

Additional Analysis for the C&I Lighting Hours-of-Use Study

PRESENTATION

January 20, 2015

AGENDA

- Objective
- Past Key Findings
- Uncertainties
- Proposed Additional Analysis

OBJECTIVE

Study Objective: Collect reliable data on C&I lighting hours-of-use (HOU) and coincidence factors (CFs) to validate and calibrate the MEMD to accurately reflect local operating conditions.

Additional Analysis Purpose: Provide additional confidence in the reliability of the MEMD energy savings estimates given uncertainties in study findings

KEY FINDINGS

Hours of Use and Coincidence Factor Values

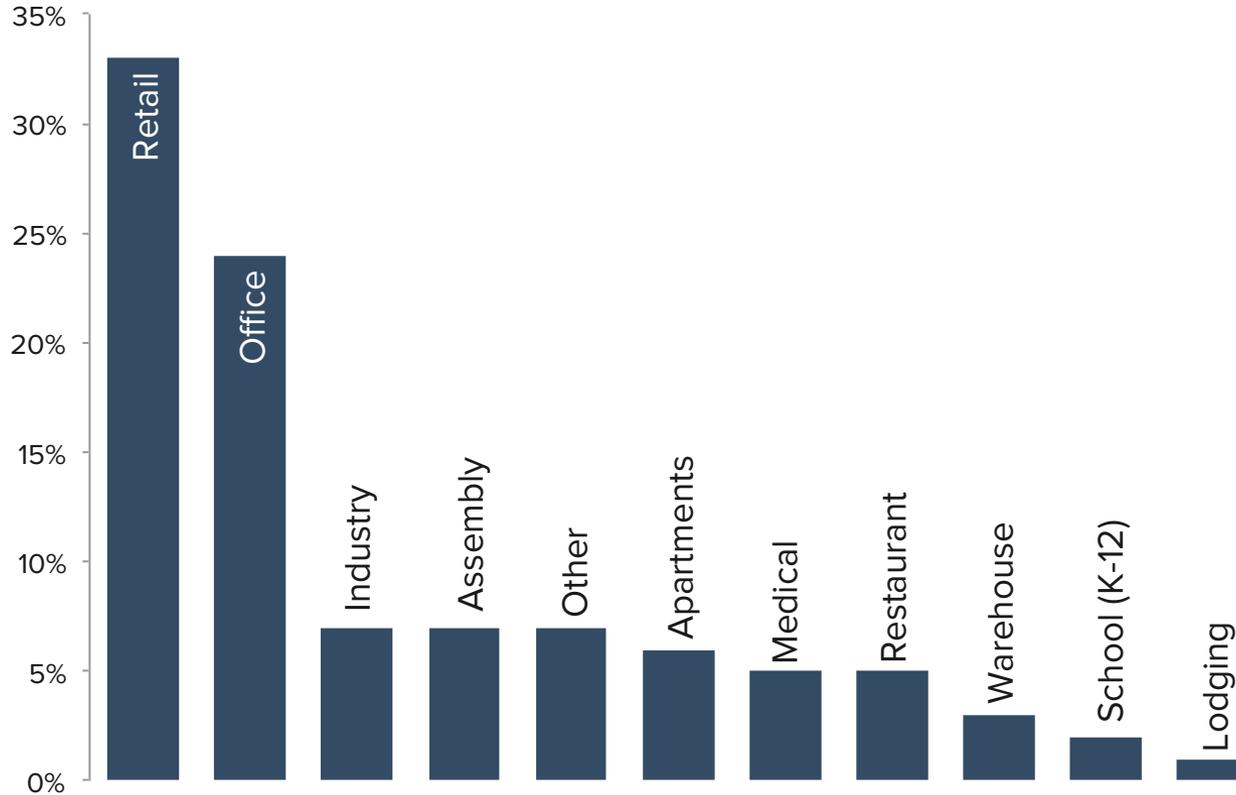
Variable	2014 MEMD Value (a)	Calibrated Value (b)	Ratio (b)/(a)
Hours of Use	3,680	2,744	0.755
Coincidence Factor	0.90	0.55	0.611

Non-high bay applications only.

Metered observations were weighted by metered space and facility type and then adjusted for all facility types collected in a facility type incidence study.

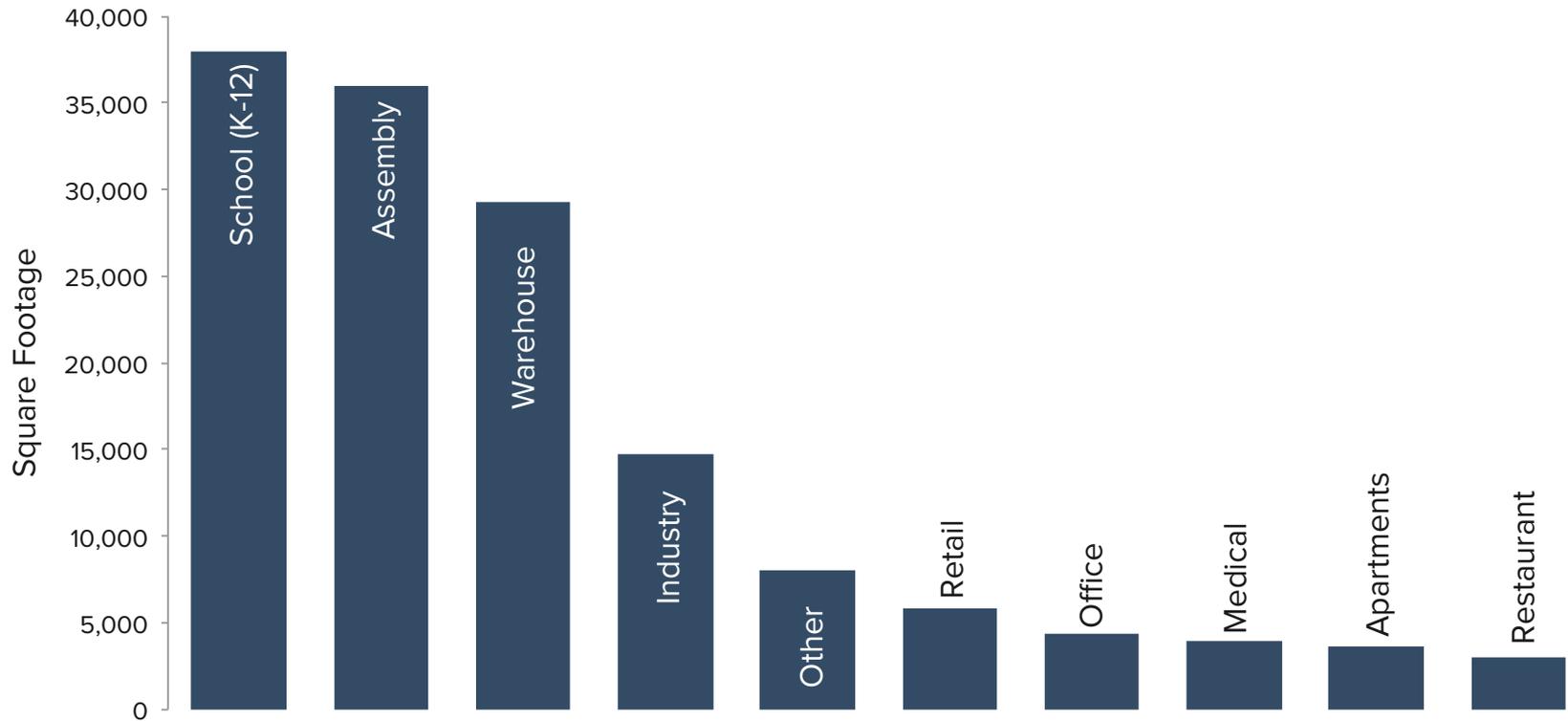
KEY FINDINGS

Facility Type Distribution (through Incidence Study)



KEY FINDINGS

Square Footage by Facility Type



UNCERTAINTIES

- Is the distribution of facility types among C&I population fairly represented by incidence study findings?
- Are metered buildings representative of similar facilities in Michigan in terms of key characteristics that may impact lighting usage?

PROPOSED ADDITIONAL ANALYSIS



PROPOSED ADDITIONAL ANALYSIS

Example of CBECS Data

	Number of Buildings (thousand)					Total Floorspace (million square feet)				
	All Buildings	North east	Mid-west	South	West	All Buildings	North-east	Mid-west	South	West
All Buildings	4,859	761	1,305	1,873	920	71,658	13,995	18,103	26,739	12,820
Principal Building Activity										
Education	386	31	63	156	136	9,874	1,683	2,541	3,983	1,667
Food Sales	226	40	57	94	Q	1,255	238	320	487	Q
Food Service	297	37	88	127	45	1,654	172	453	764	265
Health Care	129	18	31	48	31	3,163	535	798	1,277	553
Inpatient	8	1	2	4	1	1,905	358	438	838	270
Outpatient	121	17	29	44	30	1,258	177	359	438	283
Lodging	142	27	34	52	30	5,096	1,171	1,144	1,694	1,087
Mercantile	657	111	150	295	101	11,192	1,720	1,904	5,094	2,473
Retail (Other Than Mall)	443	76	111	197	60	4,317	630	880	1,844	963
Enclosed and Strip Malls	213	35	39	98	41	6,875	1,090	1,024	3,251	1,511
Office	824	155	231	250	187	12,208	3,012	2,989	3,782	2,425
Public Assembly	277	63	57	92	65	3,939	1,048	1,012	1,174	706
Public Order and Safety	71	23	20	15	Q	1,090	362	221	373	Q
Religious Worship	370	52	107	158	53	3,754	627	1,115	1,498	515
Service	622	100	221	198	103	4,050	740	1,289	1,358	664
Warehouse and Storage	597	65	160	277	95	10,078	1,523	3,017	3,966	1,572
Other	79	17	31	21	9	1,738	649	316	Q	186
Vacant	182	23	55	88	Q	2,567	517	984	701	Q

QUESTIONS?

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