

## **The Lighting EAct Tax Opportunity for Los Angeles Parking Garages**

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By population Los Angeles is America's second largest city. However, as compared to the other top four population cities namely New York, Chicago, and Houston, Los Angeles is a city of car owners that drive everywhere and frequently park in parking garages both for work and non work activities. Parking garage lighting retrofits provide one of the best economic opportunities for energy cost savings and EAct tax savings.

### **Los Angeles Population Urban Geography Comparison**

The four largest U.S city populations to geography comparison illustrates why automobiles are the most common mode of transportation in Los Angeles as presented below.

#### LA Population/Geography Comparison

<b>City</b>	<b>Total Population</b>	<b>City</b>	<b>Population by Square Mile</b>
New York	8,175,133	Houston	628
Los Angeles	3,792,621	Los Angeles	503
Chicago	2,695,598	New York	469
Houston	2,099,451	Chicago	234

### **Los Angeles Leads in Combined Urban/Suburban Parking Garage Density**

Los Angeles leads the world in parking garage density. In a detailed abstract from the Journal of Urban Planning and Development entitled Parking, People and Cities<sup>i</sup>, Michael Manville and Donald devoted a substantial portion of the large volume of Los Angeles region parking garages, The attached chart presented in Manville and Shoup's article illustrates this point:

## Parking in the Central Business Districts (CBD) <sup>ii</sup>

City (1)	Land Area (hectares) (2)	Parking Spaces (3)	Parking Spaces per hectare (4)=(3)/(2)	Parking Area (hectares) (5)=(3)/325	Parking Coverage (6)=(5)/(2)	Employment (jobs) (7)	Jobs per hectare (8)=(7)/(2)	Parking Spaces per job (9)=(3)/(7)
Los Angeles	408	107,441	263	331	81%	206,474	506	0.52
Melbourne, Australia	172	42,601	248	131	76%	126,286	734	0.34
Adelaide, Australia	181	42,857	237	132	73%	73,868	408	0.58
Houston	392	72,797	186	224	57%	118,889	303	0.61
Detroit	362	65,639	181	202	56%	93,012	257	0.71
Washington, D.C.	460	80,100	174	246	54%	316,723	689	0.25
Brisbane	117	19,895	170	61	52%	61,844	529	0.32
Calgary, Alt., Canada	298	45,260	152	139	47%	86,700	291	0.52
Portland, Ore.	280	41,861	150	129	46%	103,872	371	0.40
Brussels, Belgium	308	45,512	148	140	45%	144,906	470	0.31
Vancouver, B.C., Canada	337	46,053	137	142	42%	104,000	309	0.44
Edmonton, Alt., Canada	297	37,512	126	115	39%	63,200	213	0.59
Frankufurt, Germany	240	29,487	123	91	38%	119,735	499	0.25
Canberra, Australia	329	39,558	120	122	37%	22,521	68	1.76
Chicago	395	46,653	118	144	36%	363,794	921	0.13
Denver	636	37,757	107	208	33%	93,012	146	0.73
San Francisco	391	39,756	102	122	31%	291,036	744	0.14
Toronto	188	18,439	98	57	30%	174,267	927	0.11
Sydney, Australia	416	39,031	94	120	29%	175,620	422	0.22
San Diego	570	50,234	88	155	27%	72,964	128	0.69

In the United States the automobile requirements consume close to half of the land area in cities. In Los Angeles the percentage approaches two thirds. Moreover, the LA suburbs are much denser than typical U.S. cities. Mansville and Shoup describe the phenomenon,

“The density of LA’s suburbs is fully 74 percent of that in its central city. In New York and San Francisco, density plummets outside the central city. Suburban New York has only 12% of the density of its central city, while suburban San Francisco has just 35%. Los Angeles is a dense city in a very dense region, while New York and San Francisco are very dense cities in less dense regions.”<sup>iii</sup>

### **The Tax Opportunity**

Pursuant to Section 179D of EPAct and its underlying ASHRAE (American Society of Heating Refrigeration and Air Conditioning) building energy code, commercial buildings are eligible for energy efficiency tax deductions of up to \$1.80 per square foot. If a building’s energy reducing investment doesn’t qualify for the full \$1.80 per square foot deduction, then deductions are available for any of the three major sub-systems, including:

1. Lighting.
2. HVAC (Heating, Ventilation and Air Conditioning).
3. The building envelope.

Each component can qualify for up to 60 cents per square foot in EPAct tax deductions. The building envelope is anything on the perimeter of the building that touches the outside world including roof, walls, windows, doors, the foundation and related insulation layers.

IRS Notice 2008-40 Sec. 6 specifically references parking garages as an eligible building category for Section 179D tax deductions. Due to the unique aspects of parking garages, these deductions are usually limited to \$0.60 per square foot for lighting. In order to qualify for the tax deduction, the lighting system must exceed the efficiency set by ASHRAE.

Los Angeles has a full range of parking garages eligible for both the commercial and government designer parking garage EPAct tax savings. The opportunities are as follows:

## Potential EAct Tax Deductions Specific to Parking Garages

<b>Size of Parking Garage</b>	<b>Low Efficiency Level Deduction (\$0.30 per sq. ft.)</b>	<b>High Efficiency Level Deduction (\$0.60 per sq. ft.)</b>
50,000 sq. ft.	\$15,000	\$30,000
100,000 sq. ft.	\$30,000	\$60,000
250,000 sq. ft.	\$75,000	\$150,000
500,000 sq. ft.	\$150,000	\$300,000
750,000 sq. ft.	\$225,000	\$450,000
1,000,000 sq. ft.	\$300,000	\$600,000

Under current law, EAct parking garage deductions are available for both new and existing building lighting projects completed between January 1, 2006 and December 31, 2013.

### **Capturing Previously Missed Tax Deductions**

In January of 2011 IRS issued Revenue Procedure 2011. This is a very beneficial announcement allowing tax payers who previously missed their EAct tax deduction to pick up the missed deductions and report it on a current tax return.

### **The Three Major Lighting Technologies**

The three major parking garage lighting technologies currently used to achieve energy cost reduction and obtain large EAct tax deductions are:

- Fluorescent
- LED
- Induction lighting

Each of the three major parking garage lighting technology alternatives have strengths and weakness that need to be evaluated. Items to consider include investment price point, utility rebates, building environment, lighting performance, operating costs, lamp life, warranties, dimming characteristics, and maintenance costs.

### **Fluorescent Lighting and EAct 179D**

To date, fluorescent lighting, utilizing T-8 and T-5 lamps, has been the most common product selection for energy efficient lighting. With fluorescent lighting conversions, density of fixture layout is critical to minimizing energy use and maximizing EAct tax incentives. Without attention to design, we see some projects that miss tax deductions or only achieve partial tax deduction. Fluorescent installations generally have the lowest installed price point of the three major lighting technologies.

### **LED Lighting and EAct 179D**

LED or Light Emitting Diode lighting is moving quickly into the parking garage marketplace. There are many competing vendors and garage owners need to research and compare product offerings. Due to the low wattage level, most LED parking garage projects qualify for the maximum EAct tax deduction. However, some projects are right on the edge of eligibility so it is important to have an EAct-knowledgeable reviewer make the calculation.

### **Induction Lighting and EAct 179D**

In an interesting market development, induction lighting — although available in the U.S. for over ten years — is enjoying high growth in the parking garage market albeit from a relatively small installed base. Now that parking garage owners have two distinct product alternatives in fluorescent and LED lighting, they seem to be more open to compare and contrast a third lighting alternative. Induction tends to have a price point in between fluorescent and LED and has its own particular attributes warranting evaluation. Induction lighting is actually fluorescent lighting without electrodes and is sometimes called electrode-less discharge lighting.

### **Utility Rebates**

It is crucial to understand how different utility rebate processes work with the different lighting technologies. Many utilities offer two types of rebates: prescriptive and custom.

Prescriptive rebates are a fixed amount per product such as \$30 per fluorescent fixture. Prescriptive rebates are common with high volume mature product categories because utilities are thoroughly familiar with the product's energy performance results. Accordingly most utilities offer fluorescent rebates based on a prescribed amount available from a prescribed table or listing.

Custom rebates are tailored or customized to the product's expected performance and are normally calculated based on the electricity expected to be saved. Hence, custom rebates for electricity-based products are sometimes called kW (kilowatt) rebates. Many utilities are not yet familiar or supportive of LED and induction lighting products, so the exclusive rebate opportunity may be a custom rebate.

Since LED and induction lighting is low wattage lighting, a probing into a custom rebate may lead to a dialogue resulting in a much higher overall rebate than the typical prescriptive process.

### **Banned Lighting**

Many parking garages still have mainstream prior generation energy inefficient metal halide and T-12 lighting. As of January 1, 2009, probe start metal halides are illegal to manufacture in their most common wattage categories. T-12 magnetic ballasts are now illegal to manufacture as of July 1, 2010. As replacement costs for these banned items increases, parking garage owners will naturally retrofit to one of the three efficient technologies.

### **Commercial Garages and EAct 179D**

There are a wide variety of commercial garages where either the garage owner or a tenant/garage management firm can obtain the EAct tax deduction benefit depending on who paid for the energy efficient lighting. Typical commercial garage owners include commercial city garages,

commercial airport garages, apartment buildings, office buildings, department stores, hotels, and casinos.

### **Government-Owned Garages under EAct 179D**

With government-owned garages, the design team is entitled to the EAct tax deduction. For tax purposes, a designer can be an architect, engineer, lighting designer, design and build contractor or an ESCO (Energy Services Company). It is important to note that by statute, the tax beneficiary is the designer and not the government entity. The government owner reaps the larger economic benefit, which is the permanent perpetual energy cost reduction. The parking garage lighting designer or design team earns a onetime tax incentive for designing an energy efficient facility. Some of the largest government owned garage categories include municipal, state universities, and airports.

### **Act Now**

The economic payback is so compelling that parking garages throughout the country are moving quickly to capture the combined energy savings, utility rebates and the large EAct tax savings related to parking garage lighting retrofits. Large multi-site garage owners that may be resource constrained for retrofitting all garages at once should be planning to have lighting retrofits completed on or before December 31, 2013. The overall economics are too lucrative to justify delay, and financing is available that actually further enhances the economic return.

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<sup>i</sup> Manville, Michael, and Donald Shoup. "Parking, People, and Cities." *Journal of Urban Planning and Development*. (December 2005): Print.

<sup>ii</sup> Manville, Michael, and Donald Shoup. "Parking, People and Cities." *Journal of Urban Planning and Development*. (2005): Table 5., Page 243. Print.

<sup>iii</sup> Manville, Michael, and Donald Shoup. "Parking, People and Cities." *Journal of Urban Planning and Development*. (2005): Page 238. Print.