

encapsulates the final impact of an option on the efficiency of the area. All other economic costs in the model which affect households and firms are passed on through the chain of inputs and outputs to the final demand, which in this case, is represented by the export sectors.

Social implications

The options that have differentially higher costs of living in each district would generate a higher segregation of socio-economic groups. Table 6.2 illustrates the index of segregation that has been adopted to measure social mix.

The table shows a relative social mix of each district. An index of 100 means that at the district level, the mix of socio-economic groups is equivalent to that of the sub-region as a whole. If the index is below 100, it indicates that the district has a higher proportion of high-income socio-economic groups: (1) professional and managerial and (2) clerical and administrative. If the index is above 100 it means that there is a higher proportion of lower-income socio-economic groups: (3) manual and (4) unskilled workers. Although the table does not show any inordinately large changes between the options over the region as a whole, the decrease in the index in Cambridge city indicates a shift towards professional and managerial group households. This happens to a lesser extent in south Cambridgeshire and is reversed in east Cambridgeshire and Huntingdonshire where more manual worker households are located. This trend towards segregation of groups is most marked in Cambridge city in the Minimum Growth and New Town options, and least in the Densification option.

Table 6.2
Relative social mix in the options in 2016 (sub-regional average mix is 100).

Options	Cambridge sub-region standard deviation	Cambridge city	South Cambridgeshire	East Cambridgeshire	Huntingdonshire
Average		90.4	96.4	108.5	108.6
1 Minimum Growth	10.1	88.1	95.5	108.7	108.5
2 Densification	7.4	94.7	96.4	107.9	108.6
3 Necklace	9.7	88.6	97.0	108.4	108.4
4 Green Swap	8.3	92.0	97.1	108.3	108.6
5 Transport Link	8.6	91.7	96.3	108.5	108.6
6 Virtual Highway	9.4	89.6	96.5	108.6	108.5
7 New Town	10.2	88.5	95.8	109.0	108.9

Environmental implications

The results obtained by this exercise point towards environmentally quantified impacts, but the values cannot simply be added together to give an unambiguous total. Therefore the aggregate values shown below are essentially subjective. A list of possible environmental criteria can be drawn up which includes:

- **Effects upon open space and bio-diversity: this should include the effect on private and public open space, the re-use of brownfield land and the impact on greenfield sites**
- **Effects upon man-made amenities: this should include the impact upon the historical and cultural value of the built environment and its scale as well as the impact on streets and public spaces**
- **Effects upon emissions and pollution from transport due to congestion, etc**
- **Effects upon local safety and security, due to traffic congestion**

Table 6.3 attempts to score the environmental impacts of each option under each criterion. Negative numbers (up to -3) indicate a detrimental effect, whilst positive numbers (up to +3) indicate positive effects. The value 0 is either used to score a neutral effect or is the result of positive and negative effects that on balance produce a neutral score. The table shows that the Densification option would have the most detrimental environmental effects, followed by the Green Swap option. The Necklace and Minimum Growth options would appear to have the least effect on the environment. In terms of positive effect, the Virtual Highway is most effective, closely followed by Transport Link.

Table 6.3
Environmental impact.
 Ranges: -3 (negative),
 0 (neutral) and +3 (positive)
 as weighted by the research
 team.

	Open space and bio-diversity	Man-made amenities	Emission and pollution	Local safety and security	Aggregate score
1 Minimum Growth	0	+3	-1	0	+2
2 Densification	-1	-3	-3	-2	-9
3 Necklace	-1	+3	-2	-1	-1
4 Green Swap	0	-1	-3	-2	-6
5 Transport Link	+1	+1	+1	+2	+5
6 Virtual Highway	0	+2	+3	+3	+8
7 New Town	0	+3	+2	+2	+7