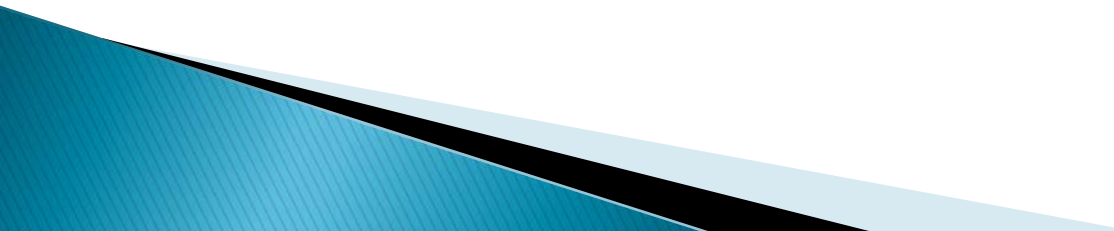


Using APPA Tools Custodial Staffing Standards FPI Survey The BOK

Tom Rathbone
Associate Vice President for Facilities – SUNY Oneonta

Assessment is Like Golf

- ▶ Play the course (“par” are the APPA standards)
 - ▶ Play others in your foursome (use the APPA FPI)
 - ▶ Play against yourself (“handicap are your prior years’ metrics)
 - ▶ Let’s start a SUNY league!
- 

Outline

- ▶ SUNY Oneonta
 - Ground Rules for the APPA Method
 - Levels 1 – 5
 - Staffing Service Levels
 - Building Examples
 - Shifts (1st, 2nd, 3rd)
 - Conclusions

General Methods

“We have done so much with so little for so long that we can now do everything with nothing forever.”

– [Attributed to US Navy Seabees](#)

Ground Rules for the APPA Method

Appearance Levels

If cleaning activities are accomplished with decreasing frequencies, appearance will suffer. 5 appearance levels are used.

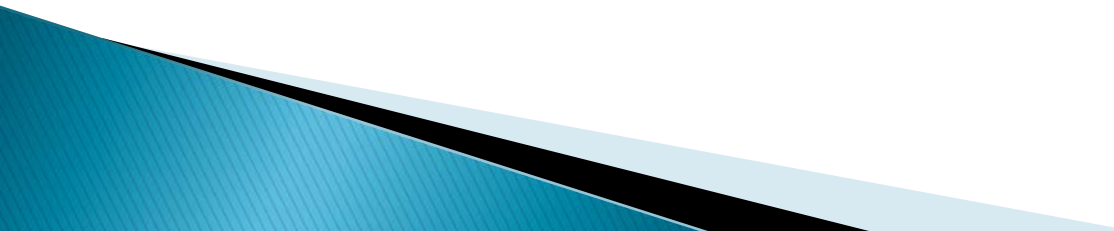
Standard Spaces

Not all spaces are created equal. 33 types of spaces are used.

CSF (cleanable SF per worker)

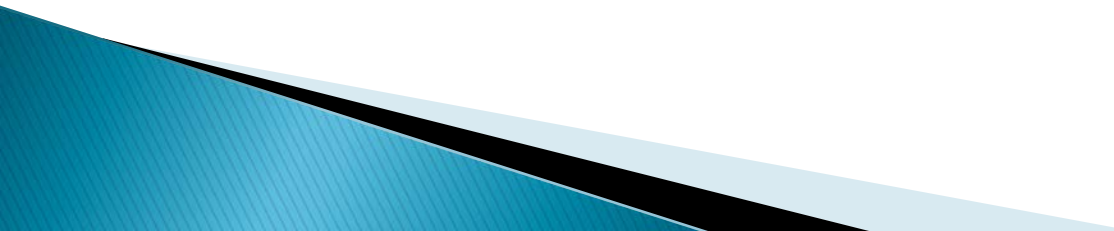
Level I

“Orderly Spotlessness”

- ▶ Floors and base moldings are bright and clean. No buildup in corners.
 - ▶ All vertical & horizontal surfaces are freshly cleaned.
 - ▶ Washroom and fixtures gleam.
 - ▶ Trash containers emptied daily.
- 

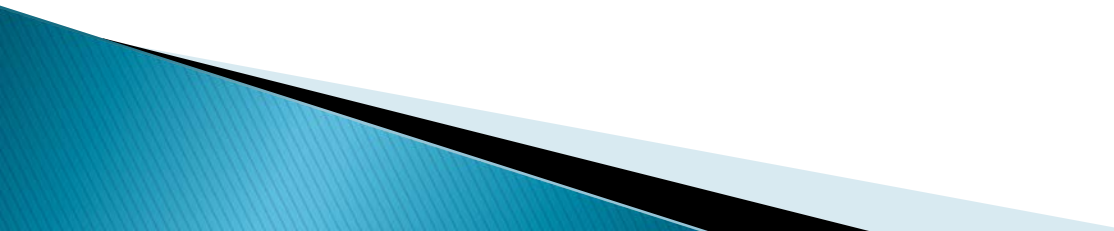
Level II

“Ordinary Tidiness”

- ▶ Floors and moldings bright and clean.
 - ▶ Vertical and horizontal surfaces are clean but some marks are noticeable.
 - ▶ Washrooms and shower fixtures gleam.
 - ▶ Trash containers emptied daily.
- 

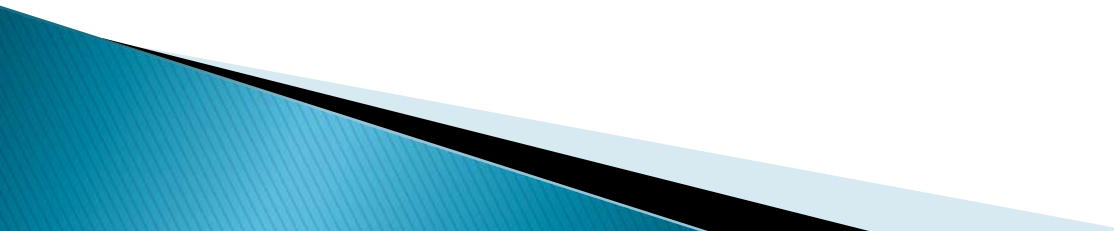
Level III

“Casual Inattention”

- ▶ Floors are swept or vacuumed clean.
 - ▶ Dull spots.
 - ▶ Vertical and horizontal surfaces have obvious markings and dust.
 - ▶ Trash containers emptied daily.
- 

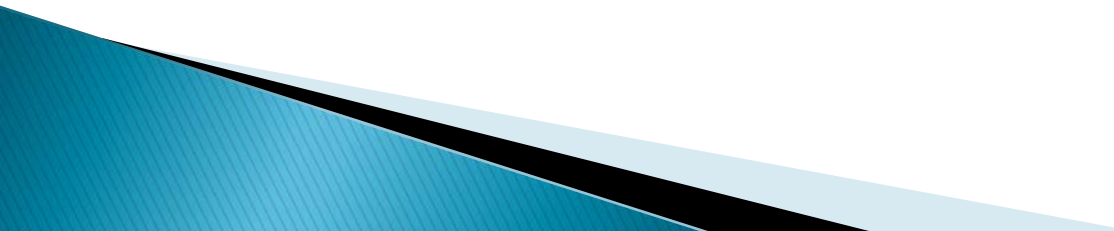
Level IV

“Moderate Dinginess”

- ▶ Floors are swept and vacuumed but are dull or dingy.
 - ▶ Dull path and matted carpet.
 - ▶ Conspicuous dust and dirt on vertical and horizontal surfaces.
 - ▶ Trash containers contain old trash.
- 

Level V

“Unkempt Neglect”

- ▶ Floors and carpets are dull and dirty.
 - ▶ Vertical and horizontal surfaces have major accumulations of dust and dirt.
 - ▶ Light fixtures are dirty.
 - ▶ Trash containers overflow.
- 

APPA Standard Space Examples

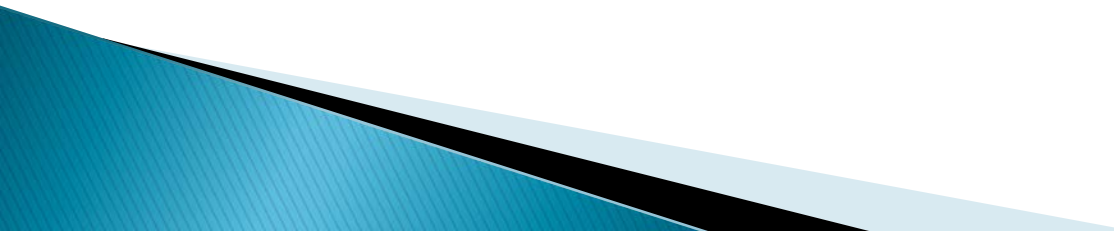
- ▶ Classroom
- ▶ Entranceway
- ▶ Locker room
- ▶ Shower room
- ▶ Circulation
- ▶ Utility
- ▶ Vending
- ▶ Cafeteria

- ▶ Library
- ▶ Auditorium
- ▶ Gymnasium
- ▶ Patient room
- ▶ Nursing station
- ▶ Research lab
- ▶ Office
- ▶ Stairwell

Staffing Service Levels

Space	I	II	III	IV	V
Class	8,500	16,700	26,500	39,500	45,600
Lab	6,900	10,600	13,500	25,000	87,200
Strwell	7,500	15,100	17,400	24,500	75,300
Office	8,400	14,600	25,100	36,000	49,500
Library	17,900	36,900	72,600	106K	127K
Gym	17,300	36,500	80,700	257K	1.1M
Entry	4,300	7,500	12,300	20,700	35,000

Questions

- ▶ How many custodians do I theoretically need to clean my facility to a certain level?
 - ▶ What is my theoretical cleaning level?
 - ▶ How many custodians do I need to improve service?
 - ▶ How many minutes per room?
- 

What About All the Other “Stuff”?

▶ Covered

- Sickness
- Training
- Vacation
- Personal days

▶ Not Covered (10%)

- Setups for events
- Long term illness
- NYS benefits
- Open House
- Commencement
- Snow removal
- Exterior cleanup
- Package deliveries
- Swing space moves

Schumacher Hall (Classroom Building) (38,292 GSF)

Space	SF	Level	CSF/Cust	FTE
Circulation	5202	II	20,500	0.2
Classroom	16,152	II	16,700	1.0
Toilets	1294	II	1300	1.0
Offices (H)	1444	II	14,600	0.1
Offices (C)	909	II	21,700	0.1
Lounges	965	II	9,600	0.1
Stairwells	1690	II	15,100	0.1
				2.6

Schumacher Hall

- | | |
|---------------------------|---------|
| ▶ APPA Standard | 2.6 FTE |
| ▶ 10% for Uncovered items | .3 FTE |

Total Recommended by APPA	2.9 FTE
Custodians Assigned	3.0 FTE

Hodgdon Hall

(Lecture Hall Building–60,917 GSF)

Space	SF	Level	CSF/Cust	FTE
Circulation	12,457	II	20,500	0.6
Class (C)	16,543	II	12,700	1.3
Class (H)	2,322	II	16,700	0.1
Storerooms	2337	II	210,000	0.0
Toilets	749	II	1,300	0.6
Utility	12,092	II	25,100	1.2
Offices (H)	1220	II	25,100	0
				3.8

Hodgdon Hall

- ▶ APPA Standard 3.8 FTE
- ▶ 10% for Uncovered items 0.4 FTE
- ▶ Recommended 4.2 FTE
- ▶ Assigned 3.0 FTE
- ▶ Staffed at 71%
- ▶ Noticeable when one person is sick, on setups or on vacation or on wintry days.
- ▶ (Building contains large storerooms and mech rooms.)

Milne Library (1 46,797 GSF)

Space	SF	Level	CSF/Cust	FTE
Circulation	9958	II	20,500	0.5
Class (H)	1728	II	16,700	0.1
Stairwells	5532	II	9,600	0.6
Storerooms	12,183	II	210,000	0.1
Toilets	1640	II	1,300	1.3
Offices (H)	1663	II	25,100	0.1
Offices (C)	7153	II	18,200	0.4
Utility	12,211	II	9,800	1.2

Milne Library (cont'd)

Entrance	1098	II	7,500	0.1
Stacks	67,261	II	36,900	1.8
				6.2
			10% Adj	6.8
			Assigned	4.0
Staffed at 59%	Noticed During absence			

Physical Science Bldg (64,092 GSF)

Space	SF	Level	CSF/Cust	FTE
Circulation	8222	II	20,500	0.4
Stairwells	1642	II	9,600	0.2
Classrooms	3494	II	16,700	0.2
Offices	5130	II	14,600	0.4
Labs	25,946	II	7,000	3.7
Class (C)	4168	II	21,700	0.4
Toilets	1086	II	2,600	0.4
				5.7

Physical Science (cont'd)

- ▶ Recommended staff by APPA 5.7
- ▶ 10% Adjustment .6
- ▶ Total Recommended 6.3
Assigned 2.0
- ▶ Building is extremely difficult to maintain at high standards at 32% staffing.

Fine Arts Building (101,280 GSF)

Space	SF	Level	CSF/Cust	FTE
Circulation	14,914	II	20,500	0.7
Stairwells	2,593	II	9,600	0.3
Class (H)	16,972	II	16,700	1.0
Offices (H)	4,571	II	18,200	0.3
Utility	16,303	II	9,800	1.7
Lab/Studio	13,313	II	7,000	1.9
Toilets	2,802	II	1,300	2.2
				8.1

Fine Arts Building

- ▶ Recommended APPA Standard 8.1
- ▶ 10% Adjustment for setups, etc. 0.8
- ▶ Total Recommended 8.9
- ▶ Assigned 3.0
- ▶ 34%
- ▶ Constant problems keeping building clean.

Health Center (13,350 GSF)

Space	SF	Level	GSF/Clnr	FTE
Circ (H)	1038	II	20,500	0.1
Toilets	594	II	1300	0.5
Off (C)	2740	II	18,200	0.2
Patient Rm	1162	II	2900	0.4
Nursing St	334	II	5700	0.1
Misc	Various	II	Various	0.2
				1.5

Health Center

▶ APPA Standard	1.5
▶ 10% Adjustment	0.1
▶ Total	1.6
▶ Assigned	0.5

Residence Halls

Cleaners per Resident

Style	Beds	Cleaners Assigned	Cleaners/Bed
Doubles	200	2	100/1
Quads	200	3	67/1
Suites	210	3	70/1
Hulbert	450	5.5	82/1
Higgins	200	3	67/1

“Doubles”

(42,900 GSF Double-loaded corridor)

Space	GSF	Level	CSF/Cst	FTE
Circ	6752	II	20,500	0.3
Stairwells	1601	II	15,200	0.1
Toilets	1587	II	1800	0.9
Lounges	3282	II	8700	0.4
Bedrooms	19,500	V*	24,700	0.8
Laundries	709	II	1300	0.5
Misc	Various	II	Various	0.2
				3.2

“Doubles”

- ▶ APPA Standard 3.2
 - Adjustments .3

Total Recommended	3.5
Assigned	2.0

Rooms not cleaned by staff until summer

No elevators

“Freshman” dorms

Will be raised staffing levels to 3

Have since been rehabilitated

Residence Hall Cleaner Ratios

Style	Adj CSF/ Cleaner	APPA Std FTE	Assigned	%
Doubles	8,905	3.5	2	57%
Quads	6,358	5.2	3	58%
Suites	4,306	2.9	3	100%
Hulbert	10,703	9.4	5.5	59%

Custodial Service Standards

▶ OFFICES

- Dust/wet mop floor areas **daily**
- Dust file cabinets **weekly**
- Vacuum carpets **weekly**
- Exposed dust blinds **monthly**

Custodial

- ▶ CORRIDORS: Dust/wet mop **daily**
- ▶ BUILDING ENTRIES: Dust/wet mop **daily**
- ▶ CLASSROOMS
 - Dust/wet mop **daily**
 - Dust window sills **weekly**
 - Clean chalkboards **daily**
 - Empty pencil sharpeners **weekly**
 - Clean erasers **weekly**
 - Dust exposed blinds **weekly**

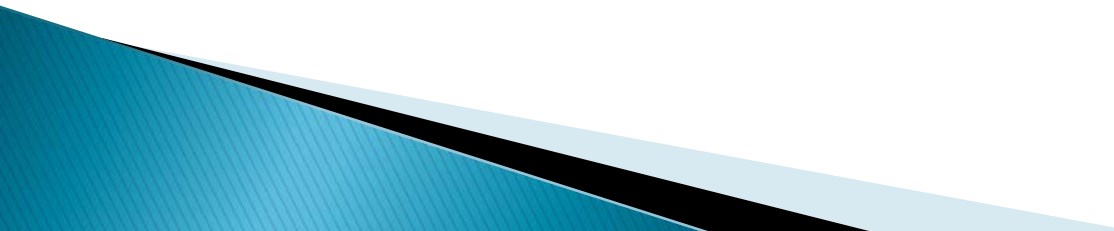
Custodial

- ▶ RESTROOMS: Fixtures, floors, walls **daily**
- ▶ LOCKER ROOMS: Toilets, floors, **daily**
- ▶ LIBRARY STACK AREAS
 - Vacuum **weekly**
 - Clean horizontal surfaces **weekly**

Custodial

- ▶ GYMNASIUM AREAS
 - Dust mop **daily**
 - Clean behind bleachers **monthly**
 - Vertical surfaces **weekly**
 - Clean/disinfect matting **daily**

Custodial

- ▶ PATIENT TREATMENT ROOMS: Daily
 - ▶ TRASH AND RECYCLABLES: Daily
 - ▶ SERVICE ENTRIES: Daily
 - ▶ EXIT SIGNS: IMMEDIATELY
 - ▶ GLAZING: Monthly
 - ▶ TV LOUNGES: Daily/vacuum weekly
 - ▶ CAGE AREAS: Weekly
- 

Custodial

- ▶ COMPUTER LABS: Vacuum carpet **daily**
- ▶ VENDING MACHINES: Clean behind **weekly**
- ▶ STOREROOMS: **Quarterly**
- ▶ LAUNDRY ROOMS:
 - Floors/surfaces **daily**
 - Behind units **weekly**

Custodial

- ▶ SCIENCE LABS: Floors, sinks, surfaces **daily**
- ▶ ART STUIDOS: Floors, sinks, surfaces **daily**
- ▶ CONFERENCE ROOMS:
 - Floors **daily**
 - Horizontal surfaces **daily**
 - Vacuum carpet **weekly**

Custodial

- ▶ ELEVATORS: Clean floors **daily**
- ▶ TUNNEL: Sweep **weekly**
- ▶ CUSTODIAL BREAKROOMS: **Daily**
- ▶ “SUITE” STYLE RES HALL RESTROOMS
 - Clean and disinfect **weekly**
- ▶ WOOD SHOPS:
 - Sweep floors **daily**
 - Horizontal surfaces **monthly**

Custodial

- ▶ EXTERIOR: Weather permitting, pick up trash adjacent to building daily.
- ▶ WATER FOUNTAINS: Daily
- ▶ SNOW AND ICE REMOVAL
 - Remove and salt **IMMEDIATELY. THIS EXIGENCY TAKES PRIORITY OVER** ALL OTHER TASKS.

Shifts

Advantages and Disadvantages

▶ Day (first) Shift

- + More interaction with students and staff
- + Quicker response to emergencies
- – More likely to be diverted to other non-cleaning tasks like setups, deliveries, etc.
- – Cleaning activities more subject to noise and odor complaints
- Daytime traffic patterns may interfere with cleaning efficiencies

Shifts

- ▶ Evening (2nd) Shift
 - + Fewer interruptions with foot traffic
 - + Good for athletic and PE buildings
 - + Great “911” team
 - + Great for evening events
 - – Less interaction with staff and students

Shifts

- ▶ Night (3rd) Shift
 - + Better access to all spaces (no conflict with class schedules)
 - + Added benefit of building security and awareness of facilities issues
 - – Personal safety concerns
 - – No contact with staff or students
 - – Limited access to employee services (payroll, HR, etc.)
 - – “Bio-rhythm” concerns
 - – Added energy costs to clean when buildings might otherwise be shut down
 - – Attendance and higher turnover (tend to be newer employees with untested records)

Oneonta Metrics

▶ FTE	98
▶ APPA Standard (Level 2)	150
▶ APPA FPI (Level 2.56)	70

Conclusions

- ▶ The APPA standards are realistic!
 - ▶ “Early” staffing levels in buildings generally reflected the results of the APPA studies but cut-backs over the years have brought most buildings to an understaffed level.
 - ▶ We generally don’t “lose” square footage in cut-backs. We’re still expected to maintain facilities despite cut-backs.
 - ▶ Level II cleaning standards are possible at 75% if there are no other tasks, snow removals, prolonged sickness, or other long-term absences.
- 

Conclusions

- Building administrators make a difference.
 - Easy to use as a management tool
 - Particularly effective in staffing up new buildings
 - A great indicator of building service/cleanliness
 - Distorted by special events
- 

Office Tasking Changes

Administrative Offices

118,120 Square Feet

Tasks - Short Description	Annual Frequency		Yearly Service Hours		FTE	
	Current	Proposed	Current	Proposed	Current	Proposed
Empty trash	260	52	1,736.80	347.36	1.03	0.21
Spot clean carpet	260	52	790.40	158.08	0.47	0.09
Spot mop	208	52	222.56	55.64	0.13	0.03
Traffic vacuum	208	52	1,591.20	397.80	0.95	0.24
Dust mop	104	52	278.72	139.36	0.17	0.08
Dust and spot clean	52	26	1,022.32	511.16	0.61	0.30
Damp mop	52	26	279.24	139.62	0.17	0.08
Full vacuum	52	12	789.36	182.16	0.47	0.11
Burnish floor	52	12	225.16	51.96	0.13	0.03
Polish wood furniture	12	1	1,155.72	96.31	0.69	0.06
Strip and refinish	1	1	98.35	98.35	0.06	0.06
Scrub and recoat	1	1	49.18	49.18	0.03	0.03
Shampoo/hot H2O extract carpet	1	1	273.26	273.26	0.16	0.16
Full vacuum on request, 1x	1	1	0.03	0.03	0.00	0.00
Dust and spot clean on request, 1x	1	1	0.03	0.03	0.00	0.00
			8,512.33	2,500.30	5.07	1.49

Current Percentage of Overall Program

Administrative Offices	4.50%
All Offices	11.98%

Proposed Percentage of Overall Program

1.51%
5.25%

Lounge Tasking Changes

Lounges

192,998 Square Feet

Tasks - Short Description	Annual Frequency		Yearly Service Hours		FTE	
	Current	Proposed	Current	Proposed	Current	Proposed
Empty lounge trash	228	228	2,927.52	2,927.52	1.74	1.74
Dust, damp wipe lounge	228	114	6,589.20	3,294.60	3.92	1.96
Dust mop	228	114	1,495.68	747.84	0.89	0.45
Damp mop	228	114	2,991.36	1,495.68	1.78	0.89
Full vacuum	228	114	4,826.76	2,413.38	2.87	1.44
Spot clean carpet	228	114	964.44	482.22	0.57	0.29
High/low dust	52	52	1,669.72	1,669.72	0.99	0.99
Burnish floor	52	52	575.64	575.64	0.34	0.34
Wash trash containers	24	24	277.44	277.44	0.17	0.17
Vacuum furniture	24	24	924.72	924.72	0.55	0.55
Damp wipe air vents	4	4	64.20	64.20	0.04	0.04
Scrub and recoat	4	3	140.97	140.97	0.08	0.08
Damp wipe light fixtures	2	1	12.84	12.84	0.01	0.01
Shampoo furniture	1	1	80.27	80.27	0.05	0.05
Strip and refinish	1	1	94.45	94.45	0.06	0.06
Shampoo/hot H2O extract carpet	1	1	381.86	381.86	0.23	0.23
			<u>24,017.07</u>	<u>15,583.35</u>	<u>14.30</u>	<u>9.28</u>

Current Percentage of Overall Program 12.69%

Proposed Percentage of Overall Program 9.42%

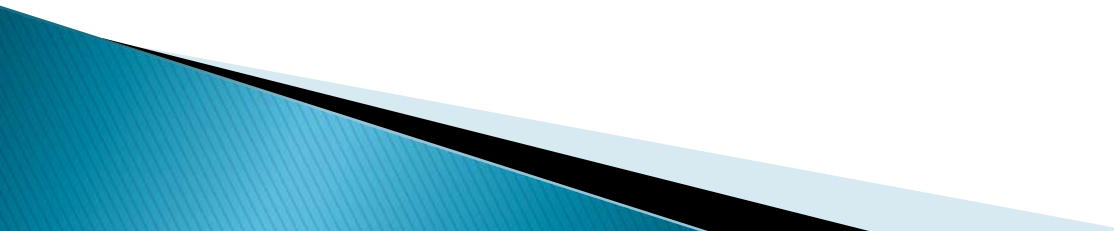
Conference Room Tasking Changes

Conference Rooms

51,170 Square Feet

Tasks - Short Description	Annual Frequency		Yearly Service Hours		FTE	
	Current	Proposed	Current	Proposed	Current	Proposed
Empty trash	260	130	886.60	443.30	0.53	0.26
Spot clean carpet	260	130	145.60	72.80	0.09	0.04
Spot mop	208	104	156.00	78.00	0.09	0.05
Spot vacuum	208	104	235.04	117.52	0.14	0.07
Full vacuum	52	52	146.64	146.64	0.09	0.09
High/low dust	52	52	443.56	443.56	0.26	0.26
Damp mop	52	52	180.44	180.44	0.11	0.11
Dust mop	52	52	97.76	97.76	0.06	0.06
Vacuum furniture	12	12	102.36	102.36	0.06	0.06
			<u>2,394.00</u>	<u>1,682.38</u>	<u>1.43</u>	<u>1.00</u>
Current Percentage of Overall Program	1.26%		Proposed Percentage of Overall Program		1.02%	

Using the APPA FPI Survey

- ▶ 1st year – 2 weeks of “Turtling Up”
 - ▶ 2nd year – 2 days of “Turtling Up”
 - ▶ Your data gets reviewed for “pass/fail” and you get immediate feedback.
 - ▶ Great metrics for operations, energy, construction, HR, and customer satisfaction
- 

Case Study From Yesterday

KPIs (annual)	Institution I	All APPA	Oneonta	Research
Facilities Op Exp+Ut \$/SF	\$4.98	\$6.91	\$6.10	\$7.46
Fac Ops Exp % CRV	0.33%	1.61%	1.26%	1.29%
Facilities Ops Expenses % GIE	1.91%	6.00%	13.57%	4.03%
Utilities \$/SF	\$2.66	\$2.02	\$1.47	\$2.97
Utilities \$/MMBTU	\$12.46	\$17.86	\$16.22	\$17.25
Utilities BTU/SF	213,473	121,361	117,840	179,832
Rehab Cap % CRV	0.37%	2.71%	6.83%	2.17%

O&M Costs/SF (Customer Satisfaction)

Surveyed Customer Satisfaction Levels	O&M Cost/SF
Satisfied	\$7.48
Very Satisfied	\$6.41
Extremely Satisfied	\$9.02
Oneonta	\$6.10

Custodial Cost Impact

	Service Level	Cost/GSF	GSF/FTE
APPA Avg	2.56	\$1.36	32,592
Level 2 Avg	2	\$1.55	30,506
Oneonta	2	\$2.40	20,823

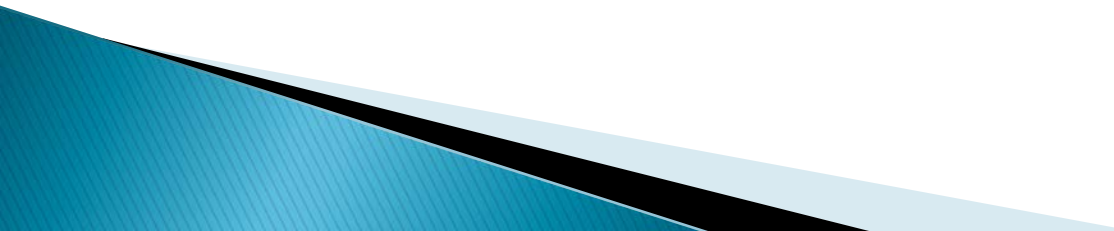
Maintenance Cost Impact

	Service Level	\$/GSF	GSF/FTE
APPA Avg		\$1.57	71,192
Level 2 Avg	2	\$1.96	55,313
Oneonta	2	\$1.34	66,723

Maintenance Labor, Materials, Service \$

	Service Lvl	Cost/SF	Labor Cost	Materials and Svc Cost
APPA Avg		\$1.57	\$0.97	\$0.83
Level 2 Avg	2	\$2.22	\$1.52	\$0.70
Oneonta	2	\$1.34	\$1.11	\$0.18

The Body of Knowledge (BOK)

- ▶ Free to APPA members
 - ▶ Patterned after the APPA institute
 - ▶ Modules
 - Operations
 - Leadership and Management
 - Energy and Utilities
 - Planning and Design
- 

Summary

- ▶ APPA membership can be viewed as tens of thousands of dollars of “free” consulting (at least for obtaining the data).
 - ▶ I wish we had APPA standards and benchmarking for space utilization.
 - ▶ Questions?
- 