to seniors)

Prerequisite Provides offices for Council On Aging and Park & Recreation

Compactness/Optimized for expansion Project meets the present service needs of the community and those of the next 20 years

Relation of entry to drop-off / parking Provides a clearly identifiable and universally accessible entrance

Visual control of entry(ies) Provides a *Welcome Desk* at main entry for central control

Prerequisite Provides efficiency and ease of workflow for the staff

Programmed outdoor space Creates programmable exterior space



Criteria for Success

Experiential (user experience)

Prerequisite	Creates a warm, safe, secure, and welcoming atmosphere for residents and staff)
Creates heart of community	Creates an open environment that encourages residents to meet, network and work
Schematic Design	Has aesthetically pleasing architecture: rooms feel light; spacious; and connected to the outdoors
Daylighting, ventilation & connection to outdoors	Healthy interior environment (including foreseeable pandemic conditions) <i>using Well/ LEED framework</i> ; mitigates airborne pollutants; maximizes operable windows (for ventilation); maximizes comfortable daylighting, uses healthy building materials, <i>connections to outdoors</i>

Community

Addresses Town Center	Building and site are architecturally harmonious with the local architecture and will be described as architecturally charming and graceful, vibrant, appealing, and appropriate for Dover
Schematic Design	Building and site inspires community pride
Schematic Design	Building and site development encourage community engagement and ongoing involvement, as focal point of community life
Prerequisite	Serves the whole, multi-generational community
Prerequisite	Maximize stakeholder participation in study process

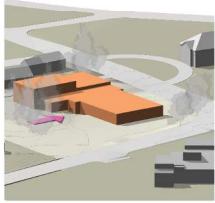
Criteria for Success

Sustainability

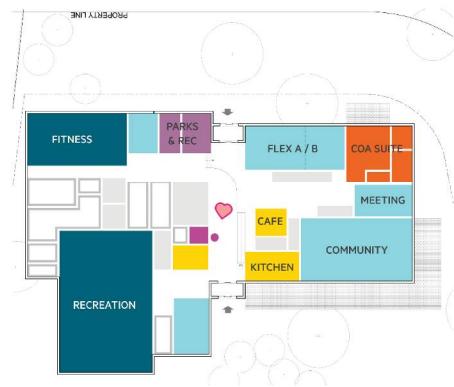
Feasibility	Energy efficient, environmentally friendly building with sustainable energy systems with an ease to operate
Schematic Design	Minimum 20% energy savings over existing building to support Dover's MA commitment as a Green Community
Usable area for PV	Solar ready design, while respecting mature trees
Schematic Design	Utilize durable and easily maintainable building materials
Co-location of shelter spaces	Resiliency: robust infrastructure to support the community in weather event such as power-loss or heat-wave. Clustering of shelter spaces: Community, Kitchen, Flex Spaces, Meeting and COA suite

N2: New Split Level

Characteristics

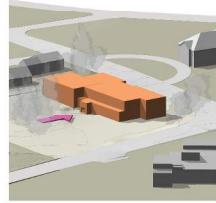


Floor Plan

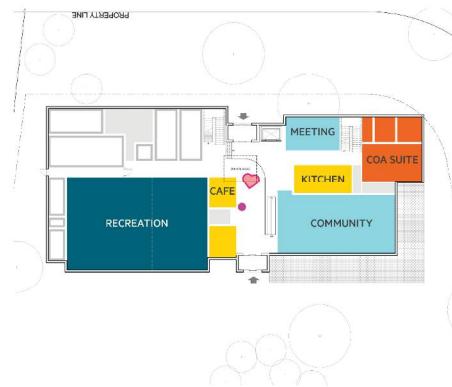


N3.1: New Two Story

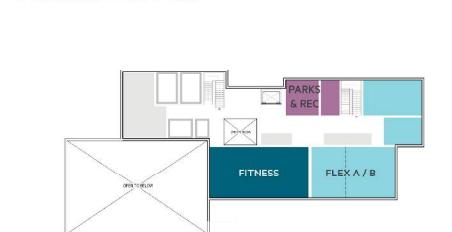
Characteristics



First Floor Plan



Second Floor Plan



R1: Renovation - Vertical Lobby

Characteristics



First Floor Plan

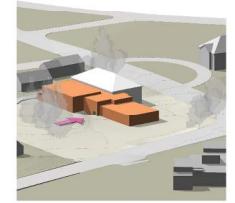


Second Floor Plan

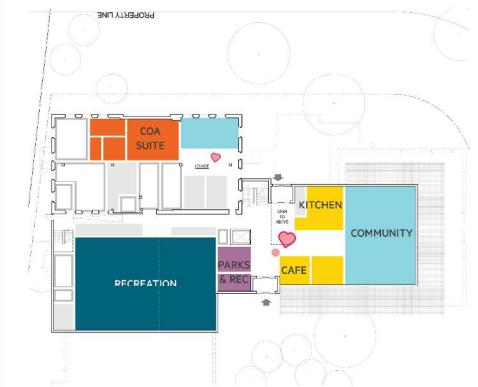


R3: Renovation - Save 1910

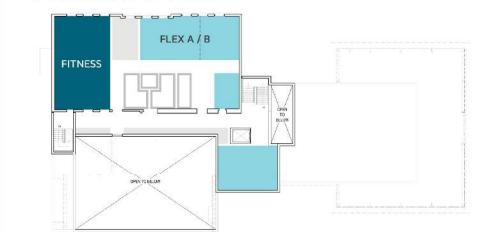
Characteristics



First Floor Plan



Second Floor Plan



New: Single Story (N2)



COMPACTNESS / OPTIMIZED FOR EXPANSION

Footprint is least compact and leaves little room to the South for expansion



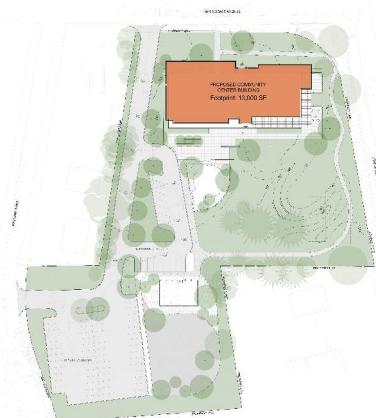
Footprint: 18,200 sf

New: Two Story (N3.1)



COMPACTNESS / OPTIMIZED FOR EXPANSION

Footprint is most compact and leaves most room to the South for expansion



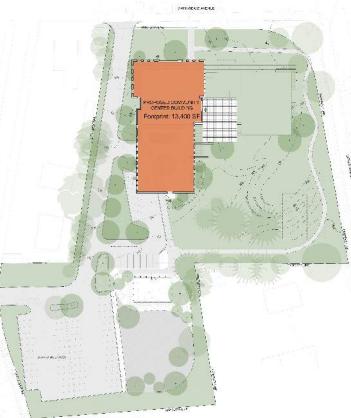
Footprint: 13,000 sf

Reno: Save the Most (R1)



COMPACTNESS / OPTIMIZED FOR EXPANSION

Footprint is compact and but orientation leaves little room to the South for expansion, can expand to the East.



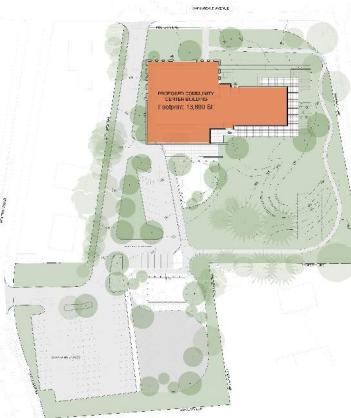
Footprint: 13,400 sf

Reno: Save the 1910 (R3)



COMPACTNESS / OPTIMIZED FOR EXPANSION

Footprint is very compact and leaves room to the South for expansion



Footprint: 13,800 sf

New: Single Story (N2)



ADVANTAGEOUS ADJACENCIES

COA near Community Room, One level so no overhead noises, Parks & Rec next to entry

Floor Plan



New: Two Story (N3.1)



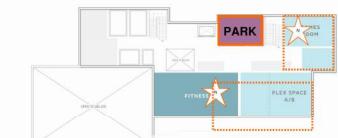
ADVANTAGEOUS ADJACENCIES

COA near Community Room, Some overhead noise, Parks & Rec away from entries

First Floor Plan



Second Floor Plan



Reno: Save the Most (R1)



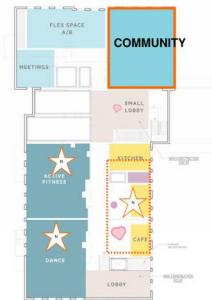
ADVANTAGEOUS ADJACENCIES

COA separate level from Community Room, Some overhead noise, Parks & Rec far from entry

First Floor Plan



Second Floor Plan



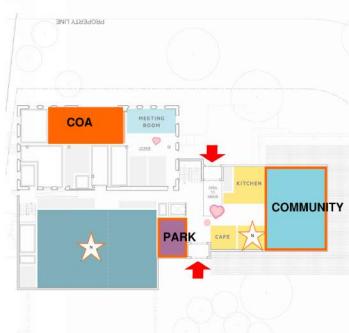
Reno: Save the 1910 (R3)



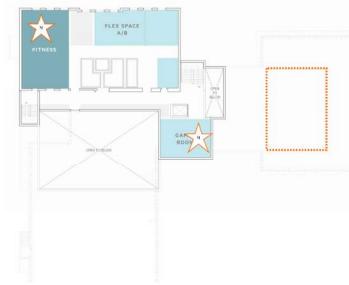
ADVANTAGEOUS ADJACENCIES

COA far from Community Room, no overhead noise, Parks & Rec next to entry

First Floor Plan



Second Floor Plan



New: Single Story (N2)

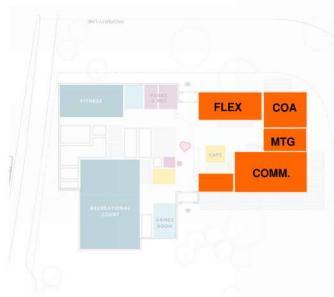
Single Story (N2)



RESILIENCY: CO-LOCATION OF SHELTER SPACES

No elevator required
COA/ Kitchen/ Community Room/ Meeting & Flex are contiguous

Floor Plan



New: Two Story (N3.1)

Two Story (N3.1)



RESILIENCY: CO-LOCATION OF SHELTER SPACES

Elevator optional
COA/ Kitchen/ Community Room/ Meeting are contiguous (Flex is upstairs)

First Floor Plan



Second Floor Plan



Reno: Save the Most (R1)

Save the Most (R1)



RESILIENCY: CO-LOCATION OF SHELTER SPACES

Elevator required
COA on different level from Kitchen/ Community Room/ Meeting & Flex

First Floor Plan



Second Floor Plan



Reno: Save the 1910 (R3)

Save the 1910 (R3)



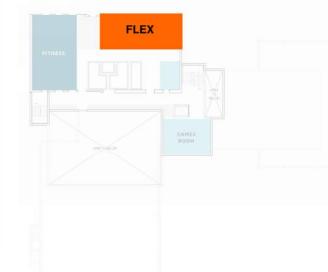
RESILIENCY: CO-LOCATION OF SHELTER SPACES

Elevator optional
COA next to Meeting, but separate from Kitchen/ Community Room (Flex upstairs)

First Floor Plan



Second Floor Plan





Relative Costs

Cost Estimate Key Variables*

- This is a “high level” estimate based on similar public projects in MA, as the drawings are only conceptual.
- The values for each option are best understood relative to the others, as the Designer will reduce the costs for the selected options during Schematic Design.
- The baseline for this study is the \$13M project costs established at Nov. 2019 Town Meeting and this includes all costs for the Town (construction, engineering, furniture/equipment, contingency)
- For public projects in MA, construction costs are usually 74% of the project costs, which is equal to \$9.6M
- The estimator was able to do more detailed quantity take-offs for the New Construction options as the amount of interior renovation work is only generally shown this stage
- Site costs are particularly high for this project as it has unusual requirements like a septic system (~\$150K) and a fire protection water storage system (~ \$300K)
- Hazardous waste disposal is a constant value for all options
- The renovation options have higher demolition costs, reflecting the higher costs of selective demolition (vs. knocking the building down)
- The additions on R1 are interior to the 1931 building and between the two buildings, either way this will require shoring of the existing foundations. This cost is reflected in the higher \$425/sf cost.

* This slide was added post-meeting to record spoken commentary that introduced the Cost Estimate Summary

Cost Estimate Summary

NEW CONSTRUCTION

Single Story (N2)	
Reno Area	
New Const.	18,200 sf
\$ 6,700,786	\$368 /sf
\$ 298,545	
\$ 398,060	
\$ 2,128,078	
\$ 9,525,469	
\$ 3,090,274	32%
\$ 12,615,743	\$693 /sf
\$ 4,468,076	
\$ 17,083,819	

Two Story (N3.1)	
Reno Area	
New Const.	19,200 sf
\$ 7,161,747	\$373 /sf
\$ 298,545	
\$ 398,060	
\$ 2,128,078	
\$ 9,986,430	
\$ 3,239,820	32%
\$ 13,226,250	\$689 /sf
\$ 4,684,297	
\$ 17,910,547	

RENOVATION

Save the Most (R1)	
Reno Area	19,767 sf
New Const.	6,233 sf
\$ 4,555,009	\$230 /sf
\$ 2,649,025	\$425 /sf
\$ 548,302	
\$ 398,060	
\$ 1,991,231	
\$ 10,141,627	
\$ 3,290,169	32%
\$ 13,431,796	\$517 /sf
\$ 4,757,094	
\$ 18,188,890	

Save 1910 (R3)	
Reno Area	9,022 sf
New Const.	10,778 sf
\$ 1,948,493	\$216 /sf
\$ 4,041,750	\$375 /sf
\$ 445,757	
\$ 398,060	
\$ 1,991,231	
\$ 8,825,291	
\$ 2,863,120	32%
\$ 11,688,411	\$590 /sf
\$ 4,139,646	
\$ 15,828,057	

* Construction Budget based on 74% of Total Project Budget of \$13,000,000

Cost Estimate Summary

NEW CONSTRUCTION				RENOVATION				
Single Story		Two Story		Save the Most		Save 1910		
Reno Area		Reno Area		Reno Area	19,767 sf	Reno Area	9,022 sf	
New Const.	18,200 sf	New Const.	19,200 sf	New Const.	6,233 sf	New Const.	10,778 sf	
Renovation				\$ 4,555,009	\$230.44/sf	\$ 1,948,493	\$215.97/sf	
Addition	\$ 6,700,786	\$ 368.18/sf	\$ 7,161,747	\$ 373.01	\$ 2,649,025	\$425.00/sf	\$ 4,041,750	\$375.00/sf
Bldg/Selective Demo	\$ 298,545		\$ 298,545		\$ 548,302		\$ 445,757	
Hazardous Waste	\$ 398,060		\$ 398,060		\$ 398,060		\$ 398,060	
Sitework	\$ 2,128,078		\$ 2,128,078		\$ 1,991,231		\$ 1,991,231	
Direct Costs	\$ 9,525,469		\$ 9,986,430		\$ 10,141,627		\$ 8,825,291	
Mark-up/Overhead	\$ 3,090,274	32%	\$ 3,239,820	32%	\$ 3,290,169	32%	\$ 2,863,120	32%
Total Construction	\$ 12,615,743		\$ 13,226,250		\$ 13,431,796		\$ 11,688,411	
Budget \$9,620,000*	\$693/ sf		\$689/ sf		\$517/ sf		\$590/ sf	

* Construction Budget based on 74% of Total Project Budget of \$13,000,000





Other BC Business