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Estimated Solid Waste Generation Rates

Generation Rates

Solid waste generation rates estimate the amount of waste created by residences or businesses over a certain amount of time (day, year, etc.). Waste generation includes all materials discarded, whether or not they are later recycled or disposed in a landfill. Waste generation rates for residential and commercial activities can be used to estimate the impact of new developments on the local waste stream.

The following links are to pages containing additional information on waste generation rates for [commercial](#), [industrial](#), [institutional](#), [residential](#) and [service](#) establishments. The tables on these pages contain information extracted from various sources, which are cited. Note that several documents listed were developed by city or county planning or environmental departments. Your city or county planning or environmental agency may also be a source of information for a local project. CalRecycle does not officially endorse any of these rates and cannot validate their accuracy. However, they may be useful in providing a general level of information for planning purposes.

The data on this page is not official CalRecycle data; please read our [disclaimer](#).

Commercial Sector Generation Rates

Note: More recent estimates for waste disposal, diversion, and generation rates are available for a limited number of business groups. These can be found in Table 2 of CalRecycle's [2006 Waste Disposal and Diversion Findings for Selected Industry Groups](#).

Waste Generation Source	Gen. Rate	Units of Measure	Source Date	Source / Notes
Commercial	10.53	lb/employee/day	2006	City of Los Angeles CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles Notes: Does not include generation of construction debris
Commercial	5	lb/1000 sq ft /day	Aug. 1992	Co. of Los Angeles Dept. of Regional Planning, Vesting Tentative Tract No. 47905, etc. Notes: EIR cites City of LA Dept. of City Planning doc "EIR Manual for Private Projects" as source ▲
Commercial	13	lb/1000 sq ft /day	Apr. 1993	Draft Environmental Impact Report (EIR) for South Gate Commercial Corridors Redevelopment Project Notes: EIR cites CIWMB Resource Manual, May 1989

Commercial	25	lb/gross sq ft /day	Jan. 1996	Draft Program EIR for Rye Canyon Business Part, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990
Commercial retail	0.046	lb/sq ft/day	n/a	Draft EIR for the Central Commercial Redevelopment Project (Monterey Park Redevelopment Agency) Notes: EIR cites Athens Disposal Co. and GRC Redevel. Consultants, 1992 as source
Commercial retail	0.006	lb/sq ft/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Commercial retail	2.5	lb/1000 sq ft /day	Apr. 1992	Stevenson Ranch Draft EIR (Phase IV) , LA County Notes: EIR cites source as Ultrasystems
Office	6	lb/1000 sq ft /day	Apr. 1992	Stevenson Ranch Draft EIR (Phase IV) , LA County Notes: EIR cites source as Ultrasystems
Office	0.006	lb/sq ft/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Office	100	lb/gross sq ft /day	Jan. 1996	Draft Program EIR for Rye Canyon Business Park, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990
Office	1.24	lb/employee /day	Jul. 1993	Notes: Final Report: 1992 Washington State Waste Characterization Study, Volume 3: Generator Survey Approach (Washington State Department of Ecology)
Offices	11.5	lb./100 sq ft /day lb/employee /day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Professional office	0.084	lb/sq ft/day	n/a	Draft EIR for the Central Commercial Redevelopment Project and the Freeway ... (Monterey Park Redevel. Agency) Notes: EIR cites Athens Disposal Co. and GRC Redevel. Consultants, 1992 as source
Commercial retail (dry goods)	4.75	lb/emp/day	Jul. 1993	Final Report: 1992 Washington State Waste Characterization Study: Volume 3: Generator Survey Approach (Washington State Department of Ecology)

Auto dealer and service station	0.9	lb/100 sq ft/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Department store	3.12	lb/100 sq ft/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Shopping center	2.5	lb/100 sq ft/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Supermarket	3.12	lb/100 sq ft/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"

Residential Sector Generation Rates

Waste Generation Source	Gen. Rate	Units of Measure	Source Date	Source / Notes
Residential	12.23	lb/household/day	2006	<u>City of Los Angeles CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles (DRAFT)</u> Notes: Does not include generation of construction debris
Multifamily	4	lb/dwelling unit /day	Aug. 1992	Co. of Los Angeles Dept. of Regional Planning, Vesting Tentative Tract No. 47905, etc. Notes: Cites City of LA Dept. of City Planning document "EIR Manual for Private Projects" as source

Multifamily	8.6	lb/dwelling unit /day	n/a	Draft Environmental Impact Report (EIR) for the Central Commercial Redevelopment Project (Monterey Park Redevelopment Agency) Notes: EIR cites Athens Disposal Co. and GRC Redevel. Consultants, 1992, as source
Multifamily	3.6	lb/unit/day	Apr. 1993	Draft EIR for South Gate Commercial Corridors Redevelopment Project Notes: EIR cites City of LA Dept. of City Planning document "EIR Manual for Private Projects" as source
Multifamily	4	lb/dwelling unit /day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Multifamily	5.31	lb/dwelling unit /day	Jan. 1996	Draft Program EIR for Rye Canyon Business Park, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990
Residential	12	lb/person/day	Apr. 1992	Stevenson Ranch Draft EIR (Phase IV) , LA County Notes: EIR cites source as Ultrasystems
Single Family	10	lb/dwelling unit /day	Aug. 1992	Co. of Los Angeles Dept. of Regional Planning, Vesting Tentative Tract No. 47905, etc. Notes: EIR cites City of LA Dept. of City Planning doc "EIR Manual for Private Projects" as source
Single Family	11.4	lb/dwelling unit /day	n/a	Draft EIR for the Central Commercial Redevelopment Project (Monterey Park Redevelopment Agency) Notes: EIR cites Athens Disposal Co. and GRC Redevel. Consultants, 1992, as source
Single Family	7.8	lb/unit/day	Apr. 1993	Draft EIR for South Gate Commercial Corridors Redevelopment Project Notes: EIR cites City of LA Manual for Private Projects
Single Family	10	lb/dwelling unit /day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Single Family	9.8	lb/dwelling unit /day	Jan. 1996	Draft Program EIR for Rye Canyon Business Park, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990

Industrial Sector Generation Rates

Waste Generation Source	Gen. Rate	Units of Measure	Source Date	Source / Notes
Industrial	8.93	lb/employee/day	2006	<u>City of Los Angeles CEQA Thresholds Guide</u> : Your Resource for Preparing CEQA Analyses in Los Angeles. Notes: Does not include generation of construction debris
Industrial	62.5	lb/1000 sq ft/day	Apr. 1993	Draft Environmental Impact Report (EIR) for South Gate Commercial Corridors Redevelopment Project Notes: EIR cites City of LA Manual for Private Projects (rate for manufacturing uses)
Industrial	5	lb/1000 sq ft/day	Apr. 1992	Stevenson Ranch Draft EIR (Phase IV) , LA County Notes:EIR cites source as Ultrasystems
Industrial	0.006	lb/sq ft/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Industrial	3	lb/employee /1000 sq ft/day	Jan. 1996	Draft Program EIR for Rye Canyon Business Part, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990
Light industrial	41.64	lb/employee/day	Aug. 1992	Co. of Los Angeles Dept. of Regional Planning, Vesting Tentative Tract No. 47905, etc. Notes: Cites City of LA Dept. of City Planning document "EIR Manual for Private Projects" as source
Manufacturing/ warehouse	1.42	lb/100 sq ft/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Transportation,/ communication/ utilities	1.4 9.2	lb/100 sq ft/day lb/employee/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"

Warehouse	13.82	lb/emp/day	Jul. 1993	Final Report: 1992 Washington State Waste Characterization Study: Volume 3: Generator Survey Approach (Washington State Department of Ecology)
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Institutional Sector Generation Rates

Waste Generation Source	Gen. Rate	Units of Measure	Source Date	Source / Notes
Education	3.55	lb/emp/day	Jul. 1993	Final Report: 1992 Washington State Waste Characterization Study, Volume 3: Generator Survey Approach (Washington State Department of Ecology)
Educational facilities	0.5	lb/student/day	Apr. 1992	Stevenson Ranch Draft Environmental Impact Report (EIR) (Phase IV), LA County Notes: EIR cites source as Ultrasystems
Educational institutions	0.12	tons/emp/year	1990	Environmental Thresholds and Guidelines Manual (Santa Barbara County Department of Resource Management) Notes: Cites Matrix Management Group, et al. "Best Management Practices Analysis for Solid Waste", 1988.
Government	0.59	tons/emp/year	1990	Environmental Thresholds and Guidelines Manual (Santa Barbara County) Notes: Cites Matrix Management Group, et al. "Best Management Practices Analysis for Solid Waste", 1988.
Hospital	16	lb/bed/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Nursing/retirement home	5	lb/person/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"

Public/ institutional	0.007	lb/sq ft /day	n/a	Draft EIR for the Central Commercial Redevelopment Project (Monterey Park Redevelopment Agency) Notes: EIR cites Athens Disposal Co. and GRC Redevel. Consultants, 1992 as source
School	0.007	lb/sq ft/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source; assumes 22.5 sq.ft./student
School	0.6	lb/person/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Schools	1	lb/student/day	Jan. 1996	Draft Program EIR for Rye Canyon Business Park, Santa Clarita Notes: EIR cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Santa Clarita SRRE, 1990

Service Sector Generation Rates

Note: More recent estimates for waste disposal, diversion, and generation rates are available for a limited number of business groups. These can be found in Table 2 of CalRecycle's *2006 Waste Disposal and Diversion Findings for Selected Industry Groups*.

Waste Generation Source	Gen. Rate	Units of Measure	Source Date	Source / Notes
Golf course	0.5	lb/golfer/day	Apr. 1992	Stevenson Ranch Draft Environmental Impact Report (EIR) (Phase IV) , LA County Notes: EIR cites source as Ultrasystems
Hotel	2	lb/room/day	Apr. 1992	Stevenson Ranch Draft EIR (Phase IV) , LA County Notes: EIR cites source as Ultrasystems
Hotel/motel	4	lb/room/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source; assumes 750 SF/room

Hotel/motel	2	lb/room/day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Motel	3.6	lb/unit/day	Apr. 1993	Draft EIR for South Gate Commercial Corridors Redevelopment Project Notes: Cites City of LA Dept. of City Planning document "EIR Manual for Private Projects" as source
Other services*	3.12	lb/100 sq ft /day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"
Restaurant	1	lb/seat/day	Apr. 1992	Stevenson Ranch DEIR (Phase IV), LA County Notes: EIR cites source as Ultrasystems; assumes 50% of restaurant is seating and 16 SF/seat
Restaurant	0.005	lb/sq ft/day	Dec. 1991	Draft EIR for North Hills Development (Santa Clarita) Notes: EIR cites City of LA Bureau of Solid Waste, 1989, as source
Restaurant (fast food)	17	lb/employee /day	May 1997	Guide to Solid Waste and Recycling Plans for Development Projects (Santa Barbara County Public Works Department) Notes: Cites SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, "Best Management Practices Analysis for Solid Waste"

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Comments, suggestions, questions? Contact CalRecycle waste characterization staff at wastechar@calrecycle.ca.gov

Solid Waste Characterization: <https://www2.calrecycle.ca.gov/WasteCharacterization/>

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