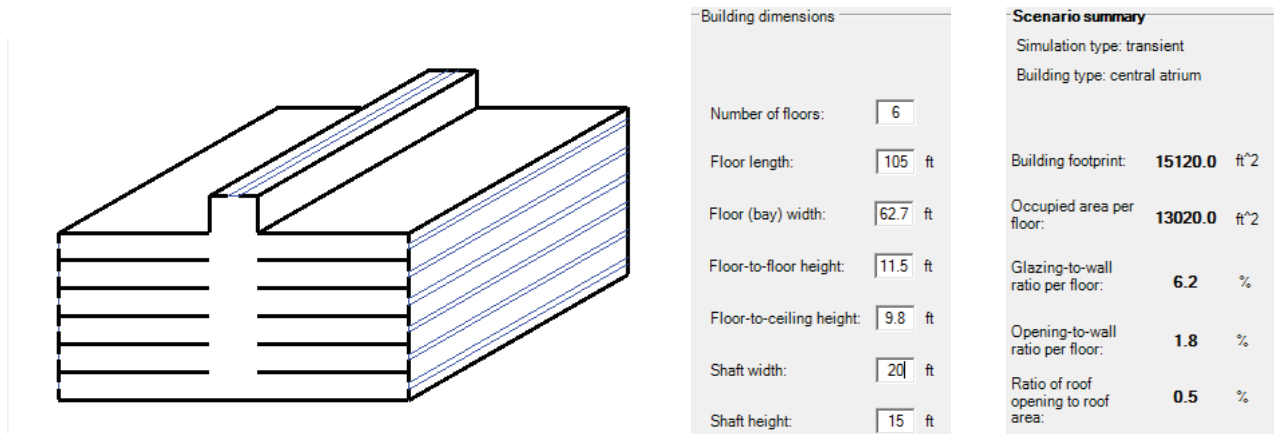
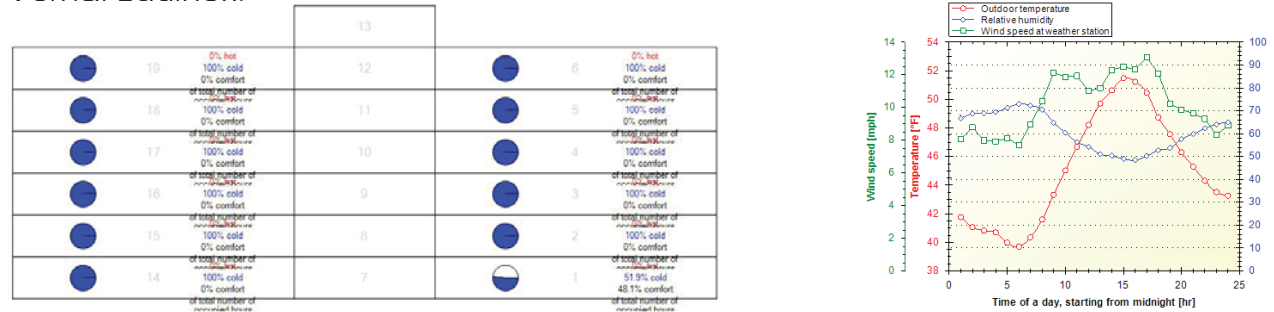


Design 1: Central Atrium

Use of a Central Atrium running through Meyerson Hall allowed the building to be naturally ventilated in the Summer and early Fall months. The building was 100% comfortable during the Fall months using operable windows and night flushing. During the summer months, the mornings and evenings were comfortable, while the peak afternoon hours were too hot to use natural ventilation.



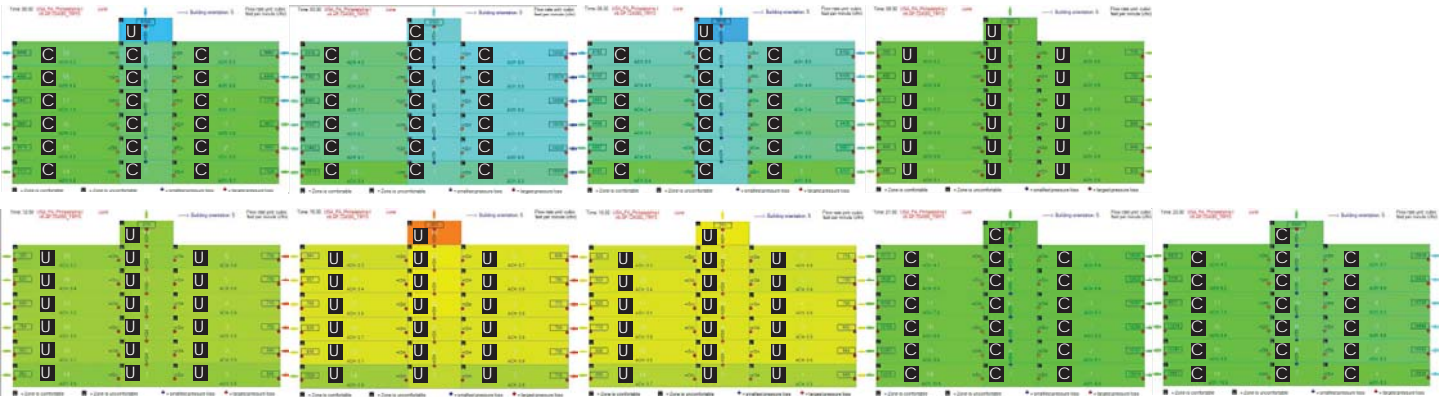
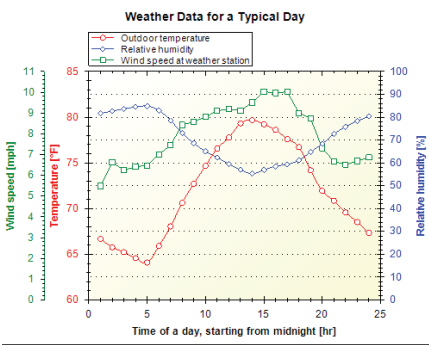
Vernal Equinox:



***I had some difficulty with CoolVent giving me weird results with the "Thermal Comfort Analysis" simply saying everything was 100% comfortable when the animation showed otherwise. ***

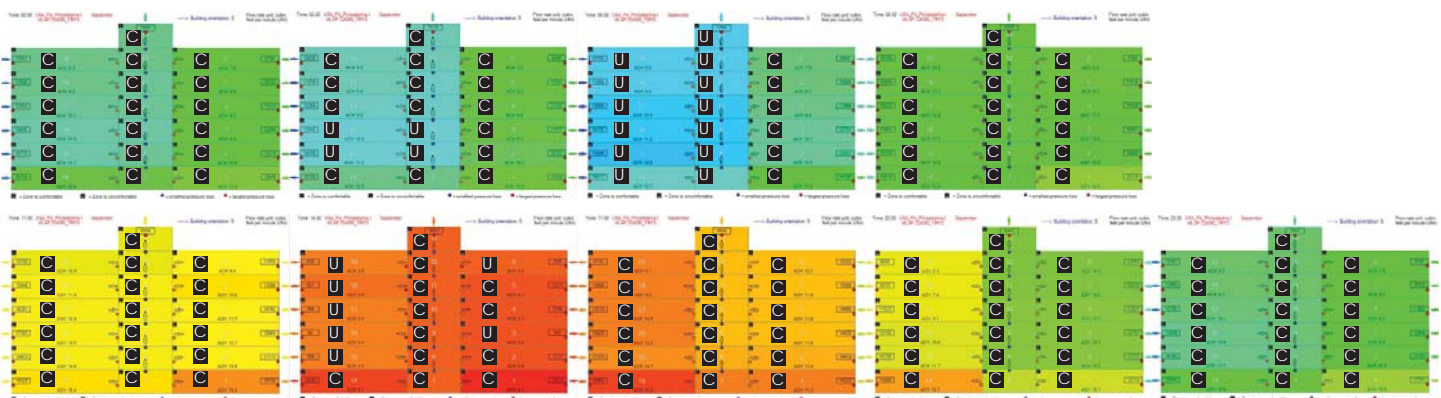
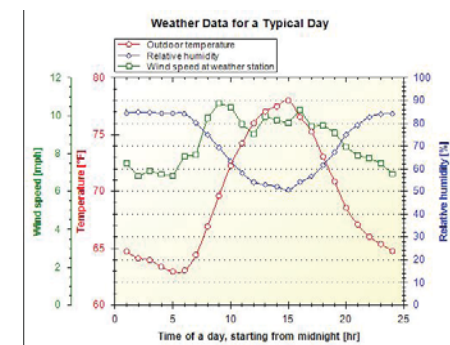
Summer Solstice:

		13		
☉	19		☉	6
☉	18		☉	5
☉	17		☉	4
☉	16		☉	3
☉	15		☉	2
☉	14		☉	1



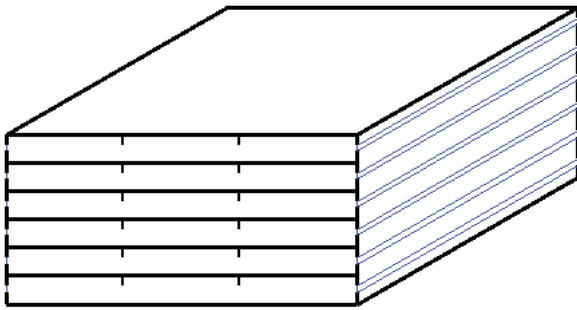
Autumnal Equinox:

		13		
☉	19		☉	6
☉	18		☉	5
☉	17		☉	4
☉	16		☉	3
☉	15		☉	2
☉	14		☉	1



Design 2: Cross Ventilation

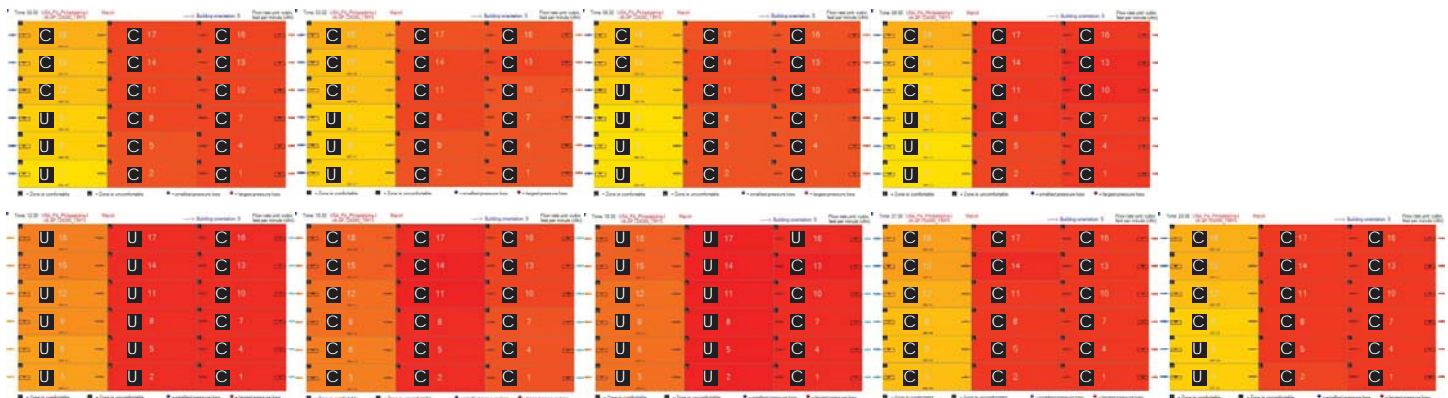
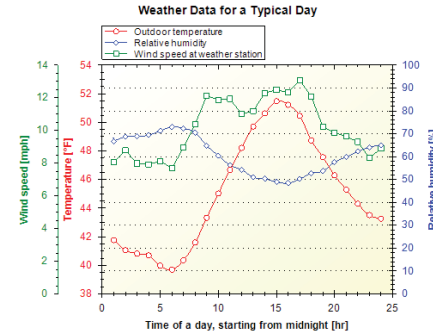
Use of Cross Ventilation helps to make the space comfortable in the mornings and afternoons, but during the Summer and Fall the heat of the afternoon makes the space too hot. Dividing the volume in to 3 typically meant the that inner mixing chamber trended comfortable.



Building dimensions		Scenario summary	
Number of sections:	3	Simulation type: transient	
Number of floors:	6	Building type: cross ventilation	
Floor length:	105 ft	Building footprint:	15120.0 ft ²
Section width:	48 ft	Occupied area per floor:	15120.0 ft ²
Floor-to-floor height:	11.6 ft	Glazing-to-wall ratio per floor:	6.2 %
Floor-to-ceiling height:	9.7 ft	Opening-to-wall ratio per floor:	1.8 %
		Ratio of roof opening to roof area:	0.0 %

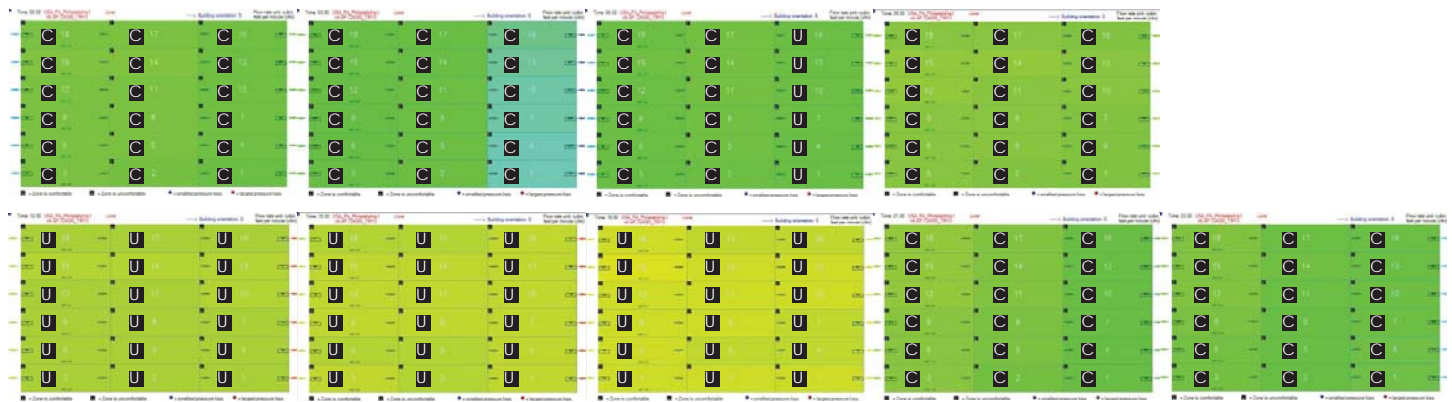
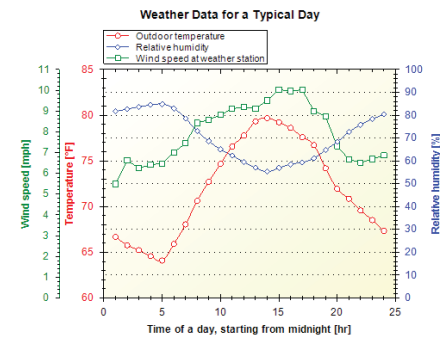
Vernal Equinox:

☉ 18	1.9% hot 0% cold 98.1% comfort number of occ: 0.000	☉ 17	1.9% hot 0% cold 98.1% comfort number of occ: 0.000	☉ 16	0% hot 0% cold 100% comfort number of occ: 0.000
☉ 15	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 14	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 13	0% hot 0% cold 100% comfort number of occ: 0.000
☉ 12	1.9% hot 0% cold 98.1% comfort number of occ: 0.000	☉ 11	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 10	0% hot 0% cold 100% comfort number of occ: 0.000
☉ 9	13.6% cold 86.5% comfort number of occ: 0.000	☉ 8	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 7	0% hot 0% cold 100% comfort number of occ: 0.000
☉ 6	26.9% cold 73.1% comfort number of occ: 0.000	☉ 5	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 4	0% hot 0% cold 100% comfort number of occ: 0.000
☉ 3	30.8% cold 69.2% comfort number of occ: 0.000	☉ 2	0% hot 0% cold 100% comfort number of occ: 0.000	☉ 1	0% hot 0% cold 100% comfort number of occ: 0.000





















Summer Solstice:

	18	17.3% hot 0% cold 82.7% constant number of ooc		17	23.1% hot 0% cold 76.9% constant number of ooc		16	23.1% hot 0% cold 76.9% constant number of ooc
	15	0% cold 92.3% constant number of ooc		14	0% cold 76.9% constant number of ooc		13	0% cold 76.9% constant number of ooc
	12	0% cold 88.9% constant number of ooc		11	0% cold 76.9% constant number of ooc		10	0% cold 76.9% constant number of ooc
	9	0% cold 82.7% constant number of ooc		8	0% cold 76.9% constant number of ooc		7	0% cold 78.8% constant number of ooc
	6	0% cold 82.7% constant number of ooc		5	0% cold 76.9% constant number of ooc		4	0% cold 78.8% constant number of ooc
	3	0% cold 82.7% constant number of ooc		2	0% cold 76.9% constant number of ooc		1	0% cold 80.8% constant number of ooc



Autumnal Equinox:

	18	0% hot 0% cold 100% comfort number of ooc		17	0% hot 0% cold 100% comfort number of ooc		16	0% hot 0% cold 100% comfort number of ooc
	15	0% cold 100% comfort number of ooc		14	0% cold 100% comfort number of ooc		13	0% cold 100% comfort number of ooc
	12	0% cold 100% comfort number of ooc		11	0% cold 100% comfort number of ooc		10	0% cold 100% comfort number of ooc
	9	0% cold 100% comfort number of ooc		8	0% cold 100% comfort number of ooc		7	0% cold 100% comfort number of ooc
	6	0% cold 100% comfort number of ooc		5	0% cold 100% comfort number of ooc		4	0% cold 100% comfort number of ooc
	3	0% cold 100% comfort number of ooc		2	0% cold 100% comfort number of ooc		1	0% cold 100% comfort number of ooc

