

AECOM Benchmark Social Infrastructure Standards

Education		Standard	Assumption Reference
Early Year Facilities	early year demand per 2 bed+ Flat	0.045	Essex County Council - Developers' Guide to Infrastructure Contributions 2016
	early year demand per 2 bed+ House	0.09	
	places per nursery	56	
	Sq.m per 56 place nursery	337	
Primary Schools	Pupil Demand per 2 bed+ Flat	0.15	Essex County Council - Developers' Guide to Infrastructure Contributions 2016
	Pupil Demand per 2 bed+ House	0.3	
	Primary School Pupils in 1 Form Entry	210	
Secondary Schools	Pupil Demand per 2 bed+ Flat	0.1	Essex County Council - Developers' Guide to Infrastructure Contributions 2016
	Pupil Demand per 2 bed+ House	0.2	
	Secondary School Pupils in 1 Form Entry	150	

Health & Social Care		Standard	Assumption Reference
Primary Health Care	People per GP	1,800	NHS
	Sq.m per GP	165	NHS
Dental Practices	People per Dentist	1,760	Existing ratio of Dentists to population across England 2015 (General Dental Council Data)
	Sq.m per Dentist	50	AECOM Standard from previous projects
Acute Hospitals	People per Bed	510	Existing ratio of Hospital Beds to population across England 2015 (based on NHS England Data)
	Sq.m per Acute Bed	160	NHS Healthy Urban Development Model
Library Space; based on branch	sq.m per 1,000 person	30	Arts Council (Previously Museums, Libraries and Archives Council (MLA))
Indoor Sports Facility (4 court hall)	facility per 1,000 person	0.072	Colchester SPG Provision of Open Space, Sport and Recreational Facilities 2006 (0.072 facilities per 1,000 persons)
Swimming Pool (4 lanes)	facility per 1,000 person	0.048	Colchester SPG Provision of Open Space, Sport and Recreational Facilities 2006 (0.048 facilities per 1,000 person)

Open Space		Standard	Assumption Reference
Natural Green Space	ha per 1,000 person	2.000	Recommend adoption of Braintree and Tendring standard - Colchester was 5ha
Outdoor Sports	ha per 1,000 person	1.530	Average of Braintree, Colchester and Tendring LPA
Parks and Gardens	ha per 1,000 person	1.320	
Amenity Green Space	ha per 1,000 people	0.883	
Allotments	ha per 1,000 people	0.227	
Childrens Playspace (Informal)	ha per 1,000 people	0.208	
Childrens Playspace (formal)	ha per 1,000 people	0.142	Tendring Open Space Strategy (2009)
Green Corridor	ha per 1,000 person	0.750	

Housing Assumptions - Tenure

Market Owned	65%
Affordable	35%

Intermediate Affordable Housing	65%
Social Rented Affordable Housing	35%

Housing Assumptions - Mix

	Flats (no. of bedrooms)				Houses (no. of bedrooms)			
	1	2	3	4+	1	2	3	4+
Market Housing	7%	6%	5%	2%	28%	24%	20%	8%
Intermediate Affordable Housing	7%	6%	6%	1%	29%	23%	24%	4%
Social Rented Affordable Housing	7%	8%	4%	2%	28%	32%	14%	6%

Average Household Size by Unit Type in Area of Study - Average using the total housing figures

	Market Housing	Intermediate Affordable Housing	Social Rented Affordable Housing
Flat - 1 bed	1.27	1.27	1.18
Flat - 2 bed	1.59	1.59	2.18
Flat - 3 bed	2.03	2.03	2.78
Flat - 4 bed	2.83	2.83	2.39
House - 1 b	1.40	1.40	1.32
House - 2 b	1.75	1.75	2.04
House - 3 b	2.39	2.39	3.14
House - 4 b	2.97	2.97	4.24

Age Profiles by Unit Type in Area of Study - Average using the total housing figures

Age Group	Market Owned								Social Rented Affordable Housing								Private rented						
	Flats (no. of bedrooms)				Houses (no. of bedrooms)				Flats (no. of bedrooms)				Houses (no. of bedrooms)				Flats (no. of bedrooms)			Houses (no. of bedrooms)			
	1	2	3	4+	1	2	3	4+	1	2	3	4+	1	2	3	4+	1	2	3				
0-3	1.2%	3.4%	4.5%	3.4%	1.4%	2.8%	4.0%	3.5%	1.2%	3.4%	4.5%	3.4%	1.4%	2.8%	4.0%	3.5%	2.6%	15.6%	6.6%	5.3%	0.8%	7.9%	5.5%
4-10	0.4%	2.0%	3.9%	7.4%	1.1%	2.5%	7.1%	9.5%	0.4%	2.0%	3.9%	7.4%	1.1%	2.5%	7.1%	9.5%	1.2%	10.6%	13.9%	1.2%	1.3%	8.7%	14.0%
11-15	0.2%	1.3%	3.2%	6.1%	1.4%	1.6%	5.4%	8.6%	0.2%	1.3%	3.2%	6.1%	1.4%	1.6%	5.4%	8.6%	0.3%	3.9%	9.3%	2.9%	0.8%	4.9%	12.2%
16-17	0.1%	0.6%	1.7%	3.0%	0.4%	0.7%	2.2%	3.7%	0.1%	0.6%	1.7%	3.0%	0.4%	0.7%	2.2%	3.7%	0.7%	2.1%	5.8%	1.2%	0.6%	1.8%	5.1%
18-19	0.5%	0.6%	1.8%	1.7%	0.6%	0.6%	2.0%	2.9%	0.5%	0.6%	1.8%	1.7%	0.6%	0.6%	2.0%	2.9%	2.1%	2.8%	5.8%	19.4%	0.4%	2.1%	4.4%
20-24	3.8%	5.2%	5.2%	10.1%	2.8%	2.3%	3.9%	5.1%	3.8%	5.2%	5.2%	10.1%	2.8%	2.3%	3.9%	5.1%	7.0%	12.4%	8.7%	30.6%	2.3%	6.1%	6.0%
25-29	9.5%	12.0%	7.9%	5.7%	5.1%	4.9%	3.9%	2.8%	9.5%	12.0%	7.9%	5.7%	5.1%	4.9%	3.9%	2.8%	5.2%	10.4%	4.1%	7.6%	1.1%	6.1%	4.8%
30-34	8.6%	9.1%	6.4%	6.7%	4.4%	5.2%	5.2%	3.2%	8.6%	9.1%	6.4%	6.7%	4.4%	5.2%	5.2%	3.2%	4.7%	6.6%	4.8%	5.9%	1.3%	4.8%	5.5%
35-39	6.6%	5.5%	5.4%	6.7%	5.0%	4.9%	6.6%	6.0%	6.6%	5.5%	5.4%	6.7%	5.0%	4.9%	6.6%	6.0%	5.2%	4.9%	6.2%	5.9%	1.4%	4.8%	6.5%
40-44	4.8%	4.8%	7.5%	8.8%	5.3%	5.1%	7.7%	8.9%	4.8%	4.8%	7.5%	8.8%	5.3%	5.1%	7.7%	8.9%	5.7%	5.3%	8.3%	1.2%	3.2%	5.4%	8.3%
45-49	5.1%	5.1%	6.1%	7.4%	7.1%	5.4%	7.8%	9.7%	5.1%	5.1%	6.1%	7.4%	7.1%	5.4%	7.8%	9.7%	6.2%	4.9%	7.5%	5.3%	3.1%	5.4%	7.0%
50-54	5.2%	5.3%	5.8%	8.4%	6.9%	5.8%	7.2%	8.2%	5.2%	5.3%	5.8%	8.4%	6.9%	5.8%	7.2%	8.2%	6.0%	4.0%	3.9%	2.9%	3.8%	4.7%	5.1%
55-59	5.2%	5.2%	6.5%	5.1%	7.4%	6.9%	7.0%	7.4%	5.2%	5.2%	6.5%	5.1%	7.4%	6.9%	7.0%	7.4%	6.8%	3.5%	4.3%	1.8%	6.6%	4.5%	3.8%
60-64	8.1%	7.4%	8.6%	5.4%	10.2%	10.5%	8.7%	7.5%	8.1%	7.4%	8.6%	5.4%	10.2%	10.5%	8.7%	7.5%	8.9%	5.3%	2.9%	3.5%	12.2%	6.2%	3.7%
65-69	7.0%	7.6%	7.9%	6.7%	9.0%	10.2%	6.9%	5.2%	7.0%	7.6%	7.9%	6.7%	9.0%	10.2%	6.9%	5.2%	7.2%	2.4%	3.5%	1.8%	10.7%	6.1%	2.4%
70-74	6.3%	6.9%	5.1%	4.0%	9.4%	5.4%	3.2%	3.2%	6.3%	6.9%	5.1%	4.0%	9.4%	5.4%	3.2%	3.2%	6.6%	2.3%	1.2%	0.6%	13.6%	6.3%	2.0%
75+	27.4%	17.8%	12.6%	3.4%	22.5%	21.2%	8.9%	4.5%	27.4%	17.8%	12.6%	3.4%	22.5%	21.2%	8.9%	4.5%	22.8%	5.2%	3.1%	2.9%	36.9%	14.2%	3.6%

4+
5.2%
15.1%
16.3%
7.2%
6.2%
8.1%
3.3%
4.6%
6.6%
7.7%
6.9%
4.2%
2.6%
2.4%
1.7%
0.9%
1.6%

SIF Population Outputs

Population from Scheme	
Total Units	9,665
Total Population	18,527

Population Age Profile	
0-3	694
4-10	931
11-15	730
16-17	315
18-19	312
20 - 24	937
25 - 29	1,140
30 - 34	1,180
35 - 39	1,138
40 - 44	1,294
45 - 49	1,394
50 - 54	1,233
55 - 59	1,190
60 - 64	1,405
65 - 69	1,221
70 - 74	986
75 +	2,429
Total Population	18,527

Social Infrastructure Requirements

Healthcare Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	10				
Primary Care Centre Floorspace (sq.m)	1,698	1,698	£2,200	£3,736,286	
Dental Surgeons	11			-	
Dental Surgery Floorspace (sq.m)	526	526	£1,700	£894,772	
Acute Healthcare Beds	36			-	
Acute Healthcare Floorspace (sq.m)	5,812	5,812	£2,700	£15,693,492	
Total Healthcare				£20,324,551	
Total Healthcare / Unit				£2,103	

Leisure and Community Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	0.90	183	£2,100	£383,988	Parlington : 35m2 for 1,850 units therefore say 183m2
Sports Centres (4 court Hall)	1.33	355	£1,400	£497,356	Parlington : 68m2 for 1,850 units therefore say 355m2
Library Space (sq.m)	556	556	£1,400	£778,136	
Total Community & Leisure				£1,659,479	
Total Community & Leisure / Unit				£172	

Total Community & Leisure + Health / Unit				£2,275	Say £2,250
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Green Infrastructure	SI Output	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	28.35	283,464	£35	£9,921,230	
Children's play (ha.)	6.48	64,800	£50	£3,240,000	
Semi Natural Open Space (ha.)	37.05	370,541	£10	£3,705,408	
Parks and Gardens (ha.)	24.46	244,557	£25	£6,113,923	
Amenity Green Space (ha.)	16.37	163,656	£13	£2,045,694	
Allotments (ha.)	4.20	41,995	£30	£1,259,839	
Total Open Space				£26,286,093	
Total Open Space / Unit				£2,720	Say £2,750

Early Year (0-4)	SI Output	M2 Built Area	Cost / m2	Total	Notes
early year demand per 2 bed+ Flat	0.045				
early year demand per 2 bed+ House	0.090				
places per nursery	56.00				
Sq.m per 56 place nursery	337.00				
2+ Bed Flats	1,252.05				
2+ Bed houses	5,008.21				
Child Yield	56.34				
Child Yield	450.74				
Total Child Yield	507.08				
Nursery Facilities	9.1				
Nursery sq.m	3,052				
Nursery		3,052	£1,250	£3,814,428	

Primary (4-11)	SI Output	M2 Built Area	Cost / m2	Total	Notes
Pupil Demand per 2 bed+ Flat	0.15				
Pupil Demand per 2 bed+ House	0.30				
Primary Pupils in 1 Form Entry	210.00				
2+ Bed Flats	1,252.05				
2+ Bed houses	5,008.21				
Child Yield	187.81				
Child Yield	1,502.46				
Total Child Yield	1,690.27				
Primary FE	8.0				
Primary		9,500.00	£2,700	£25,650,000	8FE ie 2 x 3FE Primary schools each 3,500m2 and 1 x 2FE Primary School 2,500m2
Playing Fields / School		3.00	£750,000	£2,250,000	

Secondary (11-16)	SI Output	M2 Built Area	Cost / m2	Total	Notes
Pupil Demand per 2 bed+ Flat	0.10				
Pupil Demand per 2 bed+ House	0.20				
Secondary Pupils in 1 Form Entry	150.00				
2+ Bed Flats	1,252.05				
2+ Bed houses	5,008.21				
Child Yield	125.21				
Child Yield	1,001.64				
Total Child Yield	1,126.85				
Secondary FE	7.5				
Secondary		13,500	£3,000	£40,500,000	7.5FE ; Say 8FE. Gilston Park was 10,000m2 for 6FE therefore say 13,333m2
Playing Fields / School		1.00	£1,250,000	£1,250,000	

Total Education				£73,464,428	
Total Education / Unit				£7,601	Say 7,500

SIF Population Outputs

Population from Scheme	
Total Units	12,949
Total Population	24,822

Population Age Profile	
0-3	929
4-10	1,248
11-15	978
16-17	422
18-19	417
20 - 24	1,255
25 - 29	1,527
30 - 34	1,581
35 - 39	1,525
40 - 44	1,734
45 - 49	1,867
50 - 54	1,652
55 - 59	1,595
60 - 64	1,882
65 - 69	1,636
70 - 74	1,321
75 +	3,254
Total Population	24,822

Social Infrastructure Requirements

Healthcare Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	14				
Primary Care Centre Floorspace (sq.m)	2,275	2,275	£2,200	£5,005,812	
Dental Surgeons	14			-	
Dental Surgery Floorspace (sq.m)	705	705	£1,700	£1,198,800	
Acute Healthcare Beds	49			-	
Acute Healthcare Floorspace (sq.m)	7,787	7,787	£2,700	£21,025,870	
Total Healthcare				£27,230,482	
Total Healthcare / Unit				£2,103	

Leisure and Community Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	1.20	245	£2,100	£514,460	Parlington : 35m2 for 1,850 units therefore say 245m2
Sports Centres (4 court Hall)	1.79	476	£1,400	£666,349	Parlington : 68m2 for 1,850 units therefore say 476m2
Library Space (sq.m)	745	745	£1,400	£1,042,533	
Total Community & Leisure				£2,223,342	
Total Community & Leisure / Unit				£172	
Total Community & Leisure + Health / Unit				£2,275	Say £2,250

Green Infrastructure	SI Output	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	37.98	379,780	£35	£13,292,292	
Children's play (ha.)	8.69	86,900	£50	£4,345,000	
Semi Natural Open Space (ha.)	49.64	496,444	£10	£4,964,442	
Parks and Gardens (ha.)	32.77	327,653	£25	£8,191,329	
Amenity Green Space (ha.)	21.93	219,263	£13	£2,740,785	
Allotments (ha.)	5.63	56,264	£30	£1,687,910	
Total Open Space				£35,221,758	
Total Open Space / Unit				£2,720	Say £2,750

Early Year (0-4)	SI Output	M2 Built Area	Cost / m2	Total	Notes
early year demand per 2 bed+ Flat	0.045				
early year demand per 2 bed+ House	0.090				
places per nursery	56.00				
Sq.m per 56 place nursery	337.00				
2+ Bed Flats	1,677.48				
2+ Bed houses	6,709.91				
Child Yield	75.49				
Child Yield	603.89				
Total Child Yield	679.38				
Nursery Facilities	12.1				
Nursery sq.m	4,088				
Nursery		4,088.40	£1,250	£5,110,505	

Primary (4-11)	SI Output	M2 Built Area	Cost / m2	Total	Notes
Pupil Demand per 2 bed+ Flat	0.15				
Pupil Demand per 2 bed+ House	0.30				
Primary Pupils in 1 Form Entry	210.00				
2+ Bed Flats	1,677.48				
2+ Bed houses	6,709.91				
Child Yield	251.62				
Child Yield	2,012.97				
Total Child Yield	2,264.60				
Primary FE	10.8				
Primary		13,000.00	£2,700	£35,100,000	10.8 FE ; Say 11FE ie 3 x 3FE Primary schools each 3,500m2 and 1 x 2FE Primary School 2,500m2
Playing Fields / School		4.00	£750,000	£3,000,000	

Secondary (11-16)	SI Output	M2 Built Area	Cost / m2	Total	Notes
Pupil Demand per 2 bed+ Flat	0.10				
Pupil Demand per 2 bed+ House	0.20				
Secondary Pupils in 1 Form Entry	150.00				
2+ Bed Flats	1,677.48				
2+ Bed houses	6,709.91				
Child Yield	167.75				
Child Yield	1,341.98				
Total Child Yield	1,509.73				
Secondary FE	10.1				
Secondary		16,750.00	£3,000	£50,250,000	10.1 FE ; Say 10FE. Gilston Park was 10,000m2 for 6FE therefore say 16,750m2
Playing Fields / School		2.00	£1,250,000	£2,500,000	

Total Education				£95,963,446	
Total Education / Unit				£7,411	Say 7,500