

Nutrient Content and Particle Size Distribution of Street Solids



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The Peculiarities of
Perviousness
TRACK 4

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Terminology



Street Dirt



Street Detritus

Street Solids: total mass of street dirt and detritus, as measured on the street surface, catch basin or sweeper hopper

Solids Particle Size



- *Coarse-Grained Solids*: All particles greater than 1000 microns in diameter
- *Medium-Grained Solids*: All particles from 75 microns to 1000 microns in diameter
- *Fine-Grained Solids*: All particles less than 75 microns in diameter
- *Organic Debris*: Leaves, branches, seeds, twigs, and grass clippings greater than 4.75 mm in size (ASCE 2010)
- *Litter*: Human derived trash, such as paper, plastic, Styrofoam, metal, and glass greater than 4.75 mm in size.

Particle-Size Distribution

Study	Coarse	Medium	Fine	Cutoffs (mm)
Sorenson 2013	30	61	9	2/.125
Sorenson 2013	15	71	14	2/.125
CSD, 2010	14	79	7	2/.075
CSD, 2010	17	79	4	2/.075
CSD,2010	16	78	7	2/.075
SPU, 2009	19	73	8	2/.075
SPU, 2009	24	68	8	2/.075
SPU, 2009	11	78	11	2/.075
Selbig et al 2007	15	77	8	2/.125
Selbig et al 2007	12	77	11	2/.125
Law et al 2008	30	39	24	4/.063
Pitt and Biss, 1984	24	66	10	1/.063
Pitt and Biss, 1984	24	64	12	1/.063
Wasbusch, 2003	27	67	9	1/.063
Terstriep et 1982	43	52	5	1/.063
Sartor and Boyd,72	31	55	14	1/.063
GRAND MEAN	22	68	10	

Nutrient Content



	Street Solids	Street Sweeper	Catch Basin
TN (mg/kg)	1,957	1,510	2,435
TP (mg/kg)	543	400	596

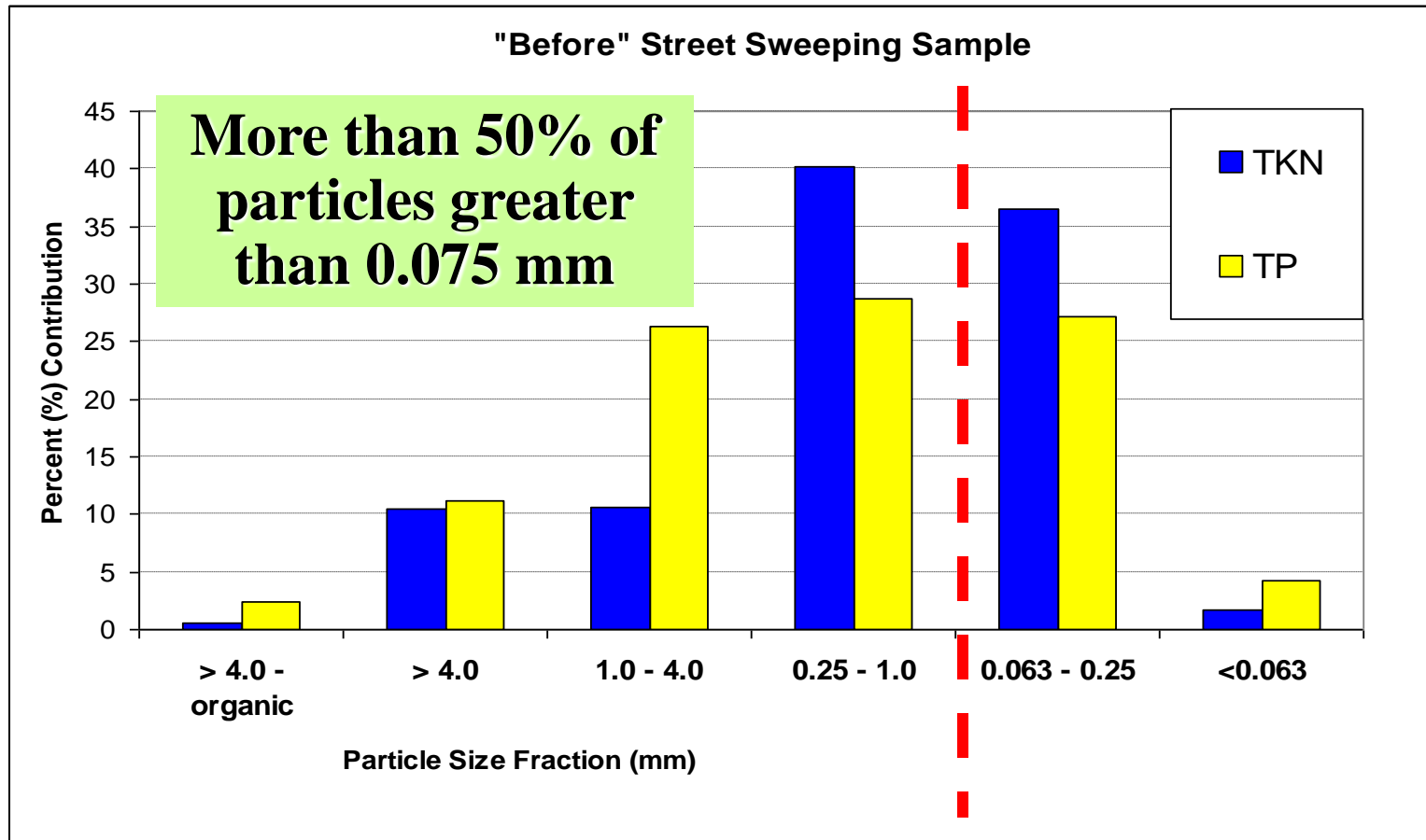


Photo courtesy B. Stack



Photo courtesy K. Belt

Percent (%) Contribution by Particle Size Fraction to Total Pollutant Load, City of Baltimore Street Sweeping Study (2008)



Percent Nutrient Contribution by Particle Size



Study	Pollutant	Fine ¹	Medium ¹	Coarse ¹	Leaves
Sartor and Boyd 1972	Phosphate-P	56	36	8	
Washbusch et al 1999	TP	5	15	50	8
Sartor and Boyd 1972	Nitrate-N	32	45	23	
Shaheen		24	38	40	
Sartor and Boyd 1972	TKN	19	40	42	
Shaheen 1975		15	45	60	

¹ Fine = < 43 or 75 microns; Medium = 43 < 250 microns; Coarse = 246 or 250 microns

* May not add up to 100 due to rounding