



Appendix B

Economic and Financial Analysis



Ysgol Newydd Sandfields FBC – Economic and Financial Appraisal (Version 11)

This appendix contains the economic and financial appraisals for the following options:

- Option 1: Do Minimum (i.e. maintain status quo)
- Option 3.1: Build new primary school at Tirmorfa site
- Option 3.2: Build new primary school at Glanymor site

The assumed life of the options is taken as 40 years in all cases; the discount rate used for all options is 3.5% for the first 30 years and 3% thereafter.

Costs are estimated on a current year basis – no allowance has been made for inflation and capital costs are shown net of any tax, such as VAT.

Baseline Data

The baseline revenue data for the schools within scope of this FBC is set out in the table below.

Description	Total revenue Costs £'000s
Existing Schools	988

The breakdown of costs and cash releasing benefits for the three options are shown in the table below.

All values/figures in £'000s

Description	Option 1	Option 3.1	Option 3.2
Capital Related Costs			
Capital works	0	7,700 over 3 years (excl. demolition)	7,755 over 3 years (excl. demolition)
Optimism bias	32	522	30
Backlog maintenance	3,974	0	0
Demolition	0	150	150
Asbestos removal	0	0	0
Project risks	778	625	140
Revenue Related			
Revenue	988 p.a.	844 p.a.	844 p.a.
Life cycle costs	1,969	3,101	3,101



Description	Option 1	Option 3.1	Option 3.2
Benefits			
Capital receipts, sale of property	0	290	0
Community lettings	22 p.a.	0.17 p.a.	21 p.a.

Summary of Options

A summary of the economic appraisal for each option is set out in the tables below.

Option 1 - 'Do Minimum'		
	Undiscounted (£'000s)	Net Present Value (£'000s)
Capital	-£3,974	-£3,907
Revenue/Current	-£41,489	-£22,912
Risk retained	-£778	-£765
Optimism bias	-£32	-£31
Total costs	-£46,273	-£27,615
Less: cash releasing benefits	£880	£550
Costs net cash savings	-£45,393	-£27,065
Non-cash releasing benefits		
Total	-£45,393	-£27,065

Option 3.1 - Build New School on Tirmorfa Site		
	Undiscounted (£'000s)	Net Present Value (£'000s)
Capital	-£7,850	-£7,689
Revenue/Current	-£37,065	-£20,468
Risk retained	-£625	-£612
Optimism bias	-£522	-£511
Total costs	-£46,062	-£29,280
Less: cash releasing benefits	£38	£34
Costs net cash savings	-£46,024	-£29,245
Non-cash releasing benefits		
Total	-£46,024	-£29,245

Option 3.2 - Build New School on Glanymor Site		
	Undiscounted (£'000s)	Net Present Value (£'000s)
Capital	-£7,905	-£7,743
Revenue/Current	-£37,065	-£20,468
Risk retained	-£140	-£137
Optimism bias	-£30	-£29
Total costs	-£45,140	-£28,377
Less: cash releasing benefits	£841	£467
Costs net cash savings	-£44,299	-£27,910
Non-cash releasing benefits		
Total	-£44,299	-£27,910

Ranking of Results

The table below indicates the comparative ranking for the various options.

Option	Description	Ranking				
		NPV (£'000)	Cash Benefit	Non-cash Benefit	Cost net cash savings	Costs net all savings
1	Do minimum	-27,065	1	3	1	1
3.1	Build New School on Tirmorfa Site	-29,245	3	2	3	3
3.2	Build New School on Glanymor Site	-27,910	2	1	2	2

The ranking of Option 1 (Do Nothing) is first in all cases apart from the non cash benefits. The NPV for Option 3.2 is £0.845m lower than the “do minimum” option. However, the “do minimum” option does not deliver our strategic objectives and is thus ignored whilst the preferred option is Option 3.2 – a new school on the Glanymor site.



Economic and Financial Appraisal for Option 1: Do Minimum

The economic appraisal for Option 1 (do minimum) is shown in the table below. This is based on the current revenue expenditure for the existing schools. The estimated backlog maintenance for the existing schools is £3.974m expended in Years 0 and 1.

Economic Analysis for Option 1: Do Minimum								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on anticipated cyclical works)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
CAPITAL COSTS								
Backlog maintenance	-£1,987	-£1,987	£0	£0	£0	£0	-£3,907	-£3,974
Capital Costs Totals	-£1,987	-£1,987	£0	£0	£0	£0	-£3,907	-£3,974
REVENUE/CURRENT COSTS								
Existing Revenue Costs	-£988	-£988	-£988	-£988	-£988	-£988	-£21,900	-£39,520
Lifecycle Costs	£0	£0	£0	£0	£0	£0	-£1,012	-£1,969
Revenue/Current Costs Totals	-£988	-£988	-£988	-£988	-£988	-£988	-£22,912	-£41,489
RISK RETAINED								
Any Risk							£0	£0
Project Risks	-£389	-£389					-£765	-£778
Risk Retained Totals	-£389	-£389					-£765	-£778
Optimism Bias 24%	-£16	-£16					-£31	-£32
TOTAL COSTS	-£3,380	-£3,380	-£988	-£988	-£988	-£988	-£27,615	-£46,273
CASH RELEASING BENEFITS								
Community Lettings	£22	£22	£22	£22	£22	£22	£550	£880
Cash Releasing Benefits Total	£22	£22	£22	£22	£22	£22	£550	£880
Cost Net Cash Savings	-£3,358	-£3,358	-£966	-£966	-£966	-£966	-£27,065	-£45,393
TOTAL	-£3,358	-£3,358	-£966	-£966	-£966	-£966	-£27,065	-£45,393



The financial analysis for Option 1 is shown in the table below.

Financial Analysis for Option 1: Do Minimum								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on anticipated cyclical works)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
Capital Costs	-£1,987	-£1,987	£0	£0	£0	£0	-£3,907	-£3,974
Backlog maintenance	-£1,987	-£1,987	£0	£0	£0	£0	-£3,907	-£3,974
Capital Costs Totals							£0	£0
Revenue/Current Costs	-£988	-£988	-£988	-£988	-£988	-£988	-£21,900	-£39,520
Existing Revenue Costs	£0	£0	£0	£0	£0	£0	-£1,012	-£1,969
Lifecycle Costs	-£988	-£988	-£988	-£988	-£988	-£988	-£22,912	-£41,489
Revenue/Current Costs Totals	-£2,975	-£2,975	-£988	-£988	-£988	-£988	-£26,819	-£45,463
Total Costs								
Cash releasing Benefits	£22	£22	£22	£22	£22	£22	£550	£880
Community Lettings	£22	£22	£22	£22	£22	£22	£550	£880
Cash Releasing Benefits Total	-£2,953	-£2,953	-£966	-£966	-£966	-£966	-£26,269	-£44,583
Cost Net Cash Savings	-£2,953	-£2,953	-£966	-£966	-£966	-£966	-£26,269	-£44,583
Total	-£1,987	-£1,987	£0	£0	£0	£0	-£3,907	-£3,974



Economic and Financial Appraisal for Option 3.1: Build new primary school at Tirmorfa

The scope for Option 3.1 is to close two primary schools – Glanymor and Tirmorfa – and build a new primary school on vacant land on the Tirmorfa site. Construction of the new school takes place over two years. Existing revenue costs continue until the new school is available. Assuming occupation in September 2013, existing revenue costs will apply for 5 months in 2013/14 financial year, with 7 months of the same year having new revenue costs. New lifecycle costs such as maintenance, etc. start in year 3 when the school is fully occupied and operational. A capital receipt of £290k is realised in year 2 on disposal of surplus property.

The result of the economic analysis for Option 3.1 is set out in the table below.

Economic Analysis for Option 3.1: New school at Tirmorfa								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on higher value works at 5 and 10 year intervals)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
CAPITAL COSTS								
New Build Costs	-£3,177	-£4,423	-£99	£0	£0	£0	-£7,544	-£7,700
Land Costs	£0	£0	£0	£0	£0	£0	£0	£0
Demolition Costs	£0	-£150	£0	£0	£0	£0	-£145	-£150
Asbestos Removal	£0	£0	£0	£0	£0	£0	£0	£0
Capital Total	-£3,177	-£4,573	-£99	£0	£0	£0	-£7,689	-£7,850
REVENUE COSTS								
Existing Revenue Costs	-£988	-£412					-£1,386	-£1,400
New Revenue Costs	£0	-£492	-£844	-£844	-£844	-£844	-£17,524	-£32,564
Lifecycle Costs	£0	£0	-£29	-£29	-£29	-£29	-£1,557	-£3,101
Revenue/Current Costs Total	-£988	-£904	-£873	-£873	-£873	-£873	-£20,468	-£37,065
Risk Retained								
Project Risks	-£253	-£364	-£8	£0	£0	£0	-£612	-£625
Risk Retained Total	-£253	-£364	-£8	£0	£0	£0	-£612	-£625
OPTIMISM BIAS								
On Construction Costs	-£211	-£304	-£7	£0	£0	£0	-£511	-£522
Optimism Bias Total	-£211	-£304	-£7	£0	£0	£0	-£511	-£522
TOTAL COSTS	-£4,630	-£6,146	-£986	-£873	-£873	-£873	-£29,280	-£46,062
CASH RELEASING BENEFITS								
Capital receipts received	£0	£0	£0	£0	£0	£0	£0	£0
Accommodation Costs	£0	£0	£0	£0	£0	£0	£0	£0
Save Recruitment Costs	£0	£0	£0	£0	£0	£0	£0	£0
Community Lettings	£22.00	£9.27	£0	£0	£0	£0	£34	£38
Cash Releasing Benefits Total	£22.00	£9.27	£0.17	£0.17	£0.17	£0.17	£34	£38
Cost Net Cash Savings	-£4,608	-£6,136	-£986	-£873	-£873	-£873	-£29,245	-£46,024
TOTAL	-£4,608	-£6,136	-£986	-£873	-£873	-£873	-£29,245	-£46,024



The results of the financial analysis for Option 3.1 are given in the table below.

Financial Analysis for Option 3.1: New school at Tirmorfa								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on higher value works at 5 and 10 year intervals)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
<i>Capital Costs</i>								
New Build Costs	-£3,177	-£4,423	-£99	£0	£0	£0	-£7,544	-£7,700
Land Costs	£0	£0	£0	£0	£0	£0	£0	£0
Demolition Costs	£0	-£150	£0	£0	£0	£0	-£145	-£150
Asbestos Removal	£0	£0	£0	£0	£0	£0	£0	£0
Capital Total	-£3,177	-£4,573	-£99	£0	£0	£0	-£7,689	-£7,850
<i>Revenue Costs</i>								
Existing Revenue Costs	-£988	-£412	£0	£0	£0	£0	-£1,386	-£1,400
New Revenue Costs	£0	-£492	-£844	-£844	-£844	-£844	-£17,524	-£32,564
Lifecycle Costs	£0	£0	-£29	-£29	-£29	-£29	-£1,557	-£3,101
Redundancy Costs	-£58							-£58
Revenue/Current Costs Total	-£1,046	-£904	-£873	-£873	-£873	-£873	-£20,468	-£37,123
TOTAL COSTS	-£4,223	-£5,477	-£972	-£873	-£873	-£873	-£28,156	-£44,973
<i>Cash Releasing Benefits</i>								
Capital receipts received	£0	£0	£0	£0	£0	£0	£0	£0
Accommodation Costs	£0	£0	£0	£0	£0	£0	£0	£0
Save Recruitment Costs	£0	£0	£0	£0	£0	£0	£0	£0
Community Lettings	£22	£9	£0	£0	£0	£0	£34	£38
Cash Releasing Benefits Total	£22	£9	£0	£0	£0	£0	£34	£38
Cost Net Cash Savings	-£4,201	-£5,468	-£972	-£873	-£873	-£873	-£28,122	-£44,935
TOTAL	-£4,201	-£5,468	-£972	-£873	-£873	-£873	-£28,122	-£44,935

Economic Appraisal for Option 3.2: Build new primary school at Glanymor

The scope for Option 3.2 is to close two primary schools – Glanymor and Tirmorfa – and build a new primary school on vacant land on the Glanymor site. Construction of the new school takes place over two years. Existing revenue costs continue until the new school is available. Assuming occupation in September 2013, existing revenue costs will apply for 5 months in 2013/14 financial year, with 7 months of the same year having new revenue costs. New lifecycle costs such as maintenance start in year 3 when the school is fully occupied.

The table below sets out the results of the economic analysis for Option 3.2.

Economic Analysis for Option 3.2: New school at Glanymor								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on higher value works at 5 and 10 year intervals)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
CAPITAL COSTS								
New Build Costs	-£3,200	-£4,455	-£100	£0	£0	£0	-£7,598	-£7,755
Land Costs	£0	£0	£0	£0	£0	£0	£0	£0
Demolition Costs	£0	-£150	£0	£0	£0	£0	-£145	-£150
Asbestos Removal	£0	£0	£0	£0	£0	£0	£0	£0
Capital Total	-£3,200	-£4,605	-£100	£0	£0	£0	-£7,743	-£7,905
REVENUE COSTS								
Existing Revenue Costs	-£988	-£412					-£1,386	-£1,400
New Revenue Costs	£0	-£492	-£844	-£844	-£844	-£844	-£17,524	-£32,564
Lifecycle Costs	£0	£0	-£29	-£29	-£29	-£29	-£1,557	-£3,101
Revenue/Current Costs Total	-£988	-£904	-£873	-£873	-£873	-£873	-£20,468	-£37,065
Risk Retained								
Project Risks	-£57	-£82	-£2	£0	£0	£0	-£137	-£140
Risk Retained Total	-£57	-£82	-£2	£0	£0	£0	-£137	-£140
OPTIMISM BIAS								
On Construction Costs	-£12	-£17	£0	£0	£0	£0	-£29	-£30
Optimism Bias Total	-£12	-£17	£0	£0	£0	£0	-£29	-£30
TOTAL COSTS	-£4,257	-£5,608	-£975	-£873	-£873	-£873	-£28,377	-£45,140
CASH RELEASING BENEFITS								
Capital receipts received	£0	£0	£0	£0	£0	£0	£0	£0
Accommodation Costs	£0	£0	£0	£0	£0	£0	£0	£0
Save Recruitment Costs	£0	£0	£0	£0	£0	£0	£0	£0
Community Lettings	£22.00	£21.42	£21	£21	£21	£21	£467	£841
Cash Releasing Benefits Total	£22.00	£21.42	£21.00	£21.00	£21.00	£21.00	£467	£841
Cost Net Cash Savings	-£4,235	-£5,587	-£954	-£852	-£852	-£852	-£27,910	-£44,299
TOTAL	-£4,235	-£5,587	-£954	-£852	-£852	-£852	-£27,910	-£44,299



The following table indicates the results of the financial analysis for Option 3.2.

Financial Analysis for Option 3.2: New school at Glanymor								
£'000s	Years (years 7-40 same as year 6 except for lifecycle costs based on higher value works at 5 and 10 year intervals)						NPV	Total Cost
	1	2	3	4	5	6		
	12/13	13/14	14/15	15/16	16/17	17/18		
<i>Capital Costs</i>								
New Build Costs	-£3,200	-£4,455	-£100	£0	£0	£0	-£7,598	-£7,755
Land Costs	£0	£0	£0	£0	£0	£0	£0	£0
Demolition Costs	£0	-£150	£0	£0	£0	£0	-£145	-£150
Asbestos Removal	£0	£0	£0	£0	£0	£0	£0	£0
Capital Total	-£3,200	-£4,605	-£100	£0	£0	£0	-£7,743	-£7,905
<i>Revenue Costs</i>								
Existing Revenue Costs	-£988	-£412	£0	£0	£0	£0	-£1,386	-£1,400
New Revenue Costs	£0	-£492	-£844	-£844	-£844	-£844	-£17,524	-£32,564
Lifecycle Costs	£0	£0	-£29	-£29	-£29	-£29	-£1,557	-£3,101
Redundancy Costs	-£58							-£58
Revenue/Current Costs Total	-£1,046	-£904	-£873	-£873	-£873	-£873	-£20,468	-£37,123
TOTAL COSTS	-£4,246	-£5,509	-£973	-£873	-£873	-£873	-£28,210	-£45,028
<i>Cash Releasing Benefits</i>								
Capital receipts received	£0	£0	£0	£0	£0	£0	£0	£0
Accommodation Costs	£0	£0	£0	£0	£0	£0	£0	£0
Save Recruitment Costs	£0	£0	£0	£0	£0	£0	£0	£0
Community Lettings	£22	£21	£21	£21	£21	£21	£467	£841
Cash Releasing Benefits Total	£22	£21	£21	£21	£21	£21	£467	£841
Cost Net Cash Savings	-£4,224	-£5,488	-£952	-£852	-£852	-£852	-£27,743	-£44,187
TOTAL	-£4,224	-£5,488	-£952	-£852	-£852	-£852	-£27,743	-£44,187

Sensitivity Analysis – All Options

The various options have been subject to a sensitivity analysis; the five scenarios evaluated are set out in the table below.

Sensitivity Analysis	
Scenario:	Increase or Decrease
Increase Capital	10%
Increase Revenue Costs	10%
Decrease Capital	-10%
Decrease Revenue Cost	-10%
Decrease Cash Savings	-20%

The results of the analysis are shown in the following table for each option.

£000s	Option 1	Option 3.1	Option 3.2	Ranking
Baseline NPVs	-£27,065	-£29,245	-£27,910	Option 1 = 1
Increase Capital by 10%	-£27,456	-£30,014	-£28,684	Option 1 = 1
Increase Revenue Costs by 10%	-£29,356	-£31,292	-£29,957	Option 1 = 1
Decrease Capital by 10%	-£26,674	-£28,477	-£27,136	Option 1 = 1
Decrease Revenue Cost by 10%	-£24,774	-£27,199	-£25,863	Option 1 = 1
Decrease Cash Savings by 20%	-£27,175	-£29,252	-£28,003	Option 1 = 1

In all cases Option 1 (Do Minimum) has the highest net present value (NPV) whilst Option 3.2 (preferred option) has the second highest NPV. The relative ranking of the options does not change under any of the scenarios indicating that there is no sensitivity to changes in capital, revenue and benefits within the ranges specified.

Impact on Overall Income and Expenditure – Option 3.2

The anticipated payment stream for the project over its intended life span is set out in the following table for the preferred Option 3.2. The funding line includes the existing funding streams for the schools. All figures exclude VAT.

All figures in £000s	Total Cost	Years (years 7-40 same as year 6 except for lifecycle costs based on higher value works at 5 and 10 year intervals)					
		1	2	3	4	5	6
		12/13	13/14	14/15	15/16	16/17	17/18
Preferred way forward:							
Capital	-7,905	-3,200	-4,605	-100	0	0	0
Revenue/Lifecycle costs	-37,123	-1046	-904	-873	-873	-873	-964
Cash releasing benefits	841	22	21	21	21	21	21
Total	-44,187	-4,224	-5,488	-952	-852	-852	-943
Funded by:							
Existing Revenue*	39,520	988	988	988	988	988	988
Total Existing	39,520	988	988	988	988	988	988
Additional Funding Required		-3,236	-4,500	36	136	136	45
VAT @ 20% on capital costs	-1,581	-640	-921	-20			

The net additional funding required over years 1 and 2 totals £7.736m assuming the delivery of the cash releasing benefits as predicted. The estimated VAT on the new works is £1.581m assuming a 20% VAT rate. Expert tax advice should be sought regarding the payment or avoidance of VAT on new schools.