Summary of previous maintenance activity on the A403

On the Bristol side of the border, maintenance work on the A403 has focussed on carrying out either reconstruction or resurfacing work over short sections of carriageway each year for the past 15 years. The average length of road treated was approximately 450m. This has been carried out through single way working and night time closures as appropriate with the resulting disruption to traffic and businesses. Some of this maintenance work has focussed on the introduction of drainage measures to address the fact that the topography in this area is flat. In addition due to the high number of HGVs using this route there has also been a large amount of damage to footpaths from parking on the footway.

In South Gloucestershire, the past ten years has seen a systematic approach to planned maintenance on the A403 and comes in the form of carriageway resurfacing, patching and carriage re-construction (300 – 350mm). On average there has been a scheme (of various size) once every two years to halt the continued decline in the condition and meet the increased HGV movements along the route. South Gloucestershire has currently resurfaced 25% of the A403 in the past 11 years.

Examples of the Road's current condition can be seen in the photos on the proceeding page.

In order to address some of the historical problems we are looking to innovative solutions as follows;

1. Include a glass-grid reinforcement mesh between base course and surfacing layers to provide a stronger carriageway construction. This will mitigate the damage caused by high number of HGVs;
2. We will be using EME2 a high strength, long life asphalt base and binder course in our pavement design. This produces flexible, fatigue resisting asphalt mixtures which provide durable structural layers in the surfacing layers. This being important with respect to both the existing sub-grade and high HGV use;
3. The reallocation of road space providing wider running lanes will also reduce incidents of tracking;
4. Our supply chain have also proposed the use of an additive that means bituminous materials can be mixed at lower temperatures resulting in environmental savings both in reduced energy costs, but also increased material strength resulting in reduced layer thicknesses. Both of these interventions will reduce carbon emissions;
5. We will be looking to maximise opportunities for in situ recycling of materials to avoid unnecessary disposal of material which will again result in a reduction of carbon emissions.

Example Photos
For more photos please see the accompanying web map, which has road condition photos attached to each road section.

LOCATION?

LOCATION?

LOCATION?

Severn Road, Severn Beach

Severn Road, Pilning

Severn Road, Pilning/Aust