

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	
Green Corridor	ha per 1,000 person	0.750	Tendring Open Space Strategy (2009)

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

Unit Type	Market Housing	Intermediate Affordable Housing	Social Rented Affordable Housing
Flat - 1	1.27	1.27	1.18
Flat - 2	1.59	1.59	2.18
Flat - 3	2.03	2.03	2.78
Flat - 4	2.83	2.83	2.39
House - 1	1.49	1.49	1.32
House - 2	1.75	1.75	2.04
House - 3	2.39	2.39	3.14
House - 4	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	4+				
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%	1.2%	3.4%	4.5%	3.4%	1.4%	2.8%	4.0%	3.5%
4-10	0.4%	1.0%	3.9%	7.4%	1.1%	2.5%	7.1%	9.5%	0.4%	1.0%	3.9%	7.4%	1.1%	2.5%	7.1%	9.5%	0.4%	1.0%	3.9%	7.4%	1.1%	2.5%	7.1%	9.5%
11-17	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%	0.2%	1.3%	3.2%	6.1%	1.4%	1.6%	5.4%	8.6%
18-17	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%	0.1%	0.6%	1.7%	3.0%	0.4%	0.7%	2.2%	3.7%
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%	0.5%	0.6%	1.8%	1.7%	0.6%	0.6%	2.0%	2.9%
20-24	3.8%	5.2%	5.2%	10.1%	2.8%	2.3%	2.9%	5.1%	3.8%	5.2%	5.2%	10.1%	2.8%	2.3%	2.9%	5.1%	3.8%	5.2%	5.2%	10.1%	2.8%	2.3%	2.9%	5.1%
25-29	9.5%	12.0%	7.0%	5.7%	5.1%	4.0%	3.9%	2.8%	9.5%	12.0%	7.0%	5.7%	5.1%	4.0%	3.9%	2.8%	9.5%	12.0%	7.0%	5.7%	5.1%	4.0%	3.9%	2.8%
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%	8.6%	9.1%	6.4%	6.7%	4.4%	5.2%	5.2%	3.2%
35-39	6.6%	5.5%	5.4%	6.7%	5.0%	4.0%	6.0%	6.0%	6.6%	5.5%	5.4%	6.7%	5.0%	4.0%	6.0%	6.0%	6.6%	5.5%	5.4%	6.7%	5.0%	4.0%	6.0%	6.0%
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%	4.8%	4.8%	7.5%	8.8%	5.3%	5.1%	7.7%	8.9%
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%	5.1%	5.1%	6.1%	7.4%	7.1%	5.4%	7.8%	9.7%
50-54	5.2%	5.3%	5.8%	8.4%	6.9%	5.8%	7.2%	8.3%	5.2%	5.3%	5.8%	8.4%	6.9%	5.8%	7.2%	8.3%	5.2%	5.3%	5.8%	8.4%	6.9%	5.8%	7.2%	8.3%
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%	5.2%	5.2%	6.5%	5.1%	7.4%	6.9%	7.0%	7.4%
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%	8.1%	7.4%	8.6%	5.4%	10.2%	10.5%	8.7%	7.5%
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%	7.0%	7.6%	7.9%	6.7%	9.0%	10.2%	6.9%	5.2%
70-74	6.3%	6.9%	5.1%	4.0%	9.4%	9.4%	5.4%	3.2%	6.3%	6.9%	5.1%	4.0%	9.4%	9.4%	5.4%	3.2%	6.3%	6.9%	5.1%	4.0%	9.4%	9.4%	5.4%	3.2%
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%	27.4%	17.8%	12.6%	3.4%	22.5%	21.2%	8.9%	4.5%

SIF Population Outputs

Population from Scheme	
Total Units	6,606
Total Population	12,656

Population Age Profile	
0-3	474
4-10	636
11-15	499
16-17	215
18-19	213
20 - 24	640
25 - 29	779
30 - 34	806
35 - 39	777
40 - 44	884
45 - 49	952
50 - 54	842
55 - 59	813
60 - 64	960
65 - 69	834
70 - 74	673
75 +	1,659
Total Population	12,656

Social Infrastructure Requirements

Healthcare Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	7				
Primary Care Centre Floorspace (sq.m)	1,160	1,160	£2,200	£2,552,195	
Dental Surgeons	7				
Dental Surgery Floorspace (sq.m)	360	360	£1,700	£611,204	
Acute Healthcare Beds	25				
Acute Healthcare Floorspace (sq.m)	3,970	3,970	£2,700	£10,719,962	
Total Healthcare				£13,883,361	
Total Healthcare / Unit				£2,102	

Leisure and Community Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	0.61	125	£2,100	£262,455	Parlington ; 35m2 for 1,850 units therefore say 325m2
Sports Centres (4 court Hall)	0.91	243	£1,400	£339,941	Parlington ; 68m2 for 1,850 units therefore say 632m2
Library Space (sq.m)	380	380	£1,400	£531,531	
Total Community & Leisure				£1,133,927	
Total Community & Leisure / Unit				£172	

Total Community & Leisure + Health / Unit				£2,273	Say 2,250
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Green Infrastructure	SI Output	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	19.36	193,629	£35	£6,777,026	
Children's play (ha.)	4.43	44,300	£50	£2,215,000	
Semi Natural Open Space (ha.)	25.31	253,110	£10	£2,531,102	
Parks and Gardens (ha.)	16.71	167,053	£25	£4,176,319	
Amenity Green Space (ha.)	11.18	111,790	£13	£1,397,379	
Allotments (ha.)	2.87	28,686	£30	£860,575	
Total Open Space				£17,957,401	
Total Open Space / Unit				£2,718	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	855.77				
2+ Bed houses	3,423.10				
Child Yield	38.51				
Child Yield	308.08				
Total Child Yield	346.59				
Nursery Facilities	6.2				
Nursery sq.m	2,086				
Nursery		2,086	£1,250	£2,607,151	

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	855.77				
2+ Bed houses	3,423.10				
Child Yield	128.37				
Child Yield	1,026.93				
Total Child Yield	1,155.30				
Primary FE	5.5				
Primary		7,000	£2,700	£18,900,000	5.5 FE ; Say 5FE. ie 2 x 3FE Primary schools each 3,500m2
Playing Fields / School		2	£750,000	£1,500,000	

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	855.77				
2+ Bed houses	3,423.10				
Child Yield	85.58				
Child Yield	684.62				
Total Child Yield	770.20				
Secondary FE	5.1				
Secondary		8,500	£3,000	£25,500,000	5.1FE ; Say 5FE. Gilston Park was 10,000m2 for 6FE therefore say 8,500m2
Playing Fields / School		1	£1,500,000	£1,500,000	

Total Education				£50,007,151	
Total Education / Unit				£7,570	Say 7,500

SIF Population Outputs

Population from Scheme	
Total Units	10,132
Total Population	19,422

Population Age Profile	
0-3	727
4-10	976
11-15	765
16-17	330
18-19	327
20-24	982
25-29	1,195
30-34	1,237
35-39	1,193
40-44	1,356
45-49	1,461
50-54	1,293
55-59	1,248
60-64	1,473
65-69	1,280
70-74	1,033
75+	2,546
Total Population	19,422

Social Infrastructure Requirements

Healthcare Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	11				
Primary Care Centre Floorspace (sq.m)	1,780	1,780	£2,200	£3,916,819	
Dental Surgeons	11				
Dental Surgery Floorspace (sq.m)	552	552	£1,700	£938,006	
Acute Healthcare Beds	38				
Acute Healthcare Floorspace (sq.m)	6,093	6,093	£2,700	£16,451,781	
Total Healthcare				£21,306,606	
Total Healthcare / Unit				£2,103	

Leisure and Community Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	0.94	192	£2,100	£402,542	Parlington ; 35m2 for 1,850 units therefore say 325m2
Sports Centres (4 court Hall)	1.40	372	£1,400	£521,387	Parlington ; 68m2 for 1,850 units therefore say 632m2
Library Space (sq.m)	583	583	£1,400	£815,734	
Total Community & Leisure				£1,739,663	
Total Community & Leisure / Unit				£172	
Total Community & Leisure + Health / Unit				£2,275	Say 2,950

Green Infrastructure	SI Output	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	29.72	297,160	£35	£10,400,610	
Children's play (ha.)	6.80	68,000	£50	£3,400,000	
Semi Natural Open Space (ha.)	38.84	388,445	£10	£3,884,448	
Parks and Gardens (ha.)	25.64	256,374	£25	£6,409,340	
Amenity Green Space (ha.)	17.16	171,563	£13	£2,144,539	
Allotments (ha.)	4.40	44,024	£30	£1,320,712	
Total Open Space				£27,559,650	
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	1,312.55				
2+ Bed houses	5,250.20				
Child Yield	59.06				
Child Yield	472.52				
Total Child Yield	531.58				
Nursery Facilities	9.5				
Nursery sq.m	3,199				
Nursery		3,199	£1,250	£3,998,736	

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	1,312.55				
2+ Bed houses	5,250.20				
Child Yield	196.88				
Child Yield	1,575.06				
Total Child Yield	1,771.94				
Primary FE	8.4				
Primary		10,500	£2,700	£28,350,000	8.4 FE ; Say 9FE ie 3 x 3FE Primary schools each 3,500m2
Playing Fields / School		3	£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	1,312.55				
2+ Bed houses	5,250.20				
Child Yield	131.25				
Child Yield	1,050.04				
Total Child Yield	1,181.29				
Secondary FE	7.9				
Secondary		13,500	£3,000	£40,500,000	7.9FE ; Say 8FE. Gilston Park was 10,000m2 for 6FE therefore say 13,500m2
Playing Fields / School		1	£1,500,000	£1,500,000	

Total Education				£76,598,736	
Total Education / Unit				£7,560	Say 7,500