



West Midlands Highways Alliance

Current and planned use of low warmed asphalt by West Midlands Highways Authorities

Version: Draft

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Improvement and Efficiency
West Midlands 

1. Introduction

On 30 September 2013 all West Midlands Highways Authorities signed a Low Carbon Concordat. According to the agreement, the Highways Authorities are committed to reducing CO₂ emissions working in partnership with suppliers to the West Midlands Highways Alliance. The first priority for the Highways Authorities is to reduce CO₂ emissions from the production of road and footway materials by 20% by 2015. Included in this priority is the target for 20% of all asphalt used to be low warmed asphalt.

Low warmed asphalt (which is also known as warm mix asphalt) is manufactured at lower temperatures therefore using less energy in its production and resulting in lower emissions of carbon and other greenhouse gases. Lower laying temperatures also mean that working conditions can be less hazardous for employees.

2. Objective of report

Sustainability West Midlands (SWM) were commissioned by Improvement and Efficiency West Midlands (IEWM) to conduct research with all 14 Highways Authorities in the West Midlands in order to understand their plans for the use of low warmed asphalt during the laying period in 2014 and then to review this use, along with plans for future use, in early 2015. It was important to try to establish the likely percentage of low warmed asphalt that would be used, and in what application it would be suitable. It was also beneficial to understand any barriers to uptake of low warmed asphalt use by individual Highways Authorities. In addition, authorities were asked about other recycled materials or processes used in their activities.

3. Results

A summary of the responses provided to each question is provided below. SWM were able to speak to 12 of the 14 highways authorities in the West Midlands. Summary results of low temperature asphalt use in 2014 and 2015 are presented in Appendix 1 and full responses from each authority are provided in Appendix 2.

1. What percentage of bituminous materials used by your Authority are low or warm temperature asphalt. Base *%, Binder Course *%, Surface Course.

Staffordshire Council appear to be using the most low temperature asphalt with base and binder course now being 80% low warmed asphalt. Staffordshire have only been using low warmed asphalt for surface course as a default material over the last year therefore the percentage is only around 20% but this is expected to increase over the next year.

Worcestershire Council have also used a significant amount of low warmed asphalt amounting to over 17,000 tonnes per annum, equivalent to 17%.

Only four other authorities have used low warmed asphalt and report a fairly low level of use amounting to around 1-2% of total materials utilised.

2. Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?

All authorities felt that there were opportunities to use more low warmed asphalt in the coming year. It was considered to be especially appropriate for use on schemes where large quantities of material are required for long straight stretches of road where limited hand work is required.

Worcestershire have sanctioned the use of low/warm asphalts as a substitute for all binder and base materials.

Shropshire Council stated that they have a preference for use of low warmed asphalt in rural roads but that it is also good for use in urban areas where it minimises the impact on people in close proximity to the work, and also to council employees.

Herefordshire Council have put in a bid to the Local Highways Challenge Fund which, if successful, would increase the use of low warmed asphalt across the authority.

The majority of the authorities questioned felt that the price of low warmed asphalt was similar to standard materials and that this would not be a barrier to use.

3. Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?

All authorities are signatories to the West Midlands Low Carbon Concordat and therefore the target for 20% of all asphalt used to be low warmed asphalt by 2015. However, very few authorities have set their own internal targets for use of low warmed asphalt. The exceptions are Staffordshire with a target for 70% by 2018, and Walsall with an internal target of 15% use by 2015

Worcestershire have no specific targets, but are willing to accept 100% low/warm asphalts as a substitute for all binder and base materials.

4. What recycled materials or processes does your Authority employ in its Highway Maintenance activities?

All authorities included in the research use recycled processes to some degree. Most reuse planings and carry out in-situ recycling where possible. However, some authorities stated that in-situ recycling can take more time and result in longer road closures and is therefore not always appropriate.

Several authorities have also used recycled products for use in pavements.

Staffordshire recycle 100% of all the materials excavated for hot and cold use on other schemes. Their programming considers scheme generators and receivers but they also process and store recycled materials when there is a surplus and use these to reduce the cost of importing materials on large development projects e.g. construction of new islands or business parks.

Worcestershire employ extensive foambase and recycled asphalt operations. All footway binder course is either foambase or recycled asphalt except during December, January and February when foambase operations are suspended.

5. If your Authority has any targets for using recycled materials or processes, what are they?

Staffordshire have a target for 70% by 2018 and Walsall state that they currently recycle 100% of all arisings.

Worcestershire have recycling targets embedded in the term maintenance contract and these form a key performance indicator. The target for 're-use of materials generated from works within the contract' is a minimum of 40%.

None of the other authorities questioned stated any internal targets for using recycled materials or processes.

6. What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?

The obstacles and barriers were stated as follows:

- Concern over availability with only certain suppliers and depots providing this material. Needs to be local supplier so as not to create high CO₂ emissions associated with transport.
- The main barrier appears to be lack of ability of suppliers to provide material.
- Licensing issues with supplier
- Resurfacing contracted through DLO therefore use procurement process which might be restrictive.
- Operate on four year contract. Hadn't included low warmed asphalt in this contract therefore no mechanism to introduce new material. Up for renewal this year in June and will include LTA as an option.
- Surfacing programme managed by consultants who were unwilling to specify low temperature asphalt in contracts due to lack of British Standards.
- Never come across comparisons or case studies that show business case or case studies of successful use by other local authorities.
- Concern over longevity of the material as it is a relatively new product. One possible constraint on use at large scale is lack of long term evidence that this is durable enough.
- Reluctant to use during winter months and at low temperatures as concerned about compaction. Hand raking makes this more of an issues
- Industry seems to have gone very quiet on use. Originally driven by quarries/manufacturer but not being pushed at all now.
- Industry appeared to be concerned that different manufacturers using different methods therefore hard to compare materials between manufacturers. No British standards. Would like feedback from industry as to what is happening now – quantities, ordering requirements.
- Used to ordering the same materials and lack of offer of low temperature materials from suppliers.
- Requires change of mindset in the design teams and other decision makers

- The only barrier is the development by the industry. With increased use by authorities we expect suppliers will all be able to produce variable temperature mixes thus allowing the use of the material in all but the coldest temperatures.

7. What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?

The authorities questioned use a variety of materials but the material most frequently used is reported as stone mastic asphalt due to its good workability. A limited number of authorities were able to provide typical tonnages of material used per annum.

4. Conclusions

On the basis of the feedback received in this survey and the obstacles and barriers identified by the highways authorities, SWM propose that the following actions might result in greater uptake of the use of low warmed asphalt within the West Midlands:

- a) More information and push from suppliers for authorities to use low warmed asphalt
- b) Simplification of specifications¹ for low temperature asphalt mixtures
- c) More coordination between neighbouring authorities when developing programmes of work to identify joint order opportunities for low warmed asphalt
- d) Refreshed push from WM Highways Alliance building on previous work and Low Carbon Concordat
 - Sharing information including cost and carbon saving associated with the use of low temperature asphalt to help other authorities demonstrate the business case
 - Sharing case studies and organising visits to see low warmed asphalt in use
 - Inviting suppliers and manufacturers to share information with the group

– ¹ http://www.trl.co.uk/umbraco/custom/report_files/PPR666.pdf

5. Appendix 1 – 2014 and 2015 comparison

No	Highways Authority	2014 Response	2015 Response
1	Birmingham	No response	<p>Did not use any LTA in 2014. Ample scope to use LTA. Has to be financially worthwhile. Working with Lafarge and others to secure cost parity or preference to existing materials based upon volume ordered. Understand from colleagues that price is same as standard materials.</p> <p>Seen product in use in Shrewsbury and has confidence in its durability. Feels that suitable for any class of road and under most conditions of weather. Lafarge willing to offer guarantees similar to those for standard mixes.</p> <p>No internal targets for use of LTA. Concern over availability with only certain suppliers and depots providing material. Needs to be local supplier so as not to create high CO₂ emissions associated with transport. Hoping that in next few months Amey will start working with Lafarge to use more LTA – July 2015 would be estimate.</p>
2	Coventry	<p>Disappointed as was unable to attend December workshop due to lack of spaces. Currently have contract with Balfour Beatty along with Warwickshire and Solihull. Contract is for two more years with an option for a two year extension. The original prices in the contract are low and when asked for new prices for alternative materials BB use this as an opportunity to raise prices therefore this is a barrier to use of low warmed asphalt. DLO might be an option.</p> <p>Initially thought that the WMHA was an opportunity for a group procurement exercise and it only became clear in November that this was not the case. Keen to understand how other authorities are approaching procurement. (Had not received invitation for meeting on Monday so forwarded it.)</p>	<p>Have not used LTA to date. Would like to trial in urban network in binder course layer. Would like to use and monitor performance at two sites – one where standard materials used and one where LTA used.</p> <p>Resurfacing is contracted through DLO therefore use procurement process which might be restrictive. Never come across comparisons or case studies that show business case or successful use of LTA by other local authorities. Would be useful to share experiences and case studies.</p>

3	Dudley	Over the last few years and especially last summer used a proportion of low energy asphalt. Hard to quantify as used by a number of departments. Of 24,000 tonnes of asphaltic materials used per annum, 1,000 t was low energy in 2011 and 2012 and 2,000 t in 2013 (8.5%). All used in binder course.	Licensing issues with MQP (supplier) prevented any use in 2014. Aiming for 20% in 2015 in line with Low Carbon Concordat. Happy to use in warmer weather in binder course in majority of schemes.
4	Hereford	No response	Used some LTA in 2014 but not 20%. Confident in material and its performance. Seen use at other sites. Consider that it is a proven material and no need for trials. Have made bid to local Highways Challenge Fund for major maintenance schemes which, if successful, will increase the use of LTA across the area.
5	Sandwell	Have used low warmed asphalt for 3 years and hoping to use more over next financial year. Work with contractor to identify particular jobs that are suitable for use of low warmed asphalt (e.g. straight roads with little hand work). Use in binder course currently and do not have same confidence for use in surface course. Has confidence that 20% will be achieved.	None used in 2014. New programme of works starting June 2015 and will look at jobs to identify those most suitable for LTA. Each site looked at individually as to what is most appropriate process and material. Life Cycle Process identifies most efficient and economical process for a particular job. Done trials previously and used these to identify concerns – cold weather working and when laying is not in straight runs (e.g. small areas, work by hand) due to workability. Industry seems to have gone very quiet on use. Originally driven by quarries/manufacture but not being pushed at all now.
6	Shropshire	Have done various trials of low warmed asphalt including use in surface course. When major schemes are tendered the Council will include a requirement to use low warmed asphalt in both binder and surface course. Not currently using more than 5%. Requirement was not included in contract therefore asking for amendments to materials included in the contract can be expensive.	Low percentage in 2014, no more than 1-2%. Used in surface course on rural roads with intention of covering with surface treatment. Aiming to meet 20% target and possibly higher. Surfacing programme managed by consultants who were unwilling to specify low temperature asphalt in contracts due to lack of British Standards. Rates have been competitive.
7	Solihull	No response	No response

8	Staffordshire	<p>Currently use low warmed asphalt where it is physically possible (i.e. during warmer months and at sites in reasonable proximity to production site). Cost of low warmed asphalt is comparable to other materials. Use in binder and lower layers and not surface course due to concerns over durability. Currently at preferred bidders stage for new contract where bids include consideration of low carbon issues.</p>	<p>Dependent upon which supplier we are using, Base and Binder course is now 100% LTA. Due to one of the suppliers only being able to mix the materials at a fixed temperature in some parts of the county we cannot use their supply during the winter months and therefore approximately 80% of Base and binder course is LTA overall. The target is 70% overall by 2018. The only barrier is the development by the industry. The variable temperature mixes can now be used all year round due to close collaboration with the supplier whereas the fixed temperature material is more susceptible to not being able to be used unless we can be confident of expected air and surface temperatures and these will be acceptable. With increase use by authorities we expect suppliers will all be able to produce variable temperature mixes thus allowing the use of the material in all but the coldest temperatures.</p>
9	Stoke	No response	<p>Used no LTA in 2014. First trial soon on unclassified road which has lower levels of traffic but is on bus route so will be challenged. Chosen to see how well LTA stands up to bus movements and medium volumes of traffic. If performs well will look to try it on more challenging routes. Will speak to Staffordshire to understand their experience and types of roads that have been successful. Contract renewed in June 2015 and will include LTA as an option. Confident that suppliers can provide this material and have been provided with technical information. Believes that price is comparable with hot temperature asphalt.</p>

10	Telford	<p>Feel that 20% target is high and unlikely to be achievable. Not currently using any low warmed asphalt. Have confidence in use of low warmed asphalt in binder course (have been to see trial sites in Shropshire) but not in surface course. As they are a small unitary authority they would be ordering relatively small quantities and therefore not likely to be costs effective. Would be more cost effective if they could join forces with County Councils to purchase. They are not tied in to using proprietary products by a contract so free to use any material that is cost effective.</p>	<p>Used small amount in 2014. Keen to use in other jobs where there is a need to get surface laid quickly. Cost is the same as standard mix and had no problems with supply. There is lots of information on LTA available but it is not user friendly (e.g. TRL report). To be able to specify an order for LTA in a standard way would make it easier to use.</p>
11	Walsall	<p>Have used low warmed asphalt in one location before in 2011 (380t) and are pleased with it. Have now included low warmed asphalt in contract and do not foresee any issues in achieving the 20% target. They are looking to use it in suitable jobs (i.e. laid in warm temperatures with minimum hand work). Price is similar to other materials.</p>	<p>No use in 2014. Via WM Highways Infrastructure Managers Group have teamed up with Sandwell and Wolverhampton to identify schemes that might be suitable for combined order therefore better economies of scale. 15% internal target contract target for use of LTA in 2015. Question over whether this is achievable. Heard from other authorities that use in cold weather not appropriate. Suits schemes that are straight with not much iron work involved. Happy with guarantees and have schedule of costs and rates which are similar to standard materials.</p>
12	Warwickshire	<p>Limited progress to date but aiming for 20% target in the next two years. Have written to Balfour Beatty and asked them to nominate sites where low warmed asphalt can be used. Will be mainly used in low layers but would be keen to undertake a trial for the surface course. Tarmac appears to be on side and able to supply at comparable costs. Will discuss opportunities with Coventry and Solihull who are other partners in the contract.</p>	<p>No response</p>
13	Wolverhampton	<p>Have used low warmed asphalt but to date have found that there is no cost benefit. Use is likely to be mainly on large new projects rather than small jobs. Delivery location can also be limiting. Would like to learn from other authorities how they have managed to secure low warmed asphalt at a competitive price.</p>	<p>Used 2-3% in 2014. More adept as binder course. Lack of information. Parameters for laying are a lot narrower. Not good for inner city works due to limited workability and small hand laying jobs are difficult. Similar in costs therefore this is not a driver to use it.</p>

14	Worcestershire	Currently working on transfer between existing and new contract. New contract includes a clause for contractor to use 20% low or warm temperature asphalt. Will be used largely in binder course but keen to include in surface course. Also developing standard letter to be used by Highways Authorities when dealing with contractors and requesting low temperature asphalt.	Over the last three months Total Tonnage 17,538t of Asphalt have been used in Worcestershire, 2096t of it was Warm or Low temp. This equates to 12%. It was all Binder Course. Over the last 12 months the overall figure is 17%. WCC have sanctioned the use of Low / Warm Asphalts as a substitute for all Binder and Base materials. There seems to be a difficulty in getting suppliers to engage with the initiative and actually deliver the goods.
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6. Appendix 2 – Full survey responses

Birmingham City Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Amey and BHL are service providers under PFI. Use is currently 0%.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	<p>Ample scope to use LTA. Has to be financially worthwhile. Working with Lafarge and others to secure parity or preference to existing materials based upon volume ordered. Understand from colleagues that price is same as standard materials.</p> <p>Seen product in use in Shrewsbury and has confidence in its durability.</p> <p>Feels that suitable for any class of road and under most conditions of weather. Lafarge willing to offer guarantees similar to those for standard mixes</p>
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	Signatory to concordat. No internal targets though.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Use foam master. A base and binder course product that uses planings with foamed bitumen binder. Mixed at depot in Bordesley. Large quantities used.
If your Authority has any targets for using Recycled materials or processes, what are they?	No targets but wherever possible reused as part of contracts.
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Concern over availability with only certain suppliers and depots providing material. Needs to be local supplier so as not to create high CO2 emissions associated with transport. Hoping that in next few months Amey will start working with Lafarge to use more LTA – July 2015 would be estimate.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	
Any other comments	No

Coventry City Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	None to date.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Yes. Like to trial in urban network in binder course layer. Would like to use and monitor performance at two sites – one where standard materials used and one where LTA used
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	No
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Used foam mix recycled asphalt. Also use retread process for approx 20 urban roads per year
If your Authority has any targets for using Recycled materials or processes, what are they?	No
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Resurfacing contracted through DLO therefore use procurement process which might be restrictive. Never come across comparisons or case studies that show business case or case studies of successful use by other local authorities. Would be useful to share experiences and case studies.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	
Any other comments	No

Dudley Metropolitan Borough Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Used 2,000 tonnes in 2013 all in binder course. Equates to approximately 10% of all materials used. Licensing issues with MQP (supplier) prevented any use in 2014.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	No price penalty, same as hot materials. Happy to use in warmer weather in binder course in majority of schemes
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	Aiming for 20% this year in line with Low Carbon Concordat.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Use footway contractor to lay microsurfacing materials which include recycled rubber but only a small amount
If your Authority has any targets for using Recycled materials or processes, what are they?	No targets.
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Licensing issues with supplier which may also have affected Sandwell and Wolverhampton. Reluctant to use Nov-Feb – at low temps if can't get rolls on quickly then concerned about compaction. Hand raking makes this more of a concern. Struggled with scheme when used in December. Occasional issues with supply but nothing major.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	Don't do much base course. Binder is mainly heavy duty dense tarmac with annual tonnage 15,000. Surface course bitumen tarmac (side roads). Main road stone mastic asphalt 10,000.
Any other comments	MQP looked at compaction in lab which had positive results. Looked at Staffordshire as they have labs with good technical people which gave confidence in the materials.

Herefordshire Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Use some but not 20%
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Yes, confident in material and its performance. Seen other sites. It's a proven material and no need for trials. Have made bid to local Highways Challenge Fund for major maintenance schemes which, if successful, will increase the use of low temperature asphalt across the area.
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	In discussion with provider and making contractor aware that signed up to concordat and want to meet 20% and how best to achieve this from all programmes of work.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Use some but would like to use more.
If your Authority has any targets for using Recycled materials or processes, what are they?	Targets in contract with Balfour Beatty regarding carbon footprint and is included in reporting.
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Not yet got to grips to driving this forward. Supply chain is capable of delivering but requires change of mindset in the design teams and other decision makers.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	Use variety of materials. During last year completed a lot of resurfacing work and surface dressing and patching. Don't have figures to hand.
Any other comments	

Sandwell Council

<p>What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.</p>	<p>No use in 2014. Never used in binder course. Never considered surface course – never had any information</p>
<p>Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?</p>	<p>MQP assembled new plant outside Wednesbury – dual system which can produce high and low temp asphalt. Identical in price. New programme of works starting June 2015 and will look at jobs to identify those most suitable for LTA</p>
<p>Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?</p>	<p>Once satisfied that materials readily available should be able to exceed 20% by use in binder course</p>
<p>What recycled materials or processes does your Authority employ in its Highway Maintenance activities</p>	<p>Many conventional materials already contain high % of recycled aggregates anyway and have no problem with these materials. Try to operate processes where materials are not removed (e.g. applying surface treatments, in-situ recycling) but can take more time therefore not viable when under time constraints. Never looked at truly recycled materials (e.g. recycled rubber crumb or glass).</p>
<p>If your Authority has any targets for using Recycled materials or processes, what are they?</p>	<p>No. Each site looked at individually as to what is most appropriate process. Life Cycle Process identifies most efficient and economical process for a particular job.</p>
<p>What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?</p>	<p>Done trials previously and used these to identify concerns – cold weather working and when laying not in straight runs (e.g. small areas, work by hand) due to workability. Industry seems to have gone very quiet on use. Originally driven by quarries/manufacturer but not being pushed at all now. Industry appeared to be concerned that different manufacturers using different methods therefore hard to compare materials between manufacturers. No British standards. Heard nothing since. Feels in limbo. Inclined to use off the shelf mixes. Interested in development of materials in surface course. Would like feedback from industry as to what is happening now – quantities, ordering requirements.</p>
<p>What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?</p>	<p>Generally use dense binder course and the majority of surface courses. Move towards materials which high stone content asphalt. Never done tonnage analysis. Moved away from high friction surfacing as seems to be detrimental to performance of surface courses. Could be due to stresses applied to underlying areas. Had premature failures</p>
<p>Any other comments</p>	

Shropshire Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Low percentage in 2014, no more than 1-2%. Used in surface course on rural roads with intention of covering with surface treatment
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Ideal for use in rural roads which is large proportion of programmed work. Just retendered contract. Issue raised again over lack of British Standard but letter from LA to consultants states that they want to use low temp asphalt in certain locations. Feels that ideal for use in urban areas where more people around and can be affected by exposure to fumes.
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	No. Aiming to meet 20% and possibly more.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Looking at using local subcontractor who uses recycled materials on footways
If your Authority has any targets for using Recycled materials or processes, what are they?	No. Likely to have trial to see if cost effective and practical to use recycled materials.
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Surfacing programme managed by consultants who were unwilling to specify low temperature asphalt in contracts due to lack of British Standards. Rates have been competitive. Supplied by Lafarge Tarmac and Aggregate Industries. Used to ordering the same materials and lack of offer of low temperature materials from suppliers.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	Over last 12m – 20mm binder course 10mm surface course with enriched binder. 100 sites.
Any other comments	No.

Staffordshire Council

<p>What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.</p>	<p>Dependent upon which supplier we are using, Base and Binder course is now 100% LTA. Due to one of the suppliers only being able to mix the materials at a fixed temperature, (as opposed to the other that can vary the mixing temperature depending on the expected air and surface temperatures) in some parts of the county we cannot use their supply during the winter months and therefore approximately 80% of Base and binder course is LTA overall. We have only been using LTA surface course as a default material over the last year (HRA 55/10) and are still to undertake trials of SMA, therefore the percentage is only around 20% but we expect to increase this over the next year.</p>
<p>Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?</p>	<p>The intention is for LTA to become default across the contract on resurfacing schemes, although this relies on one of our suppliers being able to mix at variable temperatures. The planned SMA LTA trials, if successful will achieve this. We are also looking to trial the material for carriageway patching although this will have greater challenges due to the quantities and laying temperatures throughout the day.</p>
<p>Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?</p>	<p>Yes, the target is 70% overall by 2018.</p>
<p>What recycled materials or processes does your Authority employ in its Highway Maintenance activities</p>	<p>We recycle 100% of all the materials we excavate for hot and cold use on other schemes. Our programming considers scheme generators and receivers but we also process and store recycled materials when there is a surplus and use these to reduce the cost of importing materials on large development projects e.g. construction of new islands or business parks. We also undertake a small amount of in-situ recycling where the economies of scale and services permit.</p>
<p>If your Authority has any targets for using Recycled materials or processes, what are they?</p>	<p>As per question 3 above.</p>
<p>What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?</p>	<p>The only barrier is the development by the industry. The variable temperature mixes can now be used all year round due to close collaboration with the supplier whereas the fixed temperature material is more susceptible to not being able to be used unless we can be confident of expected air and surface temperatures and these will be acceptable. With increase use by authorities we expect suppliers will all be able to produce variable temperature mixes thus allowing the use of the material in all but the coldest temperatures.</p>

What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	We use an average of 20,000 tonnes of binder and 20,000 tonnes surface course per annum across schemes. These are the most frequently used bituminous materials.
Any other comments	

Stoke on Trent City Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	0%.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	First trial fairly shortly into new year on unclassified road which has lower levels of traffic but is on bus route so will be challenged. Chosen to see how well stands up to bus movements and medium volumes of traffic. If performs well will look to try it on more challenging routes. Will speak to Staffordshire to understand their experience and types of roads that have been successful
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	No. Will depend on trials and discussion with other authorities.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Use retread technique on a limited basis every year using fully recycled material. Up to 10%. Technique has drawbacks in that time in longer and impact on local communities (i.e. road closed completely therefore restricting access for local residents and this has to be done twice – once to take up surface, and then again to lay surface. Have to leave stones/loose chippings on and then come back and sweep again. Can be noisier.
If your Authority has any targets for using Recycled materials or processes, what are they?	No. Looking at use of alternative materials to try and improve the carbon footprint
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Operate on four year contract. Hadn't included LTA in this contract therefore no mechanism to introduce new material. Up for renewal this year in June and will include LTA as an option. Confident that suppliers can provide this material (Lafarge and Aggregate Industries) and have been provided with technical information. Believes that price is comparable with hot temperature asphalt. Have specification from TRL/Lafarge.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	
Any other comments	Concern over longevity of the material as it is a relatively new product. One possible constraint on use at large scale is lack of long term evidence that this is durable enough. Unaware of any examples of this. Need to ensure that asset is protected. Also interesting to know what the Highways Agency view is on this product and whether they plan to use it on trunk road and motorways.

Telford & Wrekin Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Not sure of % but have used 500 tonnes base and 750 tonnes binder course. Used on one big job for roundabout resurfacing. Made it quicker therefore good product to use.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Keen to use in other jobs where there is a need to get surface laid quickly. Cost is the same as standard mix (Lafarge) and had no issues with supply.
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	Would like to but no targets and no pressure to use more.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	Reuse planings regularly and have recycled road tar planings for a pavement with Lafarge.
If your Authority has any targets for using Recycled materials or processes, what are they?	None
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	There is lots of information on LTA available but it is not user friendly (e.g. TRL report). To be able to specify an order for LTA in a standard way would make it easier to use.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	SMA
Any other comments	

Walsall Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Have used in previous financial year but none this FY. Used small amount in trial with Lafarge Tarmac.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Via WM Highways Infrastructure Managers Group have teamed up with Sandwell and Wolverhampton to identify schemes that might be suitable for combined order therefore better economies of scale
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	15% internal target contract target for use of LTA in 2015. Question over whether this is achievable. No consequences if not.
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	All arisings are recycled and reuse materials where possible.
If your Authority has any targets for using Recycled materials or processes, what are they?	Already 100%
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Heard from other authorities that use in cold weather not appropriate. Suits schemes that are straight with not much iron work involved. Happy with guarantees and have schedule of costs and rates which are similar to standard materials.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	SMA. No idea of tonnage.
Any other comments	Potential reluctance to use over price, especially when small scheme and volume is low, may not be economically viable. Not aware of TRL specification.

Wolverhampton City Council

What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.	Very small 2-3%. Used in small volume for spurs off an island. More adept as binder course.
Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?	Possibly good for use on motorways or ring road (heavy duty and opened up quickly). Is considered when planning for these jobs.
Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?	No
What recycled materials or processes does your Authority employ in its Highway Maintenance activities	No. Previously used some in specialised surfacing.
If your Authority has any targets for using Recycled materials or processes, what are they?	No.
What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?	Lack of information. Not good for inner city works due to limited workability and small hand laying jobs are difficult. Parameters for laying are a lot narrower. Similar in costs therefore this is not a driver to use it.
What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?	Stone Mastic Asphalt (SMA) due to good workability. Allows roads to be opened more quickly. Looking to go back to hot rolled asphalt but takes more time and road closed for longer (double the time). Unsure of tonnage.
Any other comments	

Worcestershire County Council

<p>What percentage of bituminous materials used by your Authority are low or warm temperature Asphalt. Base *%, Binder Course *%, Surface Course.</p>	<p>Over the last three months Total Tonnage 17,538t of Asphalt have been used in Worcestershire, 2096t of it was Warm or Low temp. This equates to 12%. It was all Binder Course. Over the last 12 months the overall figure is 17%.</p>
<p>Are there any specific opportunities for increasing the use of Low or Warm Temperature Asphalt in your Authorities area?</p>	<p>WCC have sanctioned the use of Low / Warm Asphalts as a substitute for all Binder and Base materials. There seems to be a difficulty in getting suppliers to engage with the initiative and actually deliver the goods.</p>
<p>Has your Authority set any targets for increasing the use of Low or Warm Temperature Asphalts? If so what are they?</p>	<p>WCC have no specific targets, but are willing to accept 100% Low / Warm Asphalts in Binder and Base materials.</p>
<p>What recycled materials or processes does your Authority employ in its Highway Maintenance activities</p>	<p>WCC employs extensive Foambase and Recycled Asphalt operations. All Footway binder course is either Foambase or Recycled Asphalt except during December, January and February when Foambase operations are suspended.</p>
<p>If your Authority has any targets for using Recycled materials or processes, what are they?</p>	<p>WCC have Recycling targets embedded in the Term Maintenance Contract and these form a KPI. The target is "Re-use of materials generated from works within the Contract" - minimum 40%</p>
<p>What obstacles or barriers are there when trying to use Low or Warm temperature Asphalts in your Authority's area?</p>	<p>The main barrier appears to be lack of ability of suppliers to provide material.</p>
<p>What are the most frequently used bituminous materials employed in your Authority's area? What are the approximate (typical) tonnages used per annum?</p>	<p>This a 20mm Binder course and tonnage around 15,000t. This is only about 17% of total requirement of 85,000t!</p>
<p>Any other comments</p>	