

# MASSACHUSETTS INTERFAITH POWER & LIGHT

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## St. Andrew's Episcopal Church Wellesley

This is a summary of observations and recommendations of a site visit on Wednesday, October 3, 2007, by Thomas E. Nutt-Powell, for MIP&L. The visit was prompted by a request to assess heating options, in the context of future capital activities. The original chapel building was dedicated by Bishop Lawrence in

1894. Additions are reported in 1921 and 1931. A parish house was built in the late 1940s. An enlarge Sanctuary and an education wing were added in the 1950s. Photos of observed conditions follow the text. Utility use and cost information and space use information follows the photos. It is important to make use of gas and electric company financial incentives when making energy upgrades.

### UTILITY USE & COST

St. Andrew's cost for utilities estimated for 2007 is \$46,681. This is up 41% over 2006. Gas and electric use is about constant, though oil use is projected to be 17% higher. Oil constitutes about 2/3 the total of costs. The volume and cost of utility use is fertile grounds for improved environmental stewardship.

### HEATING and DOMESTIC HOT WATER

#### *Generation Equipment*

The building has equipment in the basement mechanical space as follows:

- Boiler — Oil-fired steam boiler by Weil-McLain installed in 2000, replacing a 1992 boiler. It has an efficiency estimated at 75%±. (See photo #1.) It has an on-board heat exchanger to generate hot water for the baseboard heating in the choir room. There is a condensate return tank and pump, with a second pump in the choir room. (See photo #3.)
- Domestic Hot Water — There is two gas-fired DHW tanks. The larger (75 gallons) serves the kitchen; it was installed in 2003. The smaller (40 gallon) serves the rest of the building; it was installed in 1993. Efficiency for DHW tanks is 65%±. (See photo #2.)

#### *In-Space Equipment*

Virtually all of the building is heated by steam radiators. (See photos #5 and 10.) There are seven (7) zones, with manual thermostats, controlling valves. (See photo #6.)

1. Sanctuary, which also controls the basement space under the Sanctuary including Room 2. (See photo #5.)
2. Transept Chapel
3. Parish House South (stat in basement)

4. Parish House North (stat in Secretary's Office)
5. Parish House Kitchen
6. Education Wing (stat in upper level front room)
7. Choir (hot water baseboard heat, see photo #4.)

There are through-window ACs in some of the Parish House offices. (See photo #9.)

### **Recommendations**

[Note: Implementation of these recommendations is sensibly based on retaining the services of a Mechanical Engineering firm with significant experience in (a) energy upgrades and (b) working with the community of faith.]

### **Best Overall Outcome — All Hydronic Heating**

Convert the entire building to hydronic heating, with zones matching use patterns. This can be done in **phases**, as set forth below. The timing is a function of funds availability. The Stokes Loan Fund of the Diocese is a source that would permit the parish to do more work, and pay it off over time on favorable terms. Given heating costs of the parish, it is likely that there will be significant savings that can be allocated to repay any debt incurred.

### **Thermostats**

Convert all thermostats to those with an “adaptive recovery” feature. This senses how long it takes to reach the desired temperature, and starts the system “just in time”. This is much better than humans guessing! See MIP&L's *Everyday Environmental Stewardship* brief on thermostats.

### **Radiation**

Where possible use an in-floor radiant solution, which gets heat evenly through the room. This is an especially good solution for spaces with younger children. Regardless, use high-efficiency radiation for all upgrades.

### **Phase 1**

- ✚ Install interior “storm” windows for all locations. Priority sequence is most to least used spaces. If window is not operable, make installation year-round. (See photo #8.)
- ✚ Install primary controls for all boilers to provide operation in relation to outside temperature, and other applicable contemporary standards.
- ✚ Install at least two (2) direct vent condensing mode 93% efficient gas-fired boilers sized to serve Phase 1 spaces and DHW. Using two boilers ensures that heat is always present, even if one boiler fails. Rotating the boiler start sequence also extends the EUL of each boiler. Having at least two boilers also means that the equipment selected is residential scale, which is a cost and maintenance control option. It also permits addition of more such boilers as funds available for conversion from steam to hot water in future phases.
- ✚ Install hot water heat for the Education Wing. At a minimum, zone each floor separately.
- ✚ Install hot water heat for the office floor of the Parish House. Zone each side separately.
- ✚ Install one in-direct fired DHW tank, fired by the new high-efficiency boilers.

The existing oil-fired boiler remains in place, serving only the remaining locations still on steam heat.

## **Phase 2**

- ✚ Install additional direct vent condensing mode 93% efficient gas-fired boilers sized for Phase 2 spaces.
- ✚ Likely sequence of Phase 2 spaces is remaining Parish House room, starting with Dining Room , Harvey Room and Learning Center. Room 2 Would be included in the Parish House set. The remaining basement spaces would be the last in line for this phase.

The existing oil-fired boiler remains in place, serving only the remaining locations still on steam heat.

## **Phase 3**

- ✚ Install additional direct vent condensing mode 93% efficient gas-fired boilers sized for Phase 3 spaces.
- ✚ Phase 3 would include all spaces not completed in Phases 1 and 2.

The existing oil-fired boiler is removed.

## **LIGHTING and ELECTRICITY**

### *Observations*

Electricity is costly, and is a significant cause of environmental pollution. The facility uses incandescent lamping and bulbs in many areas.

### *Recommendations*

1. Begin a systematic upgrade so that all fixtures use energy efficient bulbs. Good high-efficiency bulbs are available for all applications, including spots, floods and dimmable.
2. See the MIP&L web site for a guide for CFLs (compact florescent lights).



#1 — Oil-fired steam boiler was (efficiency 75%±) installed in 2000. It has an on-board heat exchanger to generate hot water heating for the choir room zone.



#3 — Condensate tank and pump for steam system. Steam is less efficient given need to heat to 212° regardless of temperature needed in occupied spaces. It is less readily zoned.



#2 — There are two gas-fired DHW tanks. Efficiency is 65%±. Replace with one indirect fired tank served by an efficient (93%) gas-fired boiler.



#4 — Choir room with hot-water baseboard heat. Pipes at ceiling serve steam radiation in Transept Chapel. Use high-efficiency radiation, including in-floor were possible.





#5 — Sanctuary has steam radiators. Note manual thermostat on wall. Change all stats to “smart” programmable for immediate efficiency improvement.



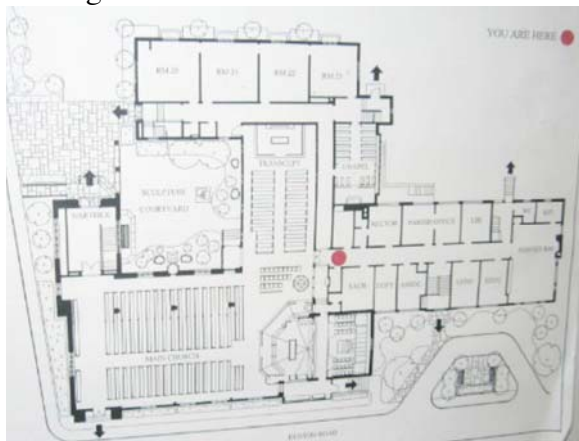
#8 — Window in upper floor room used by Montessori School. Convert spaces from steam to hot water heat, and increase zones, progressing from most to least used spaces. Install interior “storm” windows now for improved efficiency and occupant comfort.



#6 — Steam zone valve. Age of steam system means interior pipe corrosion returns to boiler (a problem) and also contributes to sticky valves. All systems have an “Expected Useful Life” (EUL), which the steam system at St. Andrew’s nearing its end.



#9 — Office level is high use area, an early hot-water heat and zoning conversion candidate. Use more efficient AC solution for south-facing spaces.



#7 — Floor plan. Current zones (especially for Parish House and Ed Wing) contribute to inefficiency.



#10 — Convection radiation (here in Dining Room) ready changed to hot-water heat. Large rooms at each level of Parish House should each be a separate zone.

**SUMMARY OF UTILITY USE & COST**  
*St. Andrew's Church, Wellesley, MA*

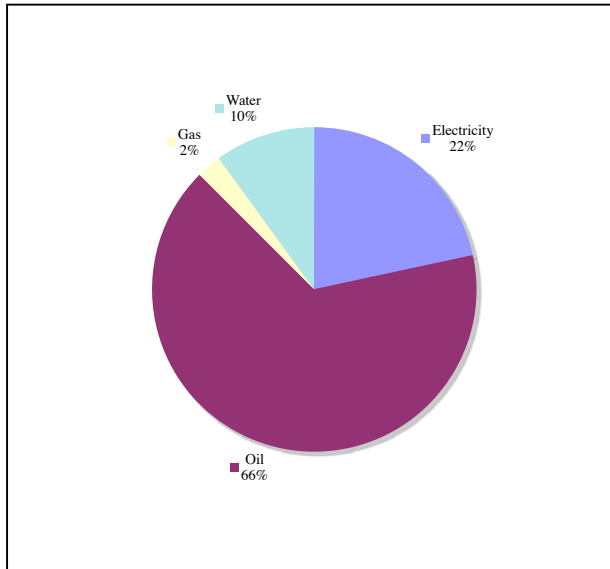
YEAR	TOTAL	ELECTRICITY		Cooling Degree Days	GAS		Heating Degree Days	OIL		WATER & SEWER	
		\$s	KWH		\$s	THERMS		\$s	GALLONS	\$s	VOLUME
2004	<b>\$37,635</b>	\$7,630	72000	1,970	\$807	421	3,420	\$25,330	15739.4	\$3,868	520
2005 % prior year	<b>\$36,795</b> <b>97.8%</b>	\$7,467 97.9%	68920 95.7%	2,143 108.8%	\$1,062 131.5%	600 142.5%	3,478 101.7%	\$24,643 97.3%	14423.5 91.6%	\$3,623 93.7%	458 88.1%
2006 % prior year	<b>\$33,253</b> <b>90.4%</b>	\$8,129 108.9%	71440 103.7%	2,111 98.5%	\$1,104 104.0%	561 93.5%	2,703 77.7%	\$21,468 87.1%	11430.5 79.2%	\$2,552 70.4%	319 69.7%
2007 % prior year	<b>\$46,861</b> <b>140.9%</b>	\$10,091 124.1%	69,691 97.6%	2,356 111.6%	\$1,131 102.4%	553 98.5%	2,415 89.3%	\$30,928 144.1%	13372.9 117.0%	\$4,710 184.5%	483 151.4%
CO <sub>2</sub> lbs 2007	<b>337,092</b>	103,142		9,285		224,665					

**It takes about  
7 NE trees  
to offset  
100 lbs of CO<sub>2</sub>**

Some 2007 data estimated

Degree Days are YTD through October 2007

**Utility Cost by % — 2007**



## ELECTRICITY USE

St. Andrew's Church, Wellesley, MA

Provider Town of Wellesley

Meter # 37811012

Account # 71109329 1

Year	Bill Month	\$s	% Change \$s	KWH	\$/KWH	% Change kWh	Cooling Degree Days	% change Degree Days	
<b>2004</b>	January	\$625.00		6,220	\$0.10		0		
	February	\$631.89		6,660	\$0.09		0		
	March	\$527.74		4,880	\$0.11		2		
	April	\$803.80		9,520	\$0.08		41		
	May	\$752.13		7,440	\$0.10		150		
	June	\$364.56		1,360	\$0.27		355		
	July	\$603.44		4,000	\$0.15		507		
	August	\$859.16		8,560	\$0.10		538		
	September	\$419.37		3,040	\$0.14		313		
	October	\$752.59		7,120	\$0.11		63		
	November	\$659.50		6,800	\$0.10		1		
	December	\$631.00		6,400	\$0.10		0		
		\$7,630.18		72,000	\$0.11		1,970		
<b>2005</b>	January	\$725.78	116.12%	8,000	\$0.09	128.62%	0		
	February	\$544.67	86.20%	6,000	\$0.09	90.09%	0		
	March	\$675.47	127.99%	6,400	\$0.11	131.15%	0		
	April	\$726.71	90.41%	7,400	\$0.10	77.73%	22	53.66%	
	May	\$217.59	28.93%	-720	-\$0.30	-9.68%	33	22.00%	
	June	\$655.66	179.85%	6,960	\$0.09	511.76%	415	116.90%	
	July	\$659.54	109.30%	5,440	\$0.12	136.00%	574	113.21%	
	August	\$459.31	53.46%	3,600	\$0.13	42.06%	608	113.01%	
	September	\$522.11	124.50%	3,120	\$0.17	102.63%	394	125.88%	
	October	\$775.20	103.00%	6,560	\$0.12	92.13%	93	147.62%	
	November	\$676.64	102.60%	6,880	\$0.10	101.18%	4	400.00%	
	December	\$828.62	131.32%	9,280	\$0.09	145.00%	0		
		\$7,467.30	97.87%	68,920	\$0.11	95.72%	2,143	108.78%	
<b>2006</b>	January	\$768.35	105.87%	8,880	\$0.09	111.00%	0		
	February	\$752.59	138.17%	7,520	\$0.10	125.33%	0		
	March	\$706.21	104.55%	6,640	\$0.11	103.75%	2		
	April	\$661.50	91.03%	6,000	\$0.11	81.08%	29	131.82%	
	May	\$695.05	319.43%	6,560	\$0.11	-911.11%	138	418.18%	
	June	\$636.08	97.01%	6,000	\$0.11	86.21%	403	97.11%	
	July	\$641.74	97.30%	4,880	\$0.13	89.71%	653	113.76%	
	August	\$547.16	119.13%	3,600	\$0.15	100.00%	517	85.03%	
	September	\$470.87	90.19%	3,520	\$0.13	112.82%	300	76.14%	
	October	\$795.63	102.64%	5,360	\$0.15	81.71%	32	34.41%	
	November	\$717.11	105.98%	6,080	\$0.12	88.37%	29	725.00%	
	December	\$736.30	88.86%	6,400		68.97%	8		
		\$8,128.59	108.86%	71,440	\$0.11	103.66%	2,111	98.51%	
<b>2007</b>	January	\$750.68	97.70%	6,640	\$0.11	74.77%	6		
	February	\$703.27	93.45%	6,000	\$0.12	79.79%	0		
	March	\$859.03	121.64%	6,880	\$0.12	103.61%	2		
	April	\$766.58	115.89%	5,840	\$0.13	97.33%	32	110.34%	
	May	\$725.94	104.44%	6,000	\$0.12	91.46%	237	171.74%	
	June	\$762.08	119.81%	6,160	\$0.12	102.67%	409	101.49%	
	July	\$681.84	106.25%	4,400	\$0.15	90.16%	563	86.22%	
	August	\$516.08	94.32%	2,960	\$0.17	82.22%	555	107.35%	
	<i>Estimated</i>	September	\$787.60	167.27%	4,517	\$0.17	128.33%	385	128.33%
	<i>Estimated</i>	October	\$1,106.55	139.08%	6,347	\$0.17	118.41%	167	521.88%
	<i>Estimated</i>	November	\$1,148.39	160.14%	6,587	\$0.17	108.33%	0	0.00%
	<i>Estimated</i>	December	\$1,283.23	174.28%	7,360	\$0.17	115.00%	0	
		\$10,091.27	124.15%	69,691	\$0.14	97.55%	2,356	111.61%	

## GAS USE

St. Andrew's Church, Wellesley, MA

Provider Keyspan

Meter #

Account # 50718-14920

Year	Month	\$s	% change \$s	Therms	\$/thrm	% change therms	Degree Days	% change Degree Days	
<b>2004</b>	January	\$47.37		18	\$2.63		1,059		
	February	\$53.72		25	\$2.15		634		
	March	\$51.86		22	\$2.36		476		
	April	\$59.54		29	\$2.05		196		
	May	\$64.38		32	\$2.01		26		
	June	\$70.67		42	\$1.68		3		
	July	\$71.00		40	\$1.78		0		
	August	\$74.96		39	\$1.92		0		
	September	\$66.75		35	\$1.91		0		
	October	\$80.20		44	\$1.82		92		
	November	\$72.22		42	\$1.72		318		
	December	\$94.78		53	\$1.79		616		
		\$807.45		421	\$1.92		3,420		
<b>2005</b>	January	\$100.78	212.75%	56	\$1.80	311.11%	868	81.96%	
	February	\$94.91	176.68%	56	\$1.69	224.00%	661	104.26%	
	March	\$92.40	178.17%	54	\$1.71	245.45%	604	126.89%	
	April	\$86.10	144.61%	49	\$1.76	168.97%	173	88.27%	
	May	\$92.69	143.97%	52	\$1.78	162.50%	110	423.08%	
	June	\$67.90	96.08%	42	\$1.62	100.00%	5	166.67%	
	July	\$72.66	102.34%	42	\$1.73	105.00%	0		
	August	\$68.10	90.85%	36	\$1.89	92.31%	0		
	September	\$78.14	117.06%	40	\$1.95	114.29%	0		
	October	\$90.94	113.39%	80	\$1.14	181.82%	96	104.35%	
	November	\$99.76	138.13%	40	\$2.49	95.24%	269	84.59%	
	December	\$117.32	123.78%	53	\$2.21	100.00%	692	112.34%	
		\$1,061.70	131.49%	600	\$1.77	142.52%	3,478	101.70%	
<b>2006</b>	January	\$130.43	129.42%	59	\$2.21	105.36%	568	65.44%	
	February	\$94.24	99.29%	43	\$2.19	76.79%	667	100.91%	
	March	\$118.29	128.02%	60	\$1.97	111.11%	502	83.11%	
	April	\$123.70	143.67%	66	\$1.87	134.69%	178	102.89%	
	May	\$92.50	99.80%	48	\$1.93	92.31%	66	60.00%	
	June	\$80.60	118.70%	45	\$1.79	107.14%	0	0.00%	
	July	\$78.78	108.42%	42	\$1.88	100.00%	0		
	August	\$75.52	110.90%	40	\$1.89	111.11%	0		
	September	\$70.21	89.85%	37	\$1.90	92.50%	2		
	October	\$65.51	72.04%	37	\$1.77	46.25%	88	91.67%	
	November	\$78.10	78.29%	42	\$1.86	105.00%	199	73.98%	
	December	\$96.57	82.31%	42	\$2.30	79.25%	433	62.57%	
		\$1,104.45	104.03%	561	\$1.97	93.50%	2,703	77.72%	
<b>2007</b>	January	\$111.13	85.20%	48	\$2.32	81.36%	687	120.95%	
	February	\$102.47	108.73%	47	\$2.18	109.30%	801	120.09%	
	March	\$134.39	113.61%	66	\$2.04	110.00%	538	107.17%	
	April	\$95.37	77.10%	45	\$2.12	68.18%	327	183.71%	
	May	\$92.87	100.40%	47	\$1.98	97.92%	33	50.00%	
	June	\$86.22	106.97%	46	\$1.87	102.22%	0		
	July	\$72.21	91.66%	36	\$2.01	85.71%	0		
	August	\$72.21	95.62%	36	\$2.01	90.00%	0		
	<i>Estimated</i>	September	\$74.88	106.66%	37	\$2.01	100.90%	0	
	<i>Estimated</i>	October	\$107.65	164.32%	54	\$2.01	145.05%	29	32.95%
	<i>Estimated</i>	November	\$82.91	106.16%	41	\$2.01	98.41%	0	0.00%
	<i>Estimated</i>	December	\$98.95	102.47%	49	\$2.01	117.46%	0	0.00%
		\$1,131.26	102.43%	553	\$2.05	98.51%	2,415	89.35%	



**OIL USE**

**St. Andrew's Church, Wellesley, MA**

**Provider** Jamie Oil

**Account #** 12743

Year	Start Date	\$S	% change \$s	Gallons	\$/gallon	% change gallons	Heating Degree Days	% change Degree Days
<b>2004</b>	January	\$6,437.71		4,284.1	\$1.50		1,059	
	February	\$4,171.66		2,782.8	\$1.50		634	
	March	\$3,279.36		2,193.9	\$1.49		476	
	April	\$1,555.62		1,051.8	\$1.48		196	
	May	\$368.54		240.5	\$1.53		26	
	June	\$105.75		71.5	\$1.48		3	
	July						0	
	August						0	
	September	\$32.74		19.5	\$1.68		0	
	October	\$1,764.60		948.8	\$1.86		92	
	November	\$3,373.75		1,778.3	\$1.90		318	
	December	\$4,240.01		2,368.2	\$1.79		616	
		\$25,329.74		15,739.4	\$1.61		3,420	
<b>2005</b>	January	\$6,417.38	99.68%	3,406.3	\$1.88	79.51%	868	81.96%
	February	\$3,674.03	88.07%	2,654.4	\$1.38	95.39%	661	104.26%
	March	\$3,651.11	111.34%	1,966.1	\$1.86	89.62%	604	126.89%
	April	\$1,661.34	106.80%	1,108.3	\$1.50	105.37%	173	88.27%
	May	\$507.86	137.80%	338.8	\$1.50	140.87%	110	423.08%
	June	\$588.31	556.32%	294.3	\$2.00	411.61%	5	166.67%
	July						0	
	August						0	
	September						0	
	October	\$1,223.71	69.35%	583.0	\$2.10	61.45%	96	104.35%
	November	\$2,491.76	73.86%	1,466.6	\$1.70	82.47%	269	84.59%
	December	\$4,427.10	104.41%	2,605.7	\$1.70	110.03%	692	112.34%
		\$24,642.60	97.29%	14,423.5	\$1.71	91.64%	3,478	101.70%
<b>2006</b>	January	\$3,655.56	56.96%	2,448.8	\$1.49	71.89%	568	65.44%
	February	\$4,329.71	117.85%	2,251.2	\$1.92	84.81%	667	100.91%
	March	\$3,457.81	94.71%	2,035.2	\$1.70	103.51%	502	83.11%
	April	\$958.74	57.71%	564.3	\$1.70	50.92%	178	102.89%
	May	\$345.24	67.98%	203.2	\$1.70	59.98%	66	60.00%
	June	\$370.89	63.04%	218.3	\$1.70	74.18%	0	
	July						0	
	August	\$37.24		14.9	\$2.50		0	
	September	\$13.29		6.7	\$1.98		2	
	<i>Estimated</i> October	\$988.42	80.77%	498.3	\$1.98	85.47%	88	91.67%
	November	\$4,008.94	160.89%	1,541.1	\$2.60	105.08%	199	73.98%
	December	\$3,301.89	74.58%	1,648.5	\$2.00	63.27%	433	62.57%
		\$21,467.73	87.12%	11,430.5	\$1.88	79.25%	2,703	77.72%
<b>2007</b>	January	\$4,554.03	124.58%	2,488.2	\$1.83	101.61%	687	120.95%
	February	\$5,410.95	124.97%	2,700.2	\$2.00	119.94%	801	120.09%
	March	\$4,349.90	125.80%	2,118.1	\$2.05	104.07%	538	107.17%
	April	\$2,696.41	281.25%	1,240.9	\$2.17	219.90%	327	183.71%
	May						33	50.00%
	June	\$791.65	213.45%	346.0	\$2.29	158.50%	0	
	July						0	
	August						0	
	<i>Estimated</i> September	\$0.00	0.00%	0.0		0.00%	0	
	<i>Estimated</i> October	\$1,982.73	200.60%	676.7	\$2.93	135.80%	29	32.95%
	<i>Estimated</i> November	\$4,674.33	116.60%	1,595.3	\$2.93	103.52%	0	0.00%
	<i>Estimated</i> December	\$6,467.88	195.88%	2,207.5	\$2.93	133.91%	0	0.00%
		\$30,927.88	144.07%	13,372.9	\$2.31	116.99%	2,415	89.35%

**WATER & SEWER USE**  
**St. Andrew's Church, Wellesley, MA**

**Provider** Town of Wellesley  
**Meter #** 99387033  
**Account #** 71109329 1

Year	Bill Date	\$S	% change \$	Units	\$/unit	% change volume	
<b>2004</b>	January	\$261.35		39	\$6.70		
	February	\$346.63		52	\$6.67		
	March	\$287.59		43	\$6.69		
	April	\$313.83		47	\$6.68		
	May	\$241.67		36	\$6.71		
	June	\$298.34		39	\$7.65		
	July	\$430.56		53	\$8.12		
	August	\$280.62		35	\$8.02		
	September	\$372.25		46	\$8.09		
	October	\$472.21		58	\$8.14		
	November	\$397.24		49	\$8.11		
	December	\$165.59		23	\$7.20		
		\$3,867.88		520	\$7.44		
<b>2005</b>	January	\$186.47	71.35%	26	\$7.17	66.67%	
	February	\$207.35	59.82%	29	\$7.15	55.77%	
	March	\$186.47	64.84%	26	\$7.17	60.47%	
	April	\$242.15	77.16%	34	\$7.12	72.34%	
	May	\$228.23	94.44%	32	\$7.13	88.89%	
	June	\$263.96	88.48%	33	\$8.00	84.62%	
	July	\$402.97	93.59%	48	\$8.40	90.57%	
	August	\$377.02	134.35%	45	\$8.38	128.57%	
	September	\$489.47	131.49%	58	\$8.44	126.09%	
	October	\$498.12	105.49%	59	\$8.44	101.72%	
	November	\$351.07	88.38%	42	\$8.36	85.71%	
	December	\$190.13	114.82%	26	\$7.31	113.04%	
		\$3,623.41	93.68%	458	\$7.91	88.08%	
<b>2006</b>	January	\$176.05	94.41%	24	\$7.34	92.31%	
	February	\$197.17	95.09%	27	\$7.30	93.10%	
	March	\$232.37	124.62%	32	\$7.26	123.08%	
	April	\$204.21	84.33%	28	\$7.29	82.35%	
	May	\$211.25	92.56%	29	\$7.28	90.63%	
	June	\$264.57	100.23%	32	\$8.27	96.97%	
	July	\$178.07	44.19%	22	\$8.09	45.83%	
	August	\$99.53	26.40%	12	\$8.29	26.67%	
	September	\$205.02	41.89%	23	\$8.91	39.66%	
	October	\$272.15	54.64%	30	\$9.07	50.85%	
	November	\$281.74	80.25%	31	\$9.09	73.81%	
	December	\$230.26	121.11%	29	\$7.94	111.54%	
		\$2,552.39	70.44%	319	\$8.00	69.65%	
<b>2007</b>	January	\$176.43	100.22%	22	\$8.02	91.67%	
	February	\$268.71	136.28%	34	\$7.90	125.93%	
	March	\$237.95	102.40%	30	\$7.93	93.75%	
	April	\$241.52	118.27%	30	\$8.05	107.14%	
	May	\$207.19	98.08%	26	\$7.97	89.66%	
	June	\$674.93	255.10%	72	\$9.37	225.00%	
	July	\$532.73	299.17%	51	\$10.45	231.82%	
	August	\$652.49	655.57%	60	\$10.87	500.00%	
	<i>Estimated</i>	<i>September</i>	<i>\$460.37</i>	<i>224.55%</i>	<i>42</i>	<i>\$10.87</i>	<i>184.06%</i>
	<i>Estimated</i>	<i>October</i>	<i>\$532.87</i>	<i>195.80%</i>	<i>49</i>	<i>\$10.87</i>	<i>163.33%</i>
	<i>Estimated</i>	<i>November</i>	<i>\$442.24</i>	<i>156.97%</i>	<i>41</i>	<i>\$10.87</i>	<i>131.18%</i>
	<i>Estimated</i>	<i>December</i>	<i>\$282.75</i>	<i>122.79%</i>	<i>26</i>	<i>\$10.87</i>	<i>89.66%</i>
		\$4,710.17	184.54%	483	\$9.75	151.41%	

**St Andrew's Wellesley**

**Space Use by Day of Week**

<b>SPACE</b>	<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
<b>Main Church</b>							
Morning	7:00-11:30						
Afternoon							
Evening							
<b>Transept Chapel</b>							
Morning			9:30-10:15	6:45-7:30			
Afternoon							
Evening	5:00-6:00						
<b>Office Wing</b>							
Morning	7-11:30	9:00-Noon	9:00-Noon	9:00-Noon	9:00-Noon	9:00-Noon	
Afternoon		Noon-5:00	Noon-5:00	Noon-5:00	Noon-5:00	Noon-5:00	
Evening							
<b>Montessori School 2nd and 3rd floors</b>							
Morning		7:30-Noon	7:30-Noon	7:30-Noon	7:30-Noon	7:30-Noon	
Afternoon		Noon-5:00	Noon-5:00	Noon-5:00	Noon-5:00	Noon-5:00	
Evening							
<b>Montessori School Basement</b>							
Morning	9:45-10:30						
Afternoon			Noon-1:00	Noon-1:00	Noon-1:00		
Evening							
<b>Parish Hall</b>							
Morning	8:30-11:30						
Afternoon							
Evening			7:30-9:00	8:00-9:30			
<b>Room 2</b>							
Morning					9:00-11:30		
Afternoon							
Evening							
<b>Children's Chapel</b>							
Morning	9:45-10:30	8:40-9:05	8:40-9:05	8:40-9:05			
Afternoon					Noon-1:00	Noon-1:00	
Evening							
<b>Kitchen</b>							
Morning	9:00-11:30						
Afternoon							
Evening							
<b>Room 22 Basement</b>							
Morning	9:45-10:30						
Afternoon							
Evening							
<b>Harvey Room</b>							
Morning				7:30-10:30			
Afternoon							
Evening		6:00-7:30					
<b>Learning Center 3rd floor Office Wing Big Room</b>							
Morning	9:45-10:30						9:30-11:00
Afternoon							
Evening							
<b>Office Wing 3rd floor Class rooms</b>							
Morning	9:45-10:30			9:00-10:00			
Afternoon							
Evening							
<b>Office Wing 3rd floor Treasurer's Office</b>							
Morning		9:00-5:00	9:00-5:00	9:00-5:00	9:00-5:00	9:00-5:00	
Afternoon							
Evening							
<b>Choir Room</b>							
Morning	9:00-10:00						
Afternoon							
Evening							
<b>Basement Toddler Rooms</b>							
Morning	9:45-10:30		9:00-11:00		9:00-11:00		
Afternoon							
Evening							
<b>Basement Crib Room</b>							
Morning	9:45-11:00						
Afternoon							
Evening							