

The spreadsheet which is to be viewed along with this document does not contain all the costs and drawbacks of the weight restriction and failure to build a bypass. The reason for this is that some of these costs are hard to quantify. If they could be accurately costed and taken into account the mileage cost of 184 £million may well approach 250 £million and the CO2 tonnage increase by a similar percentage.

- 1) The spreadsheet does not take into account the costs of accidents and accident damage on A685 at Kirkby Stephen (see separate accident summary)
- 2) It does not take into account the costs of HGV damage to the Carlisle Settle railway bridge.
- 3) It does not take into account the costs and CO2 associated with queuing at the pelican crossing, the zebra crossing or traffic congestion in parts Kirkby Stephen away from the traffic lights such as South Road.
- 4) Inching forward and accelerating in queues and at lights actually burns more fuel and produces more CO2 than the values on the spreadsheet.
- 5) It does not take into account the disruption and accidents caused by putting additional HGVs onto alternative routes. The 230 HGVs diverted onto the A66 add over 2 miles a day to the queues at Penrith (Skirsgill & Kemplay roundabouts) and the additional knock on effects to Penrith town traffic trying to access those roundabouts.
- 6) It does not take into account the costs of extra road wear due to the additional vehicle miles
- 7) It does not take into account the delay costs to LGVs and other commercial / business traffic on the alternative routes.
- 8) It does not take into account the time wasted by non commercial traffic / tourists.
- 9) It does not take account the costs of delayed product delivery to end users
- 10) Often there are major delays on A66 due to accidents and at the roundabouts, this congestion can back up several miles on the M6. None of these costs are on the spreadsheet
- 11) On the planned A66 upgrade the loop round Kirkby Thore will increase the length of the A66 compared to A685 / Kirkby Stephen bypass route meaning more wasted miles / CO2
- 12) It does not take into account the delay costs to business that would be greatly be reduced by moving non local vehicles onto a bypass.
- 13) It does not take into account the costs of attempting to manage traffic in Kirkby Stephen that would not be in the town if there were a bypass.
- 14) It does not take into account the cost of policing the weight restriction
- 15) It does not take into account the costs of so called "alternative measures to a bypass"
- 16) It does not take into account the extra healthcare costs such as children's asthma.

The extra mileage in addition to the extra CO2 produced also produces extra Nitrogen Oxides and particle emissions

The extra mileage results in more rubber (butyl tyre particles) and heavy metal particles from brakes and clutches being deposited to pollute the environment in particular rivers.

The A66 upgrade is budgeted at 1.14 £billion. The length from Brought to Penrith looks more complex than the length from Brough to Scotch Corner so assume the cost Brough to Penrith is in the region of 650 £million. At an average of 20,000 vehicles per day that equates to £32,500 per vehicle. A bypass for Kirkby Stephen 20 £million (6000 vehicles per day) equates to £3,300 per vehicle.

Bypassing Kirkby Stephen before starting work on A66 will make for a much more amenable diversion route enabling A66 to be shut to traffic more often and therefore reducing A66 build costs.

Cost £20 million	25 Yr repayment		£ Interest	total cost pa	Total income	Income less	HGV	HGV	HGV pa	LGV	LGV	LGV pa	CAR	CAR	car pa
Yr	Capital repayment	Capital Balance	at % below 5.5	Cap repay + interest	HGV + LGV + CARS	cost	Qty/day	toll	income	qty/day	toll	income	qty/day	toll	income
	£	£	£	£	£	£			£			£			£
1	420000	19580000	1076900	1496900	1584100	87200	310	£9	1018350	400	£2	292000	1500	£0.50	273750
2	441000	19139000	1052645	1493645	1584100	90455	310	£9	1018350	400	£2	292000	1500	£0.50	273750
3	463050	18675950	1027177	1490227	1584100	93873	310	£9	1018350	400	£2	292000	1500	£0.50	273750
4	486203	18189748	1000436	1486639	1584100	97461	310	£9	1018350	400	£2	292000	1500	£0.50	273750
5	510513	17679235	972358	1482871	1584100	101229	310	£9	1018350	400	£2	292000	1500	£0.50	273750
6	536038	17143197	942876	1478914	1584100	105186	310	£9	1018350	400	£2	292000	1500	£0.50	273750
7	562840	16580356	911920	1474760	1584100	109340	310	£9	1018350	400	£2	292000	1500	£0.50	273750
8	590982	15989374	879416	1470398	1584100	113702	310	£9	1018350	400	£2	292000	1500	£0.50	273750
9	620531	15368843	845286	1465818	1584100	118282	310	£9	1018350	400	£2	292000	1500	£0.50	273750
10	651558	14717285	809451	1461009	1584100	123091	310	£9	1018350	400	£2	292000	1500	£0.50	273750
11	684136	14033149	771823	1455959	1584100	128141	310	£9	1018350	400	£2	292000	1500	£0.50	273750
12	718343	13314807	732314	1450657	1584100	133443	310	£9	1018350	400	£2	292000	1500	£0.50	273750
13	754260	12560547	690830	1445090	1584100	139010	310	£9	1018350	400	£2	292000	1500	£0.50	273750
14	791973	11768575	647272	1439244	1584100	144856	310	£9	1018350	400	£2	292000	1500	£0.50	273750
15	831571	10937003	601535	1433106	1584100	150994	310	£9	1018350	400	£2	292000	1500	£0.50	273750
16	873150	10063853	553512	1426662	1584100	157438	310	£9	1018350	400	£2	292000	1500	£0.50	273750
17	916807	9147046	503088	1419895	1584100	164205	310	£9	1018350	400	£2	292000	1500	£0.50	273750
18	962648	8184398	450142	1412790	1584100	171310	310	£9	1018350	400	£2	292000	1500	£0.50	273750
19	1010780	7173618	394549	1405329	1584100	178771	310	£9	1018350	400	£2	292000	1500	£0.50	273750
20	1061319	6112299	336176	1397496	1584100	186604	310	£9	1018350	400	£2	292000	1500	£0.50	273750
21	1114385	4997914	274885	1389270	1584100	194830	310	£9	1018350	400	£2	292000	1500	£0.50	273750
22	1170104	3827810	210530	1380634	1584100	203466	310	£9	1018350	400	£2	292000	1500	£0.50	273750
23	1228610	2599200	142956	1371566	1584100	212534	310	£9	1018350	400	£2	292000	1500	£0.50	273750
24	1290040	1309160	72004	1362044	1584100	222056	310	£9	1018350	400	£2	292000	1500	£0.50	273750
25	1354542	-45381.5	-2496	1352046	1584100	232054	310	£9	1018350	400	£2	292000	1500	£0.50	273750

Totals £20,045,382

£3,659,534

Toll operating cost could come from this surplus column Inflation not included

830 HGVs per day passing through Kirkby Stephen prior to 18 Te weight retraction
 230 HGVs per day diverted on A66 / M6 following weight restriction incurring 22.6 miles detour
 290 HGVs per day diverted onto other routes (A69, A65, M62) estimated average detour 10 miles
 310 HGVs left on A685 through Kirkby Stephen per day

Above figures are AADT figures presented by Cumbria County Council for 1997 public enquiry and at introduction of weight restriction

Extra mileage cost Brough to Tebay via Penrith compared to Brough to Tebay via Kirkby stephen
 Extra HGV mileage A69, A65 M62

Waiting time at Penrith roundabouts
 Junction / Rounabout delays on alternative routes
 Waiting time at Kirkby Stephen Fletcher hill traffic lights

Sum of cost of extra mileage and time lost 1999 to 2022

Operating costs and prices as at 2020

Kirkby Stephen bypass was budgeted at approximately 8.5 £million in 1997 of which approaching 0.8 £million has already been spent on preparation

Present construction cost of Kirkby Stephen bypass circa 20 £million.

	Number of HGVs per day	Miles	Cost per mile	Cost per day	Days per year	Years 1999 to 2022	
Extra mileage cost Brough to Tebay via Penrith compared to Brough to Tebay via Kirkby stephen	230	22.65	£2.50	£13,023.75	365	23	£109,334,381
Extra HGV mileage A69, A65 M62	290	10	£2.50	£7,250.00	365	23	£60,863,750
		Minutes	Cost per minute				
Waiting time at Penrith roundabouts	230	5	£0.80	£920.00	365	23	£7,723,400
Junction / Rounabout delays on alternative routes	290	2	£0.80	£464.00	365	23	£3,895,280
Waiting time at Kirkby Stephen Fletcher hill traffic lights	310	1	£0.80	£248.00	365	23	£2,081,960
Sum of cost of extra mileage and time lost 1999 to 2022							£183,898,771

	Number of HGVs per day	Miles	Kg CO2 per mile	Kg CO2 per day	Tonnes CO2 per day	Days per year	Years 1999 to 2022	Tonnes CO2
CO2 generated by A66 / M6 detour mileage	230	22.65	1.4	7293.3	7.2933	365	23	61227
CO2 generated by alterative detour mileage	290	10	1.4	4060	4.06	365	23	34084
		Minutes	Kg CO2 per minute at idle					Tonne
CO2 generated by waiting at lights junctions assumed to be 0.134 Kg per minute per HGV								
CO2 generated by A66 / M6 detour waiting time	230	5	0.134	154.1	0.1541	365	23	1294
CO2 generated by alterative detour waiting time	290	2	0.134	77.72	0.07772	365	23	652
CO2 generated by Kirkby Stephen lights waiting time	310	1	0.134	41.54	0.04154	365	23	349
Sum of extra CO2 produced 1999 to 2022 (Tonnes)								97606

The figures for both cost and CO2 are significantly less tha actual values. See the word document "Kirkby Stephen cost of weight restriction"