

## 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 Sha
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	60%
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 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 bed	1.40	1.40	1.32
House - 2 bed	1.75	1.75	2.04
House - 3 bed	2.39	2.39	3.14
House - 4 bed +	2.97	2.97	4.24

Age Profile 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%	2.6%	15.6%	6.6%	5.3%	0.8%	7.9%	5.5%	5.2%
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%	15.1%
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%	16.3%
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%	7.2%
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%	6.2%
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%	8.1%
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%	3.3%
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%	4.6%
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%	6.6%
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%	7.7%
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%	6.3%
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%	6.0%	4.0%	3.9%	2.9%	3.8%	4.7%	5.1%	4.2%
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%	2.6%
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%	3.3%	2.9%	3.5%	12.2%	6.2%	3.7%	2.4%
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%	1.7%
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%	6.6%	2.3%	1.2%	0.6%	13.6%	6.3%	2.0%	0.9%
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%	23.8%	5.2%	3.1%	2.9%	36.9%	14.2%	3.6%	1.6%

## SIF Population Outputs - Informed by Housing Assumptions

Population from Scheme	
Total Units	6,611
Total Population	12,673

Population Age Profile	
0-3	475
4-10	637
11-15	499
16-17	215
18-19	213
20 - 24	641
25 - 29	780
30 - 34	807
35 - 39	779
40 - 44	885
45 - 49	953
50 - 54	843
55 - 59	814
60 - 64	961
65 - 69	835
70 - 74	674
75 +	1,661
<b>Total Population</b>	<b>12,673</b>

## Social Infrastructure Requirements

Healthcare Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	7				
Primary Care Centre Floorspace (sq.m)	1,162	1,162	£2,200	£2,555,674	
Dental Surgeons	7			-	
Dental Surgery Floorspace (sq.m)	360	360	£1,700	£612,037	
Acute Healthcare Beds	25			-	
Acute Healthcare Floorspace (sq.m)	3,976	3,976	£2,700	£10,734,576	
<b>Total Healthcare</b>				<b>£13,902,287</b>	
<b>Total Healthcare / Unit</b>				<b>£2,103</b>	

Leisure and Community Facilities	SI Output	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	0.61	125	£2,100	£262,500	Parlington ; 35m2 for 1,850 units therefore say 125m2
Sports Centres (4 court Hall)	0.91	243	£1,400	£340,200	Parlington ; 68m2 for 1,850 units therefore say 243m2
Library Space (sq.m)	380	380	£1,400	£532,256	
<b>Total Community &amp; Leisure</b>				<b>£1,134,956</b>	
<b>Total Community &amp; Leisure / Unit</b>				<b>£172</b>	
<b>Total Community &amp; Leisure + Health / Unit</b>				<b>£2,275</b>	<b>Say 2,250</b>

Green Infrastructure	SI Output	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	19.4	193,897	£35	£6,786,392	
Children's play (ha.)	4.44	44,400	£50	£2,220,000	
Semi Natural Open Space (ha.)	25.35	253,455	£10	£2,534,553	
Parks and Gardens (ha.)	16.73	167,284	£25	£4,182,090	
Amenity Green Space (ha.)	11.19	111,943	£13	£1,399,284	
Allotments (ha.)	2.87	28,725	£30	£861,748	
<b>Total Open Space</b>				<b>£17,984,066</b>	
<b>Total Open Space / Unit</b>				<b>£2,720</b>	<b>Say 2,750</b>

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	856.42				
2+ Bed houses	3,425.69				
Child Yield	38.54				
Child Yield	308.31				
Total Child Yield	346.85				
<b>Nursery Facilities</b>					
<b>Nursery sq.m</b>	2,087.30				
<b>Nursery</b>		2,087.00	£1,250	£2,608,750	

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	856.42				
2+ Bed houses	3,425.69				
Child Yield	128.46				
Child Yield	1,027.71				
Total Child Yield	1,156.17				
<b>Primary FE</b>	5.5				
<b>Primary Cost Assumptions</b>		7,000.00	£2,700	£18,900,000	5.5 FE ; Say 6FE ie 2 x 3FE Primary schools each 3,500m2
<b>Playing Fields / School</b>		2.00	£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	856.42				
2+ Bed houses	3,425.69				
Child Yield	85.64				
Child Yield	685.14				
Total Child Yield	770.78				
<b>Secondary FE</b>	5.1				
<b>Secondary Cost Assumptions</b>		8,500.00	£3,000	£25,500,000	5.1FE ; Say 5FE. Gilston Park was 10,000m2 for 6FE therefore say 8,500m2
<b>Playing Fields / School</b>		1.00	£1,250,000	£1,250,000	

<b>Total Education</b>				<b>£49,758,863</b>	
<b>Total Education / Unit</b>				<b>£7,527</b>	<b>Say 7,500</b>

## SIF Population Outputs

Population from Scheme	
Total Units	8,834
Total Population	16,934

Population Age Profile	
0-3	634
4-10	851
11-15	667
16-17	288
18-19	285
20 - 24	856
25 - 29	1,042
30 - 34	1,078
35 - 39	1,040
40 - 44	1,183
45 - 49	1,274
50 - 54	1,127
55 - 59	1,088
60 - 64	1,284
65 - 69	1,116
70 - 74	901
75 +	2,220
<b>Total Population</b>	<b>16,934</b>

## Social Infrastructure Requirements

Healthcare Facilities	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	9			
Primary Care Centre Floorspace (sq.m)	1,552	£2,200	£3,415,039	
Dental Surgeons	10			
Dental Surgery Floorspace (sq.m)	481	£1,700	£817,839	
Acute Healthcare Beds	33			
Acute Healthcare Floorspace (sq.m)	5,313	£2,700	£14,344,161	
<b>Total Healthcare</b>			<b>£18,577,039</b>	
<b>Total Healthcare / Unit</b>			<b>£2,103</b>	

Leisure and Community Facilities	M2 Built Area	Cost / m2	Total	Notes	
Swimming Pool Facility (4 lane)	0.82	167	£2,100	£350,700	Parlington ; 35m2 for 1,850 units therefore say 167m2
Sports Centres (4 court Hall)	1.22	325	£1,400	£455,000	Parlington ; 68m2 for 1,850 units therefore say 325m2
Library Space (sq.m)	508	508	£1,400	£711,231	
<b>Total Community &amp; Leisure</b>				<b>£1,516,931</b>	
<b>Total Community &amp; Leisure / Unit</b>				<b>£172</b>	
<b>Total Community &amp; Leisure + Health / Unit</b>				<b>£2,275</b>	Say 2,250

Green Infrastructure	M2 Built Area	Cost / m2	Total	Notes	
Outdoor Sports (ha.)	25.9	259,090	£35	£9,068,157	
Children's play (ha.)	5.93	59,300	£50	£2,965,000	
Semi Natural Open Space (ha.)	33.87	338,682	£10	£3,386,816	
Parks and Gardens (ha.)	22.35	223,529	£25	£5,588,220	
Amenity Green Space (ha.)	14.96	149,584	£13	£1,869,804	
Allotments (ha.)	3.84	38,384	£30	£1,151,517	
<b>Total Open Space</b>				<b>£24,029,515</b>	
<b>Total Open Space / Unit</b>				<b>£2,720</b>	Say 2,750

Early Year (0-4)	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	1,144.40			
2+ Bed houses	4,577.60			
Child Yield	51.50			
Child Yield	411.98			
Total Child Yield	463.48			
<b>Nursery Facilities</b>				
Nursery sq.m	8.3			
Nursery	2,789	2,789.17	£1,250	£3,486,462

Primary (4-11)	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	1,144.40				
2+ Bed houses	4,577.60				
Child Yield	171.66				
Child Yield	1,373.28				
Total Child Yield	1,544.94				
<b>Primary FE</b>					
Primary Cost Assumptions	7.4	9,500.00	£2,700	£25,650,000	7,4 FE ; Say 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)	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	1,144.40				
2+ Bed houses	4,577.60				
Child Yield	114.44				
Child Yield	915.52				
Total Child Yield	1,029.96				
<b>Secondary FE</b>					
Secondary Cost Assumptions	6.9	11,650.00	£3,000	£34,950,000	6,9FE ; Say 7FE. Gilston Park was 10,000m2 for 6FE therefore say 11,500m2
Playing Fields / School	1.00		£1,500,000	£1,500,000	

<b>Total Education</b>				<b>£67,836,462</b>	
<b>Total Education / Unit</b>				<b>£7,679</b>	Say 7,500

## SIF Population Outputs

Population from Scheme	
Total Units	11,409
Total Population	21,870

  

Population Age Profile	
0-3	819
4-10	1,100
11-15	862
16-17	371
18-19	368
20-24	1,106
25-29	1,345
30-34	1,393
35-39	1,344
40-44	1,527
45-49	1,645
50-54	1,456
55-59	1,405
60-64	1,658
65-69	1,441
70-74	1,164
75+	2,867
<b>Total Population</b>	<b>21,870</b>

## Social Infrastructure Requirements

Healthcare Facilities	M2 Built Area	Cost / m2	Total	Notes
General Practitioners	12			
Primary Care Centre Floorspace (sq.m)	2,005	£2,200	£4,410,480	
Dental Surgeons	12			
Dental Surgery Floorspace (sq.m)	621	£1,700	£1,056,229	
Acute Healthcare Beds	43			
Acute Healthcare Floorspace (sq.m)	6,861	£2,700	£18,525,303	
<b>Total Healthcare</b>			<b>£23,992,012</b>	
<b>Total Healthcare / Unit</b>			<b>£2,103</b>	

Community & Leisure Facility	M2 Built Area	Cost / m2	Total	Notes
Swimming Pool Facility (4 lane)	1.06	£2,100	£453,600	Parlington ; 35m2 for 1,850 units therefore say 216m2
Sports Centres (4 court Hall)	1.57	£1,400	£586,600	Parlington ; 68m2 for 1,850 units therefore say 419m2
Library Space (sq.m)	656	£1,400	£918,546	
<b>Total Community &amp; Leisure</b>			<b>£1,958,746</b>	
<b>Total Community &amp; Leisure / Unit</b>			<b>£172</b>	
<b>Total Community &amp; Leisure + Health / Unit</b>			<b>£2,275</b>	<b>Say 2,250</b>

Green Infrastructure	M2 Built Area	Cost / m2	Total	Notes
Outdoor Sports (ha.)	33.46	£35	£1,171,385	
Children's play (ha.)	7.65	£50	£3,825,000	
Semi Natural Open Space (ha.)	43.74	£10	£4,374,030	
Parks and Gardens (ha.)	28.87	£25	£7,217,100	
Amenity Green Space (ha.)	19.32	£13	£2,414,829	
Allotments (ha.)	4.96	£30	£1,487,170	
<b>Total Open Space</b>			<b>£31,029,514</b>	
<b>Total Open Space / Unit</b>			<b>£2,720</b>	<b>Say 2,750</b>

Early Year (0-4)	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	1,477.98			
2+ Bed houses	5,911.92			
Child Yield	66.51			
Child Yield	532.07			
Total Child Yield	598.58			
<b>Nursery Facilities</b>				
Nursery sq.m	10.7			
Nursery	3,602	£1,250	£4,502,500	

Primary (4-11)	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	1,477.98			
2+ Bed houses	5,911.92			
Child Yield	221.70			
Child Yield	1,773.57			
Total Child Yield	1,995.27			
<b>Primary FE</b>				
Primary Cost Assumptions	12,000	£2,700	£32,400,000	9.5 FE ; Say 10FE ie 2 x 3FE Primary schools each 3,500m2 and 2 x 2FE Primary Schools each 2,500m2
Playing Fields / School	4	£750,000	£3,000,000	

Primary Cost Assumptions	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	1,477.98			
2+ Bed houses	5,911.92			
Child Yield	147.80			
Child Yield	1,182.38			
Total Child Yield	1,330.18			
<b>Secondary FE</b>				
Secondary Cost Assumptions	8.9			
Playing Fields / School	15,000	£3,000	£45,000,000	8.9FE ; Say 9FE. Gilston Park was 10,000m2 for 6FE therefore say 15,000m2
Secondary Cost Assumptions	1	£1,500,000	£1,500,000	
<b>Total Education</b>			<b>£86,402,695</b>	
<b>Total Education / Unit</b>			<b>£7,573</b>	<b>Say 7,500</b>