

City of Topeka Public Safety Center Feasibility Study Presentation



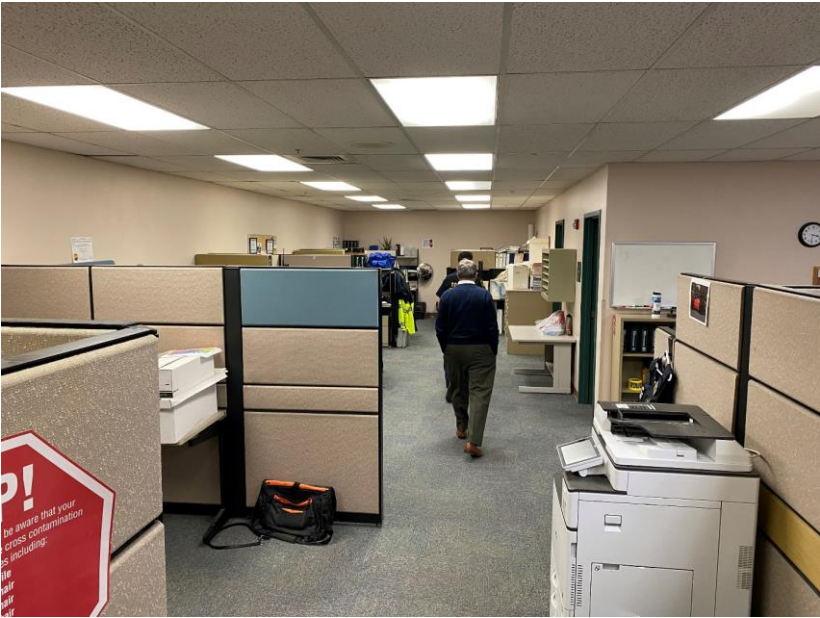
July 27, 2021

- Spending the dollars on the right things
 - The value of the project to the community
- Long-term solution
- Safety & security
- Sharing resources with City and County Agencies
- Energy efficient and sustainable
- Staff morale & retention
 - Reduce stress
 - Adequate staff spaces
- Ease of access for Law Enforcement
- Space for future growth



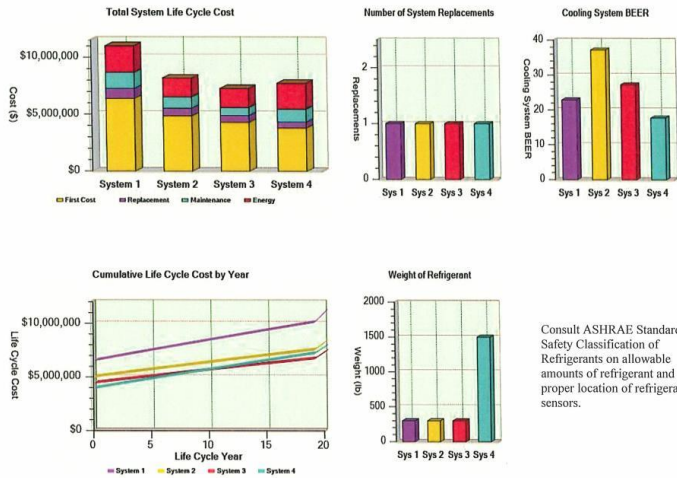
Existing Conditions





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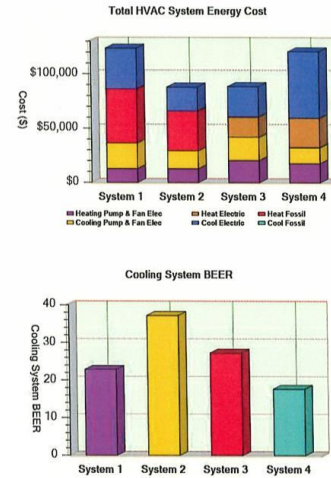




System 1: VAV, Hot Water Heating, Chilled Water Cooling, Water Cooled Chiller, 4 Pipe
 System 2: VAV, Hot Water Heating, Chilled Water Cooling, Air Cooled Chiller, 4 Pipe
 System 3: Heat Pump, Water To Air, Geothermal Closed Loop, 2 Pipe
 System 4: VRF, Air To Air

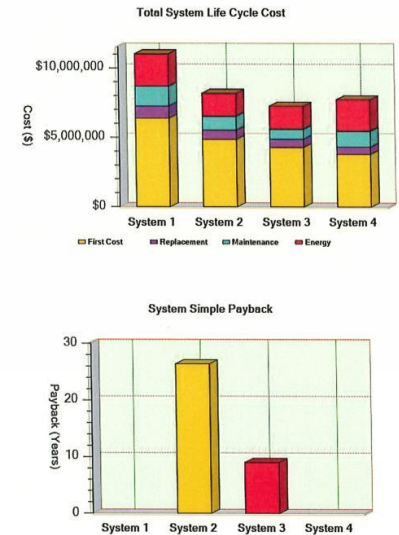
Consult ASHRAE Standard 34
 Safety Classification of
 Refrigerants on allowable
 amounts of refrigerant and
 proper location of refrigerant
 sensors.

	System 1	System 2	System 3	System 4	
Heating Pump & Fan HP:	85.01	84.96	45.90	37.72	HP
Cooling Pump & Fan HP:	230.37	199.42	106.93	73.24	HP
Cooling System BEER:	22.87	37.21	27.25	17.70	EER
Electrical Consumption:	608,826	422,310	729,056	994,634	KWHr
Electrical Demand Cost:	73,851	51,226	88,434	120,649	\$
Electrical Demand Cost:	0	0	0	0	\$
Total Electrical Cost:	73,851	51,226	88,434	120,649	\$
Fossil Fuel Consumption:	59,362	43,741	0	0	\$
Fossil Fuel Cost:	49,864	36,742	0	0	\$
Total Cost:	123,715	87,968	88,434	120,649	\$
Savings for System 2:	35,747		466	32,681	\$

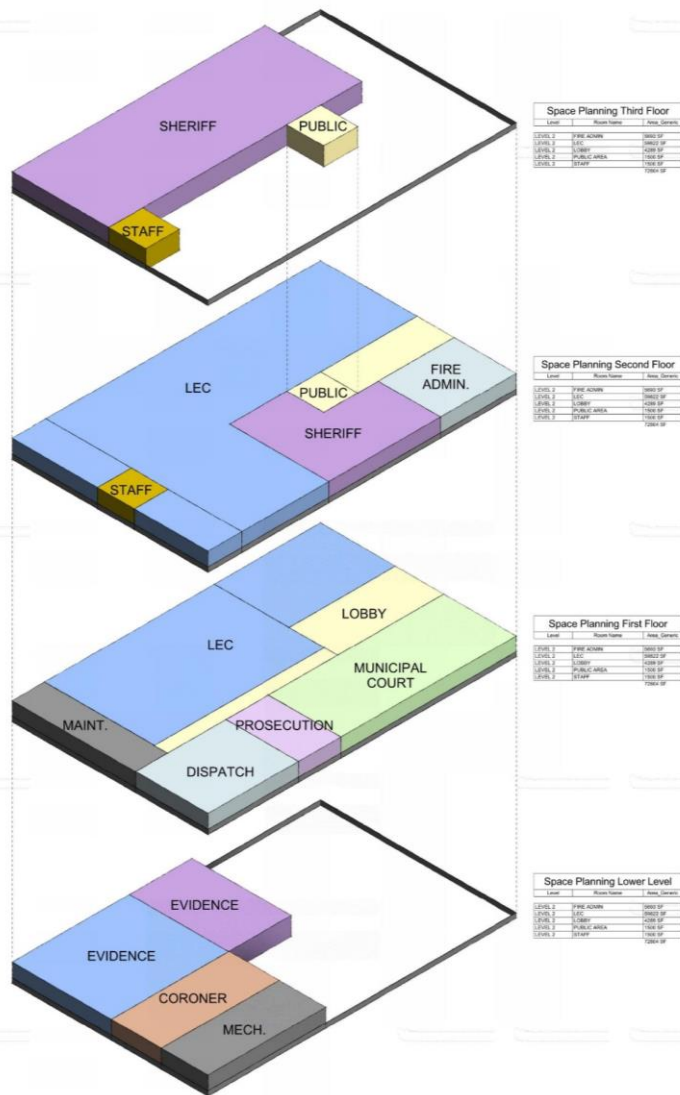


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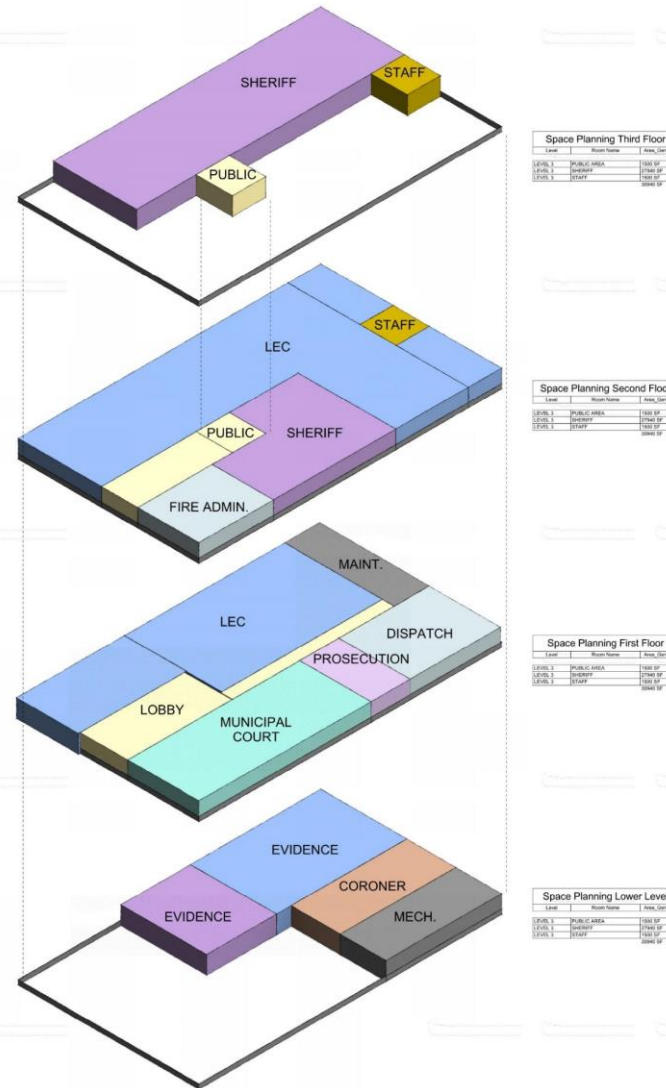
	System 1	System 2	System 3	System 4	
Life Cycle Present Worth:	11,013,874	8,184,653	7,261,581	7,733,045	\$
Life Cycle Cost Savings for System 3	3,752,293	923,072		471,464	\$
Annualized Life Cycle Cost:	960,240	713,575	633,098	674,202	\$
Annualized Life Cycle Cost Savings for System 3	327,142	80,478		41,104	\$
First Cost:	6,385,680	4,865,280	4,296,954	3,801,000	\$
Additional First Cost Against System 4	2,584,680	1,064,280	495,954		\$
Annual Energy & Maintenance Cost:	199,735	141,182	126,444	181,465	\$
Annual Energy & Maintenance Cost Savings					\$
Over System 4	-18,270	40,283	55,021		\$
Simple Payback:	Never	26	9		Years



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OPTION 1a - 72,000 SF FOOTPRINT



OPTION 2 - 68,000 SF FOOTPRINT

- Lower Level
 - Evidence Processing and Storage
 - Coroner Office
 - Central Plant
- First Floor
 - Municipal Court
 - Law Enforcement
 - City Prosecution
 - City Probation
 - Dispatch
 - Maintenance/Loading Dock
- Second Floor
 - Law Enforcement
 - Fire Administration
 - Sheriff's Office
- Third Floor
 - Sheriff's Office

Space #	Component	Persons Per Area	Number of Areas	Area	Space	NSF	Comments
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	SUMMARY TABLE						
10.000	City of Topeka Police					89,998	
12.000	Sheriff's Office					40,476	
13.000	Municipal Court					15,339	
14.000	Prosecution					3,492	
15.000	Fire Administration					5,693	
16.000	Coroner					7,116	
17.000	Dispatch					8,013	
18.000	Shared Spaces					24,005	
	Total Gross Square Footage					194,132	
	Building Grossing Factor					1.10	
Total Building Square Footage						213,545	

- Right Size
- Space Standards
- Shared Spaces
- Flexibility



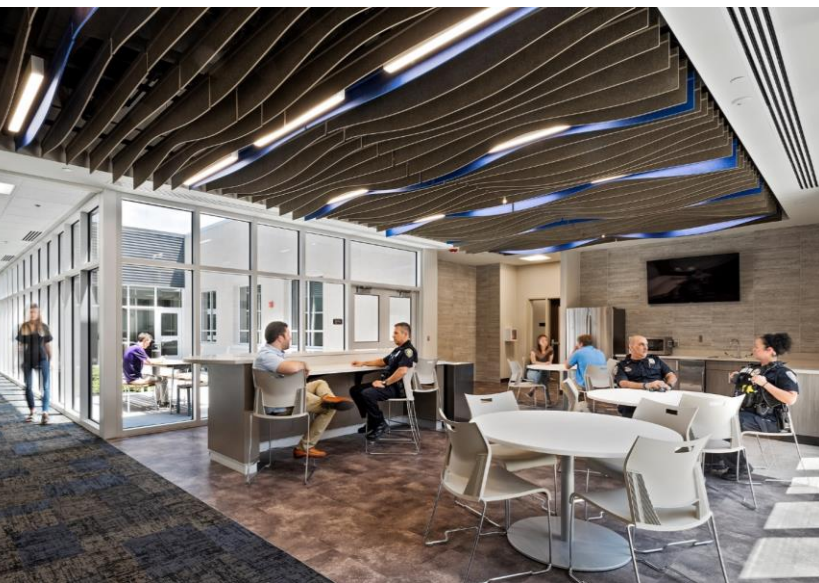
Critical Program Elements





Critical Program Elements





Critical Program Elements





Critical Site Elements



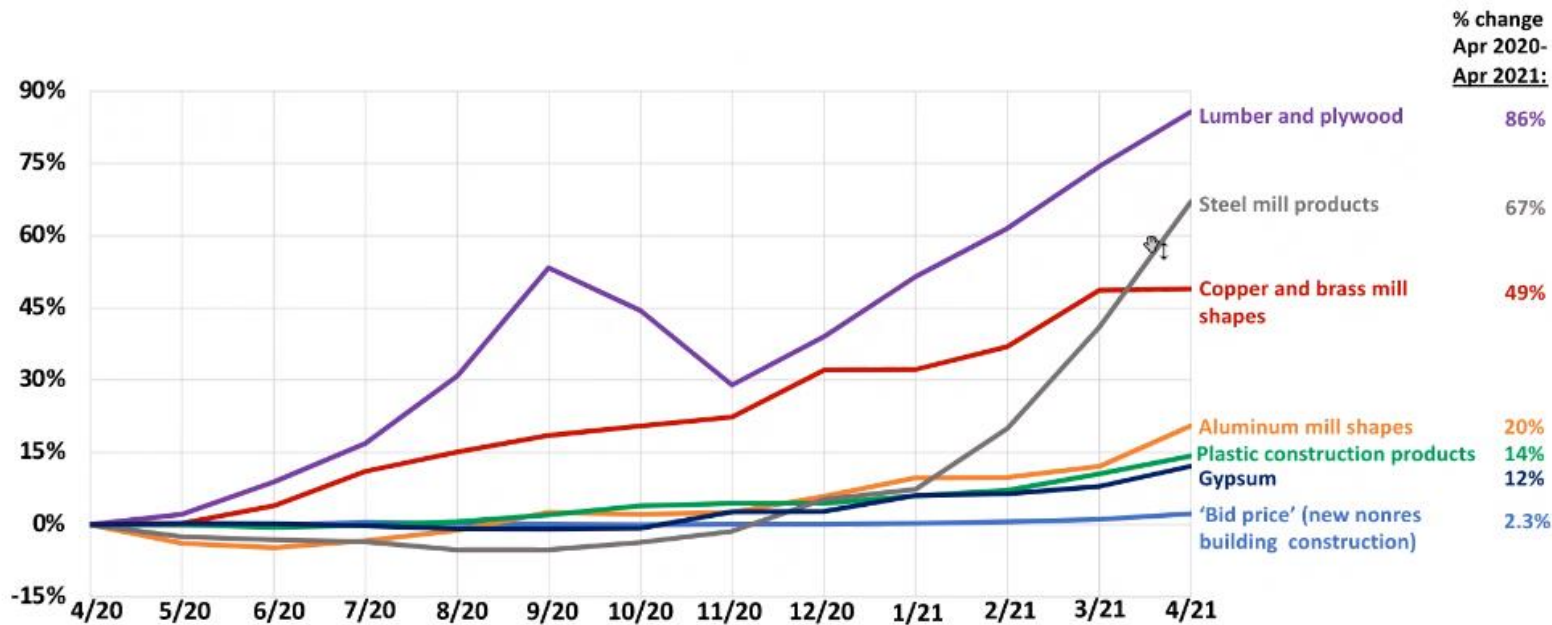


PPIs for construction and selected inputs

cumulative change in PPIs, Apr 2020 -Apr 2021 (not seasonally adjusted)



AGC
THE CONSTRUCTION
ASSOCIATION



- Forecasting
 - Construction Cost
 - Soft Costs
- Long Term Effect
- Projecting the Future



North Patrol Kansas City Missouri
 - Construction Cost: \$450 sqft

Law Enforcement Center
 Gardner Kansas
 - Construction Cost: \$420 sqft



Johnson County Courthouse
 Olathe Kansas
 - Construction Cost: \$495 sqft

Law Enforcement Center
 Lawrence Kansas
 - Construction Cost: \$420 sqft



- Questions

