

Comprehensive List of Projects Identified

City of Lawrence

Project Components		Turn-Key Cost Estimate	Utility Savings	Maint. Savings	Total Savings	Payback
Neutral Cash Flow Beginning in Year 1 - 20 Year Financing @ 3.25%	1. City-Wide: Web Based Thermostats	\$60,000	\$27,275	\$250	\$27,525	2.2
	2. Public Works: Timer Control for Solid Waste Truck Block Heaters	\$35,000	\$3,663	\$0	\$3,663	9.6
	3. City-Wide: Building LED Retrofits, Replacements & Controls	\$1,400,000	\$107,294	\$24,219	\$131,513	10.6
	4. Public Works: DDC Upgrades and Optimization	\$870,000	\$67,282	\$5,750	\$73,032	11.8
	5. City Hall: Replace Vestibule and Stairwell Cabinet Heaters	\$15,000	\$1,162	\$100	\$1,262	11.9
	6. City-Wide: Building Weatherization	\$150,000	\$12,482	\$0	\$12,482	12.0
	7. Public Works: City-Wide Pole Lighting (Downtown, Parking Lots, etc.)	\$480,000	\$30,836	\$4,221	\$35,057	13.7
	8. Parks and Rec: Parks Area Lighting	\$270,000	\$16,967	\$2,389	\$19,356	13.9
	9. Community Health: Install Electronic Air Cleaner Filtration	\$100,000	\$4,856	\$2,000	\$6,856	14.6
	10. Solid Waste Office: Replace Package Unit	\$30,000	\$1,240	\$800	\$2,040	14.7
	11. Vehicle Maintenance Office: Add Ductless Mini Split for Server Room	\$10,000	\$352	\$250	\$602	16.6
	12. Indoor Aquatic Center: Energy & Indoor Air Quality Improvements	\$1,600,000	\$85,940	\$5,150	\$91,090	17.6
	13. Lawrence Arts Center: Replace Air Cooled Chiller with Premium Efficiency Unit	\$160,000	\$8,213	\$0	\$8,213	19.5
	14. Parks and Rec: Advanced Timers for Tennis/Basketball Courts	\$30,000	\$1,214	\$0	\$1,214	24.7
	15. New Hampshire Parking Garage: Replace Wall Pack HVAC Units with Gas Heat	\$60,000	\$1,967	\$250	\$2,217	27.1
	16. Fire Station #5: Solar Power Installation	\$400,000	\$13,217	\$0	\$13,217	30.3
	17. East Lawrence Recreation Center: Replace RTU-2, 3 & 4	\$180,000	\$3,061	\$2,500	\$5,561	32.4
	18. Community Building: Replace Aging Rooftop Units	\$300,000	\$5,791	\$2,750	\$8,541	35.1
	19. Parks & Rec: Sports Field Lighting	\$2,400,000	\$32,419	\$27,094	\$59,513	40.3
	20. Prairie Park: New Ground-Source HVAC System	\$150,000	\$1,295	\$2,000	\$3,295	45.5
	21. City Hall: Replace Windows	\$500,000	\$3,527	\$250	\$3,777	-
	22. Outdoor Aquatic Center: Condensing Boilers and Concession Stand HVAC	\$170,000	\$737	\$300	\$1,037	-
SUBTOTAL - All Projects Above this Line		\$9,370,000	\$430,790	\$80,273	\$511,063	18.3
CIP Projects	23. Holcom Recreation Center: New Packaged HVAC Systems	\$170,000	\$4,019	\$3,500	\$7,519	22.6
	24. Community Health: Replace Air Cooled Chiller with Premium Efficiency Unit	\$300,000	\$9,780	\$1,400	\$11,180	26.8
	25. Airport Terminal: HVAC System Replacements	\$50,000	\$826	\$850	\$1,676	29.8
	26. Fire Station #2: Replace Outdated RTUs	\$50,000	\$812	\$500	\$1,312	38.1
	27. Fire Station #3: Replace Rooftop Units, Relocate One	\$75,000	\$630	\$250	\$880	-
	28. Holcom Recreation Center: Sports Field Lighting	\$1,050,000	\$4,883	\$6,225	\$11,108	-
	29. Community Health: Replace Boilers	\$240,000	\$927	\$1,000	\$1,927	-
	30. Community Health: Replace Roof	\$640,000	\$882	\$650	\$1,532	-
	31. Fire Station #3: Replace Roof	\$130,000	\$118	\$0	\$118	-
	SUBTOTAL - All Projects Above this Line	\$12,075,000	\$407,895	\$62,904	\$548,315	22.0
Priority Tier II	32. City Hall: Add Gas Boiler and Hot Water Reheat to VAV Boxes	\$560,000	\$18,721	-\$600	\$18,121	30.9
	33. Library: Add Gas Boiler & Hot Water VAV Boxes	\$970,000	\$29,400	-\$500	\$28,900	33.6
	34. Venture Park: Solar PV for Pumping on Tanks 5 and 6	\$150,000	\$3,400	\$0	\$3,400	44.1
	35. Lawrence Arts Center: Replace Condensing Boilers	\$150,000	\$2,533	\$0	\$2,533	59.2
	36. Community Building: Replace Roof	\$300,000	\$445	\$250	\$695	-
	37. Solid Waste: Replace Windows & Doors	\$30,000	\$205	\$100	\$305	98.4
	38. East Lawrence Recreation Center: Replace Damaged Skylight	\$20,000	\$0	\$100	\$100	-
	39. Outdoor Aquatic Center: Reduce After-Hour Turnover & Tune Flows with VFDs	\$25,000	\$967	\$0	\$967	-
	40. Fire Station #3: Replace Windows	\$90,000	\$474	\$0	\$474	-
	41. Public Works: PV School Beacons	\$390,000	\$2,520	\$0	\$2,520	-
SUBTOTAL - All Projects Above this Line		\$14,760,000	\$512,333	\$93,998	\$606,330	24.3

Projects Listed as "CIP Projects" have a component included on City's CIP List for 2017, 2018, 2019 & 2020

City of Lawrence

Lawrence, Kansas

Facility & Energy Infrastructure Improvement Project

2017 Implementation

Project: Neutral Cash Flow - Year 1**Anticipated Project Payment Schedule**

Date	Energy Savings	Maintenance Savings	Total Savings	Principal & Interest	Net Savings
FY 2017	\$430,790	\$80,273	\$511,063	\$0	\$511,063
FY 2018	\$443,714	\$82,681	\$526,395	(\$528,700)	-\$2,306
FY 2019	\$457,026	\$85,161	\$542,187	(\$540,935)	\$1,252
FY 2020	\$470,736	\$87,716	\$558,452	(\$553,452)	\$5,001
FY 2021	\$484,858	\$90,348	\$575,206	(\$566,259)	\$8,947
FY 2022	\$499,404	\$93,058	\$592,462	(\$579,362)	\$13,100
FY 2023	\$514,386	\$95,850	\$610,236	(\$592,768)	\$17,468
FY 2024	\$529,818	\$98,725	\$628,543	(\$606,485)	\$22,058
FY 2025	\$545,712	\$101,687	\$647,399	(\$620,519)	\$26,880
FY 2026	\$562,084	\$104,738	\$666,821	(\$634,878)	\$31,943
FY 2027	\$578,946	\$107,880	\$686,826	(\$649,569)	\$37,257
FY 2028	\$596,315	\$111,116	\$707,431	(\$664,600)	\$42,831
FY 2029	\$614,204	\$114,450	\$728,654	(\$679,979)	\$48,675
FY 2030	\$632,630	\$117,883	\$750,513	(\$695,714)	\$54,800
FY 2031	\$651,609	\$121,420	\$773,029	(\$711,812)	\$61,216
FY 2032	\$671,157	\$125,062	\$796,220	(\$728,284)	\$67,936
FY 2033	\$691,292	\$128,814	\$820,106	(\$745,136)	\$74,970
FY 2034	\$712,031	\$132,678	\$844,709	(\$762,379)	\$82,331
FY 2035	\$733,392	\$136,659	\$870,051	(\$780,020)	\$90,030
FY 2036	\$755,394	\$140,759	\$896,152	(\$798,070)	\$98,082
FY 2037	\$778,055	\$144,981	\$923,037	(\$816,537)	\$106,500
Total	\$12,353,555	\$2,301,936	\$14,655,492	(\$13,255,458)	\$1,400,034

Financing Assumptions

Total Project Cost	\$9,370,000
FCIP Fee	\$87,850
Total Financed	\$9,457,850
Financing Term	20 Years
Interest Rate	3.25%
Inflation Rate Demonstrated	3.00%
Payment Escalation	2.30%

City Statistics

Total Value of Infrastructure & Energy Projects Completed	\$9,370,000
Percentage of Project Funded by Savings (Excluding CIP Value)	110.56%

City of Lawrence

Lawrence, Kansas

Facility & Energy Infrastructure Improvement Project

2017 Implementation

Project: Comprehensive**Anticipated Project Payment Schedule**

Date	Energy Savings	Maintenance Savings	Total Savings	Principal & Interest	Net Savings
FY 2017	\$453,668	\$94,648	\$548,315	\$0	\$548,315
FY 2018	\$467,278	\$97,487	\$564,765	(\$680,668)	-\$115,903
FY 2019	\$481,296	\$100,412	\$581,708	(\$696,419)	-\$114,711
FY 2020	\$495,735	\$103,424	\$599,159	(\$712,534)	-\$113,375
FY 2021	\$510,607	\$106,527	\$617,134	(\$729,022)	-\$111,888
FY 2022	\$525,925	\$109,723	\$635,648	(\$745,891)	-\$110,244
FY 2023	\$541,703	\$113,014	\$654,717	(\$763,151)	-\$108,434
FY 2024	\$557,954	\$116,405	\$674,359	(\$780,811)	-\$106,452
FY 2025	\$574,692	\$119,897	\$694,589	(\$798,879)	-\$104,289
FY 2026	\$591,933	\$123,494	\$715,427	(\$817,365)	-\$101,938
FY 2027	\$609,691	\$127,198	\$736,890	(\$836,278)	-\$99,389
FY 2028	\$627,982	\$131,014	\$758,996	(\$855,630)	-\$96,633
FY 2029	\$646,821	\$134,945	\$781,766	(\$875,429)	-\$93,663
FY 2030	\$666,226	\$138,993	\$805,219	(\$895,687)	-\$90,467
FY 2031	\$686,213	\$143,163	\$829,376	(\$916,413)	-\$87,037
FY 2032	\$706,799	\$147,458	\$854,257	(\$937,619)	-\$83,361
FY 2033	\$728,003	\$151,882	\$879,885	(\$959,315)	-\$79,430
FY 2034	\$749,843	\$156,438	\$906,281	(\$981,514)	-\$75,232
FY 2035	\$772,339	\$161,131	\$933,470	(\$1,004,226)	-\$70,756
FY 2036	\$795,509	\$165,965	\$961,474	(\$1,027,464)	-\$65,990
FY 2037	\$819,374	\$170,944	\$990,318	(\$1,051,239)	-\$60,921
Total	\$13,009,591	\$2,714,161	\$15,723,752	(\$17,065,551)	-\$1,341,799

Financing Assumptions

Total Project Cost	\$12,075,000
FCIP Fee	\$101,375
Total Financed	\$12,176,375
Financing Term	20 Years
Interest Rate	3.25%
Inflation Rate Demonstrated	3.00%
Payment Escalation	2.30%

City Statistics

Total Value of Infrastructure & Energy Projects Completed	\$12,075,000
Percentage of Project Funded by Savings (Excluding CIP Value)	92.14%
Value of CIP Projects Completed without Additional Allocations	\$2,905,000