

## 4. Initial Review of Study Area

Given the size of the Initial Study Area for the scheme (see Figure 1), a preliminary study was undertaken to determine whether the study area could be refined. This was carried out by collecting preliminary information on major constraints within the study area. This information was methodically reviewed and displayed graphically such that areas where the probability of finding a feasible route would be unlikely (i.e. low routing potential) could be identified. The issues that were considered included:

- engineering constraints
- the existing infrastructure, land use, topography and physical features
- planning, development and socio-economic character
- identification of sites or areas of environmental significance or sensitivity.

These areas of low routing potential, and adjacent areas which become areas of low routing potential by association, have not been considered further at this stage of the project. Such areas, while not completely eliminated from the study, will only be reconsidered should routing subsequently prove not to be feasible within the remainder of the study area. The results of this exercise are shown in Figure 2, which defines the Constraints Study Area and comprises an overall reduction of 500 sq.km. from the initial study area.

The areas in the northern section excluded from further study are (listed north to south):

- **An area south of Kildare town including The Curragh, east of the Dublin – Waterford railway line and north of the N78.**

Exclusion of this area still permits consideration of a route north of Athy to join the proposed Heath – Mayfield Motorway at a new interchange and routes parallel to the N78 to join the M9 at Kilcullen. However an intermediate northern route joining the proposed M7 east of the railway has little or no cost advantages over a route to Kilcullen and would be less efficient in that traffic to and from Dublin would need to travel considerably further (via the proposed M7) compared with using the M9 Kilcullen link. For example, the journey length from Athy via the northern route west of the railway to the M7/M9 merge is 38.9 km, via a route parallel to the N78 and the Kilcullen link this distance is only 28.4 km. In addition The Curragh is a proposed National Heritage Area.

- **An area, primarily in Co. Wicklow, east of Moone which contains Grange Con and ground rising to over 200m culminating in the summits of Corballis Hill, Hughstown, Tinoranhill and Brewel Hill.**

The area has landscape significance with views towards Castledermot. The height of the ground and steep escarpment to the south are engineering constraints. Any route would require extensive earthworks for embankments and cuttings. This would significantly increase the cost compared to a lowland route and would also be more visually intrusive in the landscape.

- **The Castlecomer Plateau**

This area has been identified as a significant landscape feature in the study area. There is a steep escarpment on the east side rising to over 250m and over 300m in some areas. The area of high ground is considerably reduced to the north-west, where the N78 crosses

a col near Farnans at a height of 230m. Significant parts of the plateau have been identified as of high amenity and are designated as Areas of Special Development Control in the Kilkenny and Laois County Development Plans. In addition there are strong engineering reasons on grounds of cost for avoiding this area. The N78 corridor to Castlecomer and Kilkenny remains in the constraints study area, for further consideration. However, the combination of additional cost to traverse the high ground and the remoteness of corridor from the major population centre of Carlow Town may make any route in this corridor unattractive.

Whilst engineering complexity and hence capital cost, has been used as a reason for excluding the areas described above, should 'lowland' routes become very expensive or infeasible for any reason then these areas could be revisited.

As with the northern section, the southern section of the study area was analysed using the methodology explained at the beginning of this section. Figure 2 shows the areas excluded from further study, which are: -

- **Area on the east side of the initial study area close to the Rivers Nore, Barrow and Arrigle**
- **An area of high ground on the west side of the Arrigle Valley, forming part of the South Kilkenny Hills**

These areas have been omitted as a result of a combination of major constraints identified and meeting the objectives of the scheme. The following additional factors were considered when refining the southern study area;

- A corridor to the east of Thomastown should be retained, given the difficult constraints associated with that area.
- It is not recommend to reduce the study area to take account of relatively small pockets of areas, which are considered to have low routing probability. Instead combinations of small areas are looked at, where it is possible to provide a meaningful reduction in the study area, without affecting the opportunity to identify feasible options for route selection.