

**8 Bins of Building Types**  
**Star Clean Data**  
**N= 5573 & 21 Variables**

**The FREQ Procedure**

bname				
bname	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Education	42	0.75	42	0.75
Facility	123	2.21	165	2.96
General Medical	18	0.32	183	3.28
Hotel	136	2.44	319	5.72
Multifamily	4652	83.47	4971	89.20
Office	545	9.78	5516	98.98
Parking	2	0.04	5518	99.01
Retail	55	0.99	5573	100.00

**Input vs. Target  
Correlations (Star)  
N= 5573 & 21 Variables**

**The CORR Procedure**

<b>13 With Variables:</b>	bin1 bin3 bin6 bin7 bin8 bin9 bin11 bin12 occupy floor_area water_use ws_ngas ws_elec
<b>1 Variables:</b>	site_eui

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
<b>bin1</b>	5573	0.00754	0.08649	42.00000	0	1.00000	D1 Education
<b>bin3</b>	5573	0.02207	0.14693	123.00000	0	1.00000	D3 Facility
<b>bin6</b>	5573	0.00323	0.05675	18.00000	0	1.00000	D6 Medical
<b>bin7</b>	5573	0.02440	0.15431	136.00000	0	1.00000	D7 Hotel
<b>bin8</b>	5573	0.83474	0.37145	4652	0	1.00000	D8 Multifamily
<b>bin9</b>	5573	0.09779	0.29706	545.00000	0	1.00000	D9 Office
<b>bin11</b>	5573	0.0003589	0.01894	2.00000	0	1.00000	D11 Parking
<b>bin12</b>	5573	0.00987	0.09886	55.00000	0	1.00000	D12 Retail
<b>occupy</b>	5573	99.30648	4.18404	553435	0	100.00000	occupy
<b>floor_area</b>	5573	135498	171338	755129971	8000	2376683	floor_area
<b>water_use</b>	5573	14475	113582	80666885	0	3414616	water_use
<b>ws_ngas</b>	5573	2.17795	125.81696	12138	0	9393	ws_ngas
<b>ws_elec</b>	5573	1403817	9666257	7823474906	0	452023582	ws_elec
<b>site_eui</b>	5573	281.28868	11790	1567622	0	869265	site_eui

Pearson Correlation Coefficients, N = 5573	
Prob >  r  under H0: Rho=0	
	site_eui
<b>bin1</b> D1 Education	-0.00148 0.9118
<b>bin3</b> D3 Facility	-0.00295 0.8255
<b>bin6</b> D6 Medical	-0.00010 0.9941
<b>bin7</b> D7 Hotel	0.00459 0.7317
<b>bin8</b> D8 Multifamily	0.00423 0.7525
<b>bin9</b>	-0.00530

D9 Office	0.6921
<b>bin11</b> D11 Parking	-0.00034 0.9797
<b>bin12</b> D12 Retail	-0.00130 0.9230
<b>occupy</b> occupy	-0.03060 0.0223
<b>floor_area</b> floor_area	-0.00702 0.6005
<b>water_use</b> water_use	-0.00139 0.9174
<b>ws_ngas</b> ws_ngas	0.98747 <.0001
<b>ws_elec</b> ws_elec	0.02847 0.0335

## Categorical vs. Categorical Correlations (Star) N= 5573 & 21 Variables

### The CORR Procedure

<b>8 With Variables:</b>	bin1 bin3 bin6 bin7 bin8 bin9 bin11 bin12
<b>8 Variables:</b>	bin1 bin3 bin6 bin7 bin8 bin9 bin11 bin12

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
<b>bin1</b>	5573	0.00754	0.08649	42.00000	0	1.00000	D1 Education
<b>bin3</b>	5573	0.02207	0.14693	123.00000	0	1.00000	D3 Facility
<b>bin6</b>	5573	0.00323	0.05675	18.00000	0	1.00000	D6 Medical
<b>bin7</b>	5573	0.02440	0.15431	136.00000	0	1.00000	D7 Hotel
<b>bin8</b>	5573	0.83474	0.37145	4652	0	1.00000	D8 Multifamily
<b>bin9</b>	5573	0.09779	0.29706	545.00000	0	1.00000	D9 Office
<b>bin11</b>	5573	0.0003589	0.01894	2.00000	0	1.00000	D11 Parking
<b>bin12</b>	5573	0.00987	0.09886	55.00000	0	1.00000	D12 Retail

Pearson Correlation Coefficients, N = 5573 Prob >  r  under H0: Rho=0								
	<b>bin1</b>	<b>bin3</b>	<b>bin6</b>	<b>bin7</b>	<b>bin8</b>	<b>bin9</b>	<b>bin11</b>	<b>bin12</b>
<b>bin1</b> D1 Education	1.00000	-0.01309 0.3285	-0.00496 0.7112	-0.01378 0.3036	-0.19585 <.0001	-0.02869 0.0322	-0.00165 0.9019	-0.00870 0.5161
<b>bin3</b> D3 Facility	-0.01309 0.3285	1.00000	-0.00855 0.5233	-0.02376 0.0761	-0.33763 <.0001	-0.04946 0.0002	-0.00285 0.8318	-0.01500 0.2629
<b>bin6</b> D6 Medical	-0.00496 0.7112	-0.00855 0.5233	1.00000	-0.00900 0.5016	-0.12793 <.0001	-0.01874 0.1618	-0.00108 0.9358	-0.00568 0.6714
<b>bin7</b> D7 Hotel	-0.01378 0.3036	-0.02376 0.0761	-0.00900 0.5016	1.00000	-0.35545 <.0001	-0.05207 0.0001	-0.00300 0.8230	-0.01579 0.2386
<b>bin8</b> D8 Multifamily	-0.19585 <.0001	-0.33763 <.0001	-0.12793 <.0001	-0.35545 <.0001	1.00000	-0.73993 <.0001	-0.04258 0.0015	-0.22438 <.0001
<b>bin9</b> D9 Office	-0.02869 0.0322	-0.04946 0.0002	-0.01874 0.1618	-0.05207 0.0001	-0.73993 <.0001	1.00000	-0.00624 0.6415	-0.03287 0.0141
<b>bin11</b> D11 Parking	-0.00165 0.9019	-0.00285 0.8318	-0.00108 0.9358	-0.00300 0.8230	-0.04258 0.0015	-0.00624 0.6415	1.00000	-0.00189 0.8877
<b>bin12</b> D12 Retail	-0.00870 0.5161	-0.01500 0.2629	-0.00568 0.6714	-0.01579 0.2386	-0.22438 <.0001	-0.03287 0.0141	-0.00189 0.8877	1.00000

## Categorical vs. Feature Correlations (Star) N= 5573 & 21 Variables

### The CORR Procedure

<b>6 With Variables:</b>	star occupy floor_area water_use ws_ngas ws_elec
<b>8 Variables:</b>	bin1 bin3 bin6 bin7 bin8 bin9 bin11 bin12

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
<b>star</b>	5573	59.69926	28.96266	332704	1.00000	100.00000	star
<b>occupy</b>	5573	99.30648	4.18404	553435	0	100.00000	occupy
<b>floor_area</b>	5573	135498	171338	755129971	8000	2376683	floor_area
<b>water_use</b>	5573	14475	113582	80666885	0	3414616	water_use
<b>ws_ngas</b>	5573	2.17795	125.81696	12138	0	9393	ws_ngas
<b>ws_elec</b>	5573	1403817	9666257	7823474906	0	452023582	ws_elec
<b>bin1</b>	5573	0.00754	0.08649	42.00000	0	1.00000	D1 Education
<b>bin3</b>	5573	0.02207	0.14693	123.00000	0	1.00000	D3 Facility
<b>bin6</b>	5573	0.00323	0.05675	18.00000	0	1.00000	D6 Medical
<b>bin7</b>	5573	0.02440	0.15431	136.00000	0	1.00000	D7 Hotel
<b>bin8</b>	5573	0.83474	0.37145	4652	0	1.00000	D8 Multifamily
<b>bin9</b>	5573	0.09779	0.29706	545.00000	0	1.00000	D9 Office
<b>bin11</b>	5573	0.0003589	0.01894	2.00000	0	1.00000	D11 Parking
<b>bin12</b>	5573	0.00987	0.09886	55.00000	0	1.00000	D12 Retail

Pearson Correlation Coefficients, N = 5573 Prob >  r  under H0: Rho=0								
	bin1	bin3	bin6	bin7	bin8	bin9	bin11	bin12
<b>star</b> star	-0.03162 0.0182	-0.00413 0.7577	-0.00694 0.6043	-0.11100 <.0001	-0.04472 0.0008	0.12332 <.0001	0.00936 0.4850	0.00674 0.6149
<b>occupy</b> occupy	0.00205 0.8786	-0.00283 0.8327	0.00944 0.4812	-0.10304 <.0001	0.12602 <.0001	-0.10570 <.0001	0.00314 0.8147	0.00136 0.9189
<b>floor_area</b> floor_area	-0.02096 0.1177	-0.02801 0.0365	0.06600 <.0001	0.08549 <.0001	-0.22695 <.0001	0.23783 <.0001	-0.00418 0.7553	0.02749 0.0402
<b>water_use</b> water_use	-0.00954 0.4764	-0.01247 0.3520	0.20411 <.0001	0.02927 0.0289	-0.03492 0.0091	-0.02095 0.1180	-0.00216 0.8717	0.05859 <.0001
<b>ws_ngas</b> ws_ngas	-0.00120 0.9285	-0.00223 0.8681	-0.00040 0.9762	-0.00220 0.8694	0.00660 0.6221	-0.00511 0.7029	-0.00029 0.9827	-0.00138 0.9181
<b>ws_elec</b> ws_elec	-0.00422 0.7526	-0.01141 0.3942	0.05059 0.0002	0.06753 <.0001	-0.11992 <.0001	0.10508 <.0001	0.00048 0.9716	0.02094 0.1181



## Feature vs. Feature Correlations (Star) N= 5573 & 21 Variables

### The CORR Procedure

<b>6 With Variables:</b>	star occupy floor_area water_use ws_ngas ws_elec
<b>5 Variables:</b>	occupy floor_area water_use ws_ngas ws_elec

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
<b>star</b>	5573	59.69926	28.96266	332704	1.00000	100.00000	star
<b>occupy</b>	5573	99.30648	4.18404	553435	0	100.00000	occupy
<b>floor_area</b>	5573	135498	171338	755129971	8000	2376683	floor_area
<b>water_use</b>	5573	14475	113582	80666885	0	3414616	water_use
<b>ws_ngas</b>	5573	2.17795	125.81696	12138	0	9393	ws_ngas
<b>ws_elec</b>	5573	1403817	9666257	7823474906	0	452023582	ws_elec

Pearson Correlation Coefficients, N = 5573 Prob >  r  under H0: Rho=0					
	occupy	floor_area	water_use	ws_ngas	ws_elec
<b>star</b> star	-0.00816 0.5427	0.00903 0.5005	-0.04268 0.0014	-0.02823 0.0351	-0.06823 <.0001
<b>occupy</b> occupy	1.00000	-0.07526 <.0001	-0.06998 <.0001	-0.02962 0.0270	-0.02403 0.0729
<b>floor_area</b> floor_area	-0.07526 <.0001	1.00000	0.10382 <.0001	-0.00645 0.6301	0.25404 <.0001
<b>water_use</b> water_use	-0.06998 <.0001	0.10382 <.0001	1.00000	-0.00127 0.9242	0.03458 0.0098
<b>ws_ngas</b> ws_ngas	-0.02962 0.0270	-0.00645 0.6301	-0.00127 0.9242	1.00000	-0.00121 0.9281
<b>ws_elec</b> ws_elec	-0.02403 0.0729	0.25404 <.0001	0.03458 0.0098	-0.00121 0.9281	1.00000