

FINAL REPORT

Phase 2 Final Report

Prepared for

Scottish Road Research Board

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Document History

This report has been prepared in accordance with the instructions of the client, Scottish Road Research Board, for the client's sole and specific use.

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This document has been issued and amended as follows:

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Acronyms and Abbreviations

| | |
|-------|---|
| APSE | Association for Public Service Excellence |
| BUC | Baseline Unit Cost |
| LA | Local Authority |
| RAMDT | Road Asset Management Data Template |
| SCOTS | Society of Chief Officers of Transportation in Scotland |
| TM | Traffic Management |

Executive Summary

This report is a follow-up to the report titled *Cost Benchmarking - Phase 1 Final Report, dated 31 July 2017*, which primarily looked at establishing annual Baseline Unit Costs (BUCs) for ten different carriageway treatments carried out by Scottish Local Authorities.

This report reviews the financial returns for carriageway maintenance for year 2016-17, as provided by Local Authorities through the SCOTS Road Asset Management Project Performance Management and Benchmarking Group. The report contains final BUCs for 2016-17. These were found to have a strong correlation to BUCs for previous years. This supports the robustness of the methodology used to establish BUCs.

It was found for 2016-17 that the most significant treatment types were the same as in previous years and that 83% of total spend was against five treatment types, meaning 17% of total spend was against the remaining five treatment types. For discussion/analysis it is recommended to make greater emphasis on the “top five” due their relative financial importance.

Treatment type expenditure and proportions (2016-2017) for all local authorities

| Significant Treatment types | Cost | Proportion of total expenditure | | |
|--------------------------------------|------------------------|---------------------------------|--|--|
| Thin in-lay (up to 60 mm) | £23,973,556.41 | 20% | | |
| Surface dressing | £24,220,854.60 | 20% | | |
| Planned patching | £16,174,834.09 | 13% | | |
| Moderate in-lay (>60 mm to 100 mm) | £17,096,469.38 | 14% | | |
| Thin over-lay (>25 mm to 60 mm) | £19,313,349.18 | 16% | | |
| Other Treatment types | | | | |
| Moderate over-lay (>60 mm to 100 mm) | £6,116,799.65 | 5% | | |
| Structural in-lay (>100 mm) | £3,209,075.31 | 3% | | |
| Reconstruction | £5,070,571.62 | 4% | | |
| Thin/ micro surface (up to 25 mm) | £4,718,337.61 | 4% | | |
| Structural over-lay (>100 mm) | £1,157,054.99 | 1% | | |
| Total | £121,050,902.84 | 100.00% | | |

| Sub-total | % of total |
|-----------------|------------|
| £100,779,063.66 | 83% |

| Sub-total | % of total |
|----------------|------------|
| £20,271,839.18 | 17% |

Analysis was made of all treatment types by Local Authority, including comparison to BUCs and comparison within Family Group where available. This included a coding system to allow individual LAs to easily compare their costs to BUCs.

A review of the guidance for completion of the submission tool was carried out (Road Asset Management Data Template/RAMDT). This included distribution of a questionnaire to the 32 Local Authorities for which twelve replies were received. From this review, it is recommended to revise the RAMDT guidance, specifically:

- A focus group should review the guidance to agree updates that will improve clarity and consistency within the guidance.
- Traffic management should be included in all treatment types. Presently, this is not the case.
- Preparatory work included in returns for unit costs for each treatment type should relate to work carried out in the same financial year. Therefore, base patching costs should only be included in unit costs if the work is carried out at the same time as other carriageway treatments.
- The sequence of the guidance notes could be reordered to align with the order in which they appear in the carriageways Tab in the data template.

It is recommended that Local Authorities use the BUCs to compare their submitted costs for the different treatment types and this report should facilitate discussion at Family Group or wider level. This may then promote greater consistency in compilation of costs and sharing of best practice.

Introduction

2.1 Background

A methodology was developed for establishing benchmark costs for the 32 Scottish Local Authorities in respect of carriageway treatments. These are termed Baseline Unit Costs (BUCs). Work regarding the development of BUCs was detailed in the report titled *Cost Benchmarking - Phase 1 Final Report*, dated 31 July 2017.

There are ten carriageway treatment types, see **Table 2-1**.

Table 2-1: Carriageway Treatment Type

| Treatment Types |
|------------------------------------|
| Surface dressing |
| Thin / micro surface (up to 25mm) |
| Thin over-lay (>25mm to 60mm) |
| Moderate over-lay (>60mm to 100mm) |
| Structural over-lay (>100mm) |
| Thin in-lay (up to 60mm) |
| Moderate in-lay (>60mm to 100mm) |
| Structural in-lay (>100mm) |
| Planned patching |
| Reconstruction |

Further work has been carried out in Phase 2 to:

1. Establish Baseline Unit Costs for the most recent financial year (2016-17) and confirm correlation to previous years.
2. Examine Local Authority returns based on the most recent data for 2016-17.
3. Focus on the most financially significant “top 5” treatments.
4. Consider the extent/ coverage of individual treatment categories and whether this may have an influence on range of returns.
5. Similarly, consider whether more categories with narrower treatment bandings may be appropriate.
6. Review and make recommendations on guidance within the APSE document to improve the experience of the user*.

* As part of the SCOTS/APSE RAM data template guidance review, a questionnaire was sent out to all (32) local authorities to collect their feedback on their experience and perspectives when using the guidance notes for carriageway treatments within the template. The LAs were also encouraged to provide suggestions on how the guidance notes for carriageway treatments in the template can be improved to ensure consistency and accuracy in data reporting and analysis.

This report covers the work that has been undertaken as part of Phase 2 as outlined above.

Baseline Unit Costs for 2016-17

3.1 Final BUCs 2016-17

Final returns for 2016-17 were received for review on 14 December 2017. 24 LAs provided returns; no data was provided for eight LAs.

Based on the median rates for unit costs from the returns submitted by the 24 LAs, the BUCs for 2016-17 are summarised in **Table 3-1**.

Table 3-1: Baseline Unit costs (2016-17)

| Treatment Types | Baseline Unit Cost (BUC) 2016/17 |
|--------------------------------------|----------------------------------|
| Surface dressing | £3.40 |
| Thin / micro surface (up to 25 mm) | £9.25 |
| Thin over-lay (>25 mm to 60 mm) | £18.28 |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 |
| Structural over-lay (>100 mm) | £34.08 |
| Thin in-lay (up to 60 mm) | £25.30 |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 |
| Structural in-lay (>100 mm) | £40.14 |
| Planned patching | £32.51 |
| Reconstruction | £78.91 |

3.2 BUC Comparison: Last 4 years

As a check, the BUCs for the past four years were compared as summarised in **Table 3-2** and Error! Reference source not found.. This shows a strong correlation between the costs annually, giving confidence in the robustness of the BUCs.

Table 3-2: Baseline Unit Costs last 4 years (2013-2017)

| Treatment Types | Baseline Unit Cost (BUC) 2013/14 | Baseline Unit Cost (BUC) 2014/15 | Baseline Unit Cost (BUC) 2015/16 | Baseline Unit Cost (BUC) 2016/17 |
|--------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Surface dressing | £4.03 | £4.09 | £3.42 | £3.40 |
| Thin / micro surface (up to 25 mm) | £7.02 | £7.70 | £7.65 | £9.25 |
| Thin over-lay (>25 mm to 60 mm) | £19.64 | £15.91 | £17.01 | £18.28 |
| Moderate over-lay (>60 mm to 100 mm) | £25.68 | £24.44 | £21.43 | £24.86 |
| Structural over-lay (>100 mm) | £32.48 | £38.15 | £31.79 | £34.08 |
| Thin in-lay (up to 60 mm) | £26.53 | £22.89 | £23.78 | £25.30 |
| Moderate in-lay (>60 mm to 100 mm) | £31.25 | £25.66 | £28.52 | £27.30 |
| Structural in-lay (>100 mm) | £45.79 | £48.72 | £39.89 | £40.14 |
| Planned patching | £34.08 | £33.30 | £30.80 | £32.51 |
| Reconstruction | £60.55 | £60.68 | £90.47 | £78.91 |

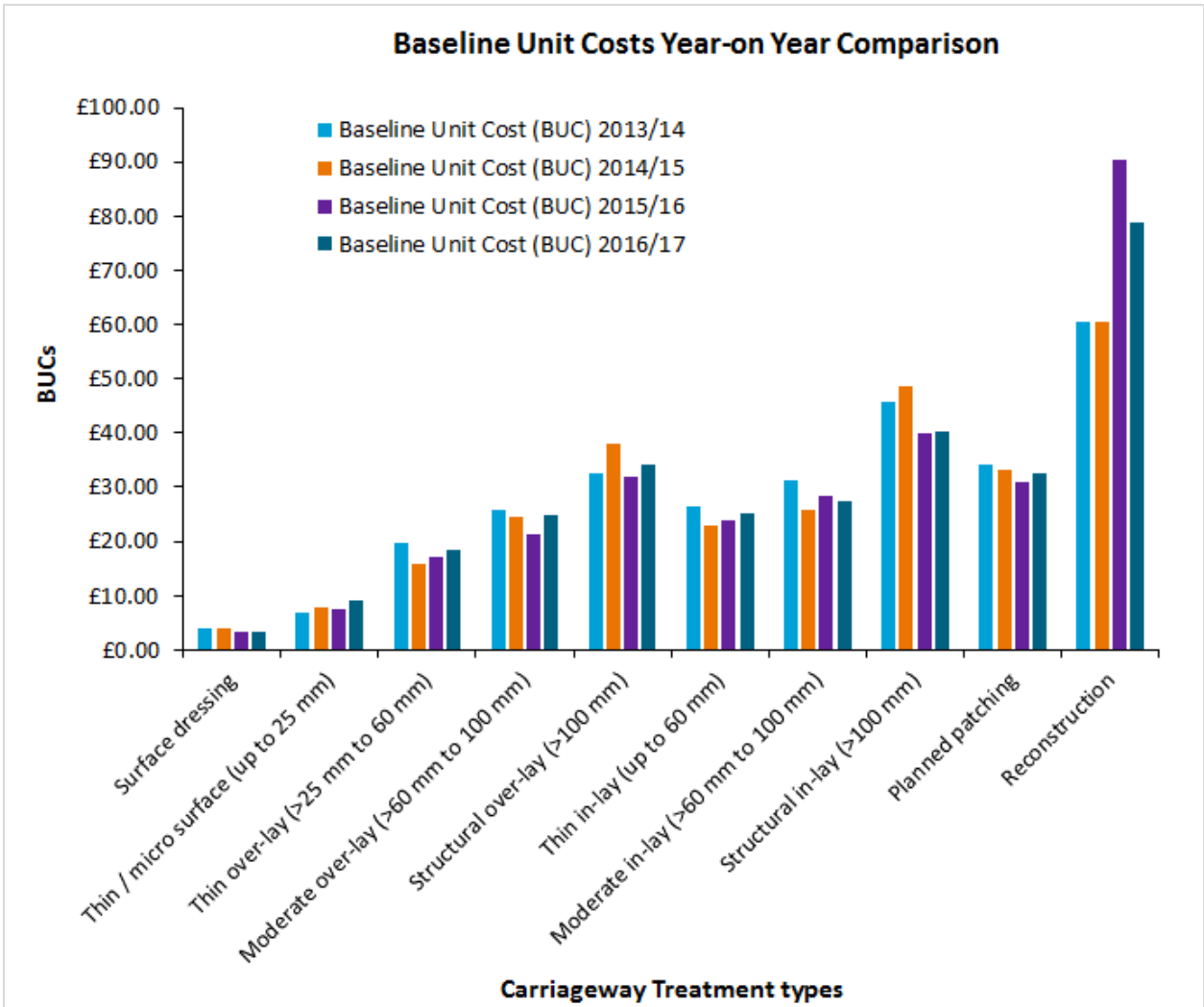


Figure 3-1: Annual comparison of Baseline Unit Costs from 2013 to 2017.

From **Table 3-2** and Error! Reference source not found., it can be deduced that there is no significant difference overall between the median unit costs for the carriageway treatment types based on annual performance. The notable exception is “Reconstruction”. However, this treatment type includes the most potentially broad scope of work - which may make BUCs more variable year-on-year. In addition, it is not one of the most financially significant treatment types – as discussed in 2.3, below – meaning that it is more susceptible to be influenced by a smaller number of returns, or smaller quantity/financial value carried out within the treatment type by some LAs.

3.3 Top 5 (key) Treatment Types

Of the ten carriageway treatments, it was found that approximately 83% of the overall spend was made against five treatment types, designated the “Key Treatment Types”; meaning the remaining 5 treatment types accounted for only 17% of the spend.

Thin in-lay and surface dressing represent two-fifths of the total spend.

The top 5 are the same as 2015-16.

Table 3-3: Treatment Type Spend and proportion in 2016-17 (all Local Authorities)

Treatment type expenditure and proportions (2016-2017) for all local authorities

| Significant Treatment types | Cost | Proportion of total expenditure | | |
|--------------------------------------|-----------------|---------------------------------|------------------|-------------------|
| Thin in-lay (up to 60 mm) | £23,973,556.41 | 20% | | |
| Surface dressing | £24,220,854.60 | 20% | | |
| Planned patching | £16,174,834.09 | 13% | | |
| Moderate in-lay (>60 mm to 100 mm) | £17,096,469.38 | 14% | | |
| Thin over-lay (>25 mm to 60 mm) | £19,313,349.18 | 16% | | |
| Other Treatment types | | | | |
| Moderate over-lay (>60 mm to 100 mm) | £6,116,799.65 | 5% | | |
| Structural in-lay (>100 mm) | £3,209,075.31 | 3% | | |
| Reconstruction | £5,070,571.62 | 4% | | |
| Thin/ micro surface (up to 25 mm) | £4,718,337.61 | 4% | | |
| Structural over-lay (>100 mm) | £1,157,054.99 | 1% | | |
| | | | Sub-total | % of total |
| | | | £100,779,063.66 | 83% |
| | | | Sub-total | % of total |
| | | | £20,271,839.18 | 17% |
| | Total | 100.00% | | |
| | £121,050,902.84 | | | |

3.4 Summary of comparison of LA unit costs to BUCs

Table 3-3 compares each Local Authority's Unit cost variation percentage relative to Baseline Unit Costs (BUCs), for the past two years for each key treatment type. This includes columns showing the % +/- to the BUC for the key treatments carried out in 2016-2017 and 2015-2016. A red-amber-green coding system was adapted to indicate variation from BUC where:

- Red - indicates LA unit costs are > +/-99% of the BUC for a given treatment type.
- Amber - indicates LA unit costs are > +/-30 % and < +/- 99% of the BUC for a given treatment type.
- Green - indicates LA unit costs are < +/-30% of the BUC for a given treatment type.

The coding system will allow individual LAs to easily compare their costs to BUCs.

Table 3-4: Comparison of LA unit costs to BUCs for the last two years.

Key Treatment types - Performance summary

| | |
|-----|----------------|
| ? | No submission |
| N/A | Not applicable |

| | |
|--|--|
| | If unit costs are > 99% or < -99% of the BUC |
| | If unit costs are > 30% or < -30% of the BUC |
| | If unit costs are < +/- 30% |

| | BUC Comparison (% +/- of BUC) 2016-2017 | | | | | BUC Comparison (% +/- of BUC) 2015-2016 | | | | |
|----------------------------------|---|------------------|------------------|------------------------------------|---------------------------------|---|------------------|------------------|------------------------------------|---------------------------------|
| | Thin in-lay (up to 60 mm) | Surface dressing | Planned patching | Moderate in-lay (>60 mm to 100 mm) | Thin over-lay (>25 mm to 60 mm) | Thin in-lay (up to 60 mm) | Surface dressing | Planned patching | Moderate in-lay (>60 mm to 100 mm) | Thin over-lay (>25 mm to 60 mm) |
| | CITEC | CSDEC | CPPEC | CIMEC | COTEC | CITEC | CSDEC | CPPEC | CIMEC | COTEC |
| 8000 Aberdeenshire Council | 2% | 115% | 85% | -9% | 30% | 13% | 116% | 44% | 1% | 27% |
| 8001 Angus Council | N/A | 3% | N/A | N/A | N/A | 17% | -2% | -23% | 15% | 20% |
| 8014 East Dunbartonshire Council | N/A | N/A | -17% | N/A | N/A | N/A | N/A | 24% | N/A | N/A |
| 8015 City of Edinburgh Council | 55% | 189% | 37% | 212% | N/A | 45% | N/A | 25% | 126% | N/A |
| 8016 Glasgow City Council | -1% | 75% | 5% | 12% | -31% | -5% | 87% | 8% | N/A | -32% |
| 8027 Midlothian Council | 0% | N/A | N/A | N/A | 45% | 59% | N/A | N/A | N/A | N/A |
| 8036 Renfrewshire Council | 2% | N/A | -24% | -14% | N/A | -30% | 16% | -47% | -7% | N/A |
| 8037 Shetland Islands Council | 4% | -27% | N/A | N/A | 6% | 76% | -16% | N/A | N/A | N/A |
| 8040 Stirling Council | 1% | 50% | N/A | -27% | -14% | 17% | 97% | N/A | 35% | 0% |
| 8042 South Ayrshire Council | -14% | -3% | -34% | N/A | -21% | -5% | -25% | -19% | N/A | -11% |
| 8055 Dumfries & Galloway Council | N/A | -17% | 4% | N/A | 12% | N/A | -14% | 4% | N/A | 16% |
| 8057 West Dunbartonshire Council | -16% | N/A | 29% | 0% | 2% | -6% | N/A | -15% | 7% | -41% |
| 8059 North Ayrshire Council | -2% | 72% | 0% | N/A | -10% | 5% | 85% | -3% | -38% | -14% |
| 8060 Inverclyde Council | N/A | -14% | -25% | -6% | 11% | -49% | N/A | 0% | -10% | -73% |
| 8063 Moray Council | 47% | -23% | N/A | -46% | 40% | 37% | -11% | 66% | -59% | -73% |
| 8064 East Lothian Council | -2% | -30% | -34% | N/A | N/A | 36% | -13% | 0% | 0% | N/A |
| 8071 Falkirk Council | -5% | 97% | 70% | -3% | -20% | -9% | 21% | -9% | -12% | 92% |
| 8072 Argyll & Bute Council | 26% | 20% | -31% | N/A | -13% | ? | ? | ? | ? | ? |
| 8073 Aberdeen City Council | N/A | N/A | N/A | N/A | 35% | 23% | N/A | N/A | N/A | N/A |
| 8081 Orkney Islands Council | 56% | -23% | N/A | N/A | 32% | N/A | -28% | N/A | N/A | 126% |
| 8082 East Ayrshire Council | 13% | -14% | -23% | N/A | -36% | -19% | -40% | -22% | N/A | -7% |
| 8086 Highland Council | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
| 8087 Clackmannanshire Council | 2% | -7% | 15% | 7% | -29% | -1% | 26% | 4% | -13% | N/A |
| 8101 Western Isles Council | -36% | -21% | -22% | N/A | 3% | -16% | -4% | 33% | N/A | 6% |
| 8109 West Lothian Council | -12% | 116% | 4% | N/A | 130% | -7% | N/A | 95% | 73% | 24% |
| 8120 South Lanarkshire Council | 4% | 3% | 48% | 13% | 9% | 47% | 16% | 22% | N/A | 44% |
| 8121 North Lanarkshire Council | -35% | -25% | 19% | -16% | -26% | -29% | -21% | 15% | -26% | -28% |
| 8134 Fife Council | -16% | 91% | -4% | 2% | -2% | -5% | 12% | -54% | 0% | 20% |
| 8137 East Renfrewshire Council | -13% | N/A | 22% | 26% | -42% | 6% | N/A | -1% | 42% | -30% |
| 8145 Scottish Borders Council | 37% | 128% | -5% | 26% | 13% | 21% | 131% | -11% | 3% | 23% |
| 8158 Perth & Kinross Council | -1% | -31% | -11% | -30% | -3% | 0% | -41% | 13% | -41% | -5% |
| 8159 Dundee City Council | 5% | N/A | -21% | -14% | -39% | -2% | 2% | -1% | N/A | N/A |

Analysis for each Local Authority based on the 2016-17 final submission is included in Appendix A in order of Family Group. It provides a brief report for each Local Authority which includes:

- A table comparing individual Local Authority Unit costs to Baseline Unit Costs (BUCs). This includes a column showing the % +/- to the BUC for each treatment carried out by the LA, and a column showing the category of each treatment type carried out.
- A graph showing how each treatment type carried out is compared to the BUC.
- Relative placing at Family Group level for each treatment type recorded. For example, if the placing is recorded as 1/7 this would mean the Unit Cost for the Local Authority is the lowest of seven

returns within the Family Group for that treatment type; if the placing is recorded as 7/7 this would mean that the Unit Cost for the LA is the highest of seven returns within the Family Group. A minimum of three returns for a treatment type is set for a placing to be entered.

Review of RAMDT Guidance Notes

4.1 Feedback on guidance notes for carriageway treatments

A questionnaire (see Appendix B) was sent out to the 32 local authorities on 27 October 2017 to obtain feedback on each individual authority's experience with using the guidance notes for carriageway treatments contained in the SCOTS / APSE RAM data template. The purpose of this exercise was to gain an insight into the different perspectives/ approaches used to apply the guidance notes provided when recording unit costs for carriageway treatments.

Twelve LAs provided feedback by 22 November 2017; no further completed questionnaires have been received from the remaining 20 LAs to date.

4.2 Summary of feedback on RAMDT guidance notes

The key points raised by the respondents were:

- The guidance notes contained within the SCOTS/ APSE RAM data tool for carriageway treatment types are not clear and consistent.
- Traffic management (TM) is not consistently included in all treatment types. Presently, lane closures on dual carriageways are included in unit costs for all treatments except thin/ micro-surfacing.
- Preparatory work like base patching costs are included within contract/ direct costs, despite the guidance noting that preparatory work carried out in an earlier financial year should be carried forward to the year in which the final repair is carried out.
- The sequence of the guidance notes is inconsistent with the order in which they appear in the carriageways Tab in the data template.
- The classification/extents of the thicknesses for the treatments categories in the current SCOTS/ APSE RAM data template need to be reviewed.

Regarding the last point - "classification/extents of the thicknesses" - changing classifications may have some drawbacks. The current classifications are well-established and are also used for other purposes (e.g. Backlog Model). Changing the classifications would make it more difficult to compare future returns with historical data. Also, having an increased number of classifications would disaggregate returns - meaning that smaller values would be assigned to some categories perhaps making meaningful comparison less valid. It would be appropriate to discuss this further with stakeholders in consideration of adopting any changes.

Detailed feedback of the questionnaire is included in Appendix C.

4.3 Additional feedback from SCOTS/APSE workshops

In February 2018 (5th, 7th, and 8th) RAMP workshops were held in Glasgow, Stirling and Inverness. Jacobs (formerly CH2M) presented on Cost Benchmarking and baseline unit costs for carriageway treatments. After the presentations, discussions were held about how LAs generate their unit costs and about their experience when using the guidance notes for carriageway SCOTS RAM data template. Below is a summary of the issues raised:

- Scope of work in each treatment category carried out is not always comparable i.e.
 - Reconstruction and insitu recycling fall under the same sub group yet there is more work involved in insitu recycling.

- Small complex schemes like carrying out treatments at junctions would have differing cost implications when compared to other site categories.
- If good quality preparatory work is carried out, it saves costs in the future.
- Reporting of unit costs varies from authority to authority therefore breakdown of costs within a family group differ significantly e.g. for Highland Council unit costs are not broken down to show what makes up the unit cost.
- The Phase 1 and Phase 2 reports could be uploaded on RAM Hub/ SharePoint for information.
- There were concerns that overall comparisons of LA unit costs to BUCs can be viewed as a witch hunt as BUCs can be considered as ‘target costs’ yet these are not always achievable due to the differing scope of work in each treatment type category and within each family group.
- Some LAs were interested in accessing the tool for BUC comparison to individual unit costs.

For LA comparison to BUCs, previous year’s BUCs can be used because this report has found that using median unit costs as BUCs for carriageway treatments is a robust method which allows for historical comparison as BUCs for the last four years did not vary significantly except for Reconstruction. Values for reconstruction can be skewed by large complex schemes and the number of returns for this treatment type is generally low to allow for a realistic comparison between LAs.

4.4 Recommendations based on RAMDT guidance notes discussion and feedback

The following recommendations can be adopted to address the key points raised:

- A focus group should review the guidance to agree updates that will improve clarity and consistency within the guidance.
- Traffic management should be included in all treatment types.
- Preparatory work included in returns for unit costs for each treatment type should relate to work carried out in the same financial year. Therefore, base patching costs should only be included in unit costs if the work is carried out at the same time as other carriageway treatments.
- The sequence of the guidance notes could be reordered to align with the order in which they appear in the carriageways Tab in the data template.

Appendix A

Analysis by Local Authority

Appendix A: Analysis by Local Authority

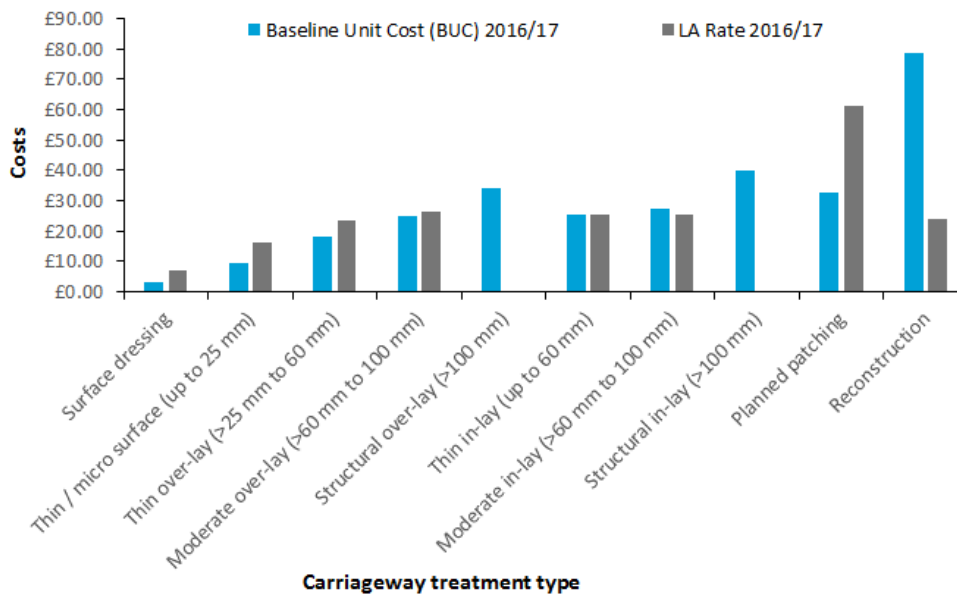
Family Group: Rural (1/8)

| | |
|---------------------|------|
| Local Authority PIN | 8000 |
|---------------------|------|

| | | |
|-----------------------|------|---------|
| Aberdeenshire Council | Year | 2016/17 |
|-----------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £7.30 | 115% |
| Thin / micro surface (up to 25 mm) | £9.25 | £16.40 | 77% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £23.71 | 30% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £26.31 | 6% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £25.56 | 1% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £25.24 | -8% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £61.36 | 89% |
| Reconstruction | £78.91 | £23.92 | -70% |

Aberdeenshire Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 5 | 2/5 |
| Surface dressing | 7 | 6/7 |
| Planned patching | 5 | 5/5 |
| Moderate in-lay (>60 mm to 100 mm) | 4 | 1/4 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 5/6 |

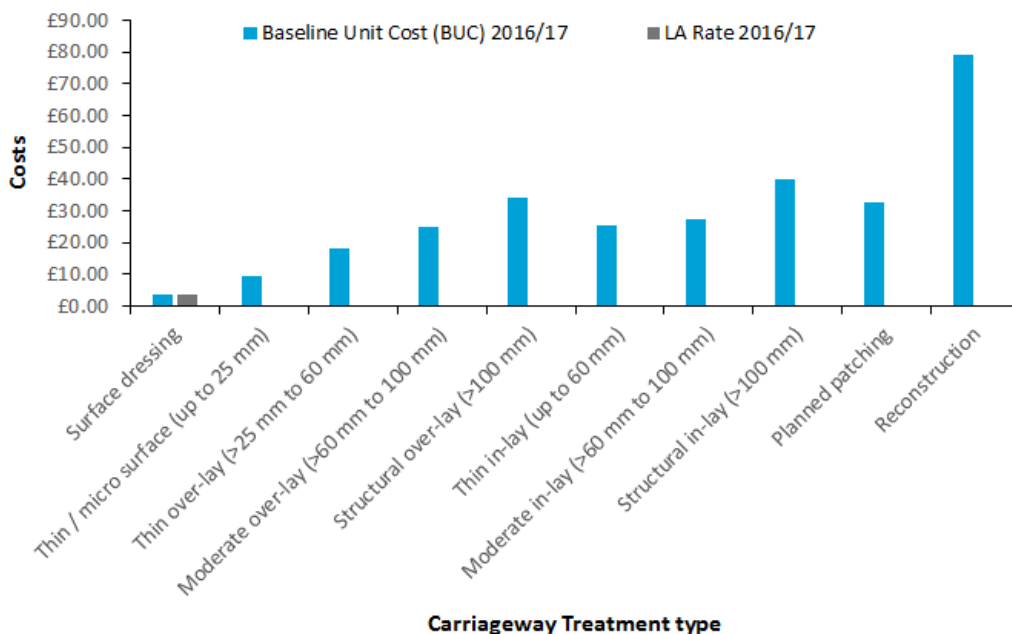
Family Group: Rural (2/8)

| | |
|---------------------|------|
| Local Authority PIN | 8001 |
|---------------------|------|

| | | |
|---------------|------|---------|
| Angus Council | Year | 2016/17 |
|---------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £3.52 | 3% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | | N/A |

Angus Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 5 | N/A |
| Surface dressing | 7 | 1/7 |
| Planned patching | 5 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 4 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 6 | N/A |

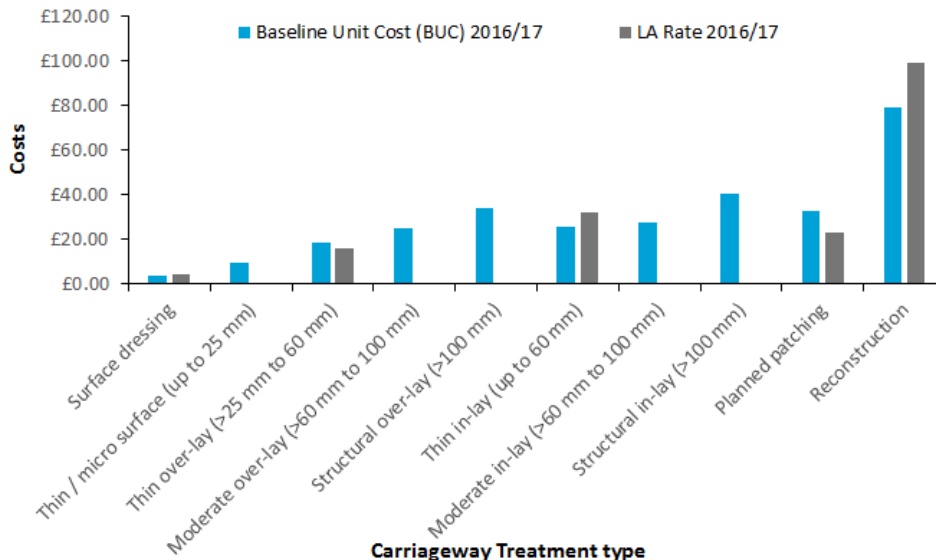
Family Group: Rural (3/8)

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| Local Authority PIN | 8072 |
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| Argyll and Bute Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £4.07 | 20% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £15.91 | -13% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £31.63 | 25% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £22.92 | -29% |
| Reconstruction | £78.91 | £99.16 | 26% |

Argyll and Bute Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 5 | 3/5 |
| Surface dressing | 7 | 3/7 |
| Planned patching | 5 | 4/5 |
| Moderate in-lay (>60 mm to 100 mm) | 4 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 6 | 3/6 |

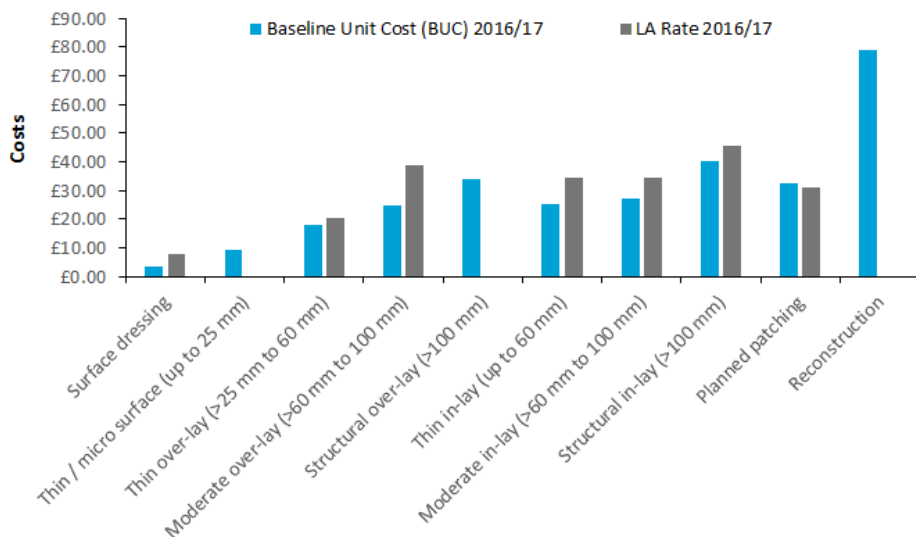
Family Group: Rural (4/8)

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| Local Authority PIN | 8145 |
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| Scottish Borders Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £7.75 | 128% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £20.66 | 13% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £38.67 | 56% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £34.43 | 36% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £34.51 | 26% |
| Structural in-lay (>100 mm) | £40.14 | £45.48 | 13% |
| Planned patching | £32.51 | £31.35 | -4% |
| Reconstruction | £78.91 | | N/A |

Scottish Borders Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 5 | 4/5 |
| Surface dressing | 7 | 7/7 |
| Planned patching | 5 | 2/5 |
| Moderate in-lay (>60 mm to 100 mm) | 4 | 2/4 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 3/6 |

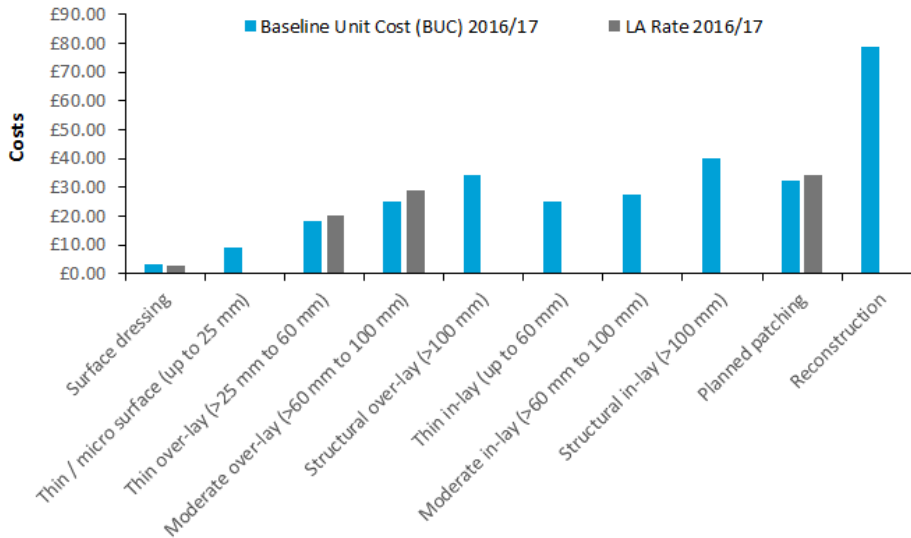
Family Group: Rural (5/8)

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| Local Authority PIN | 8055 |
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| Dumfries & Galloway | Year | 2016/17 |
|--------------------------------|-------------|----------------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|---|------------------------|---------------------|
| Surface dressing | £3.40 | £2.82 | -17% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £20.40 | 12% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £28.86 | 16% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £34.50 | 6% |
| Reconstruction | £78.91 | | N/A |

Dumfries & Galloway



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|-----------------------|---|
| Thin in-lay (up to 60 mm) | 5 | N/A |
| Surface dressing | 7 | 2/7 |
| Planned patching | 5 | 1/5 |
| Moderate in-lay (>60 mm to 100 mm) | 4 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 6 | 2/6 |

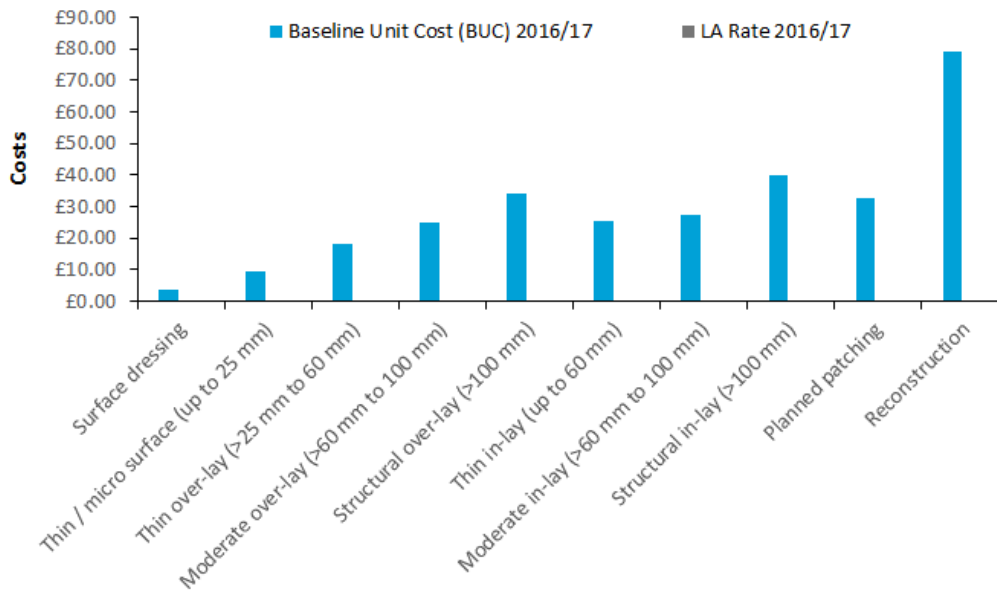
Family Group: Rural (6/8)

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| Local Authority PIN | 8086 |
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| The Highland Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | | N/A |

The Highland Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 5 | N/A |
| Surface dressing | 7 | N/A |
| Planned patching | 5 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 4 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 6 | N/A |

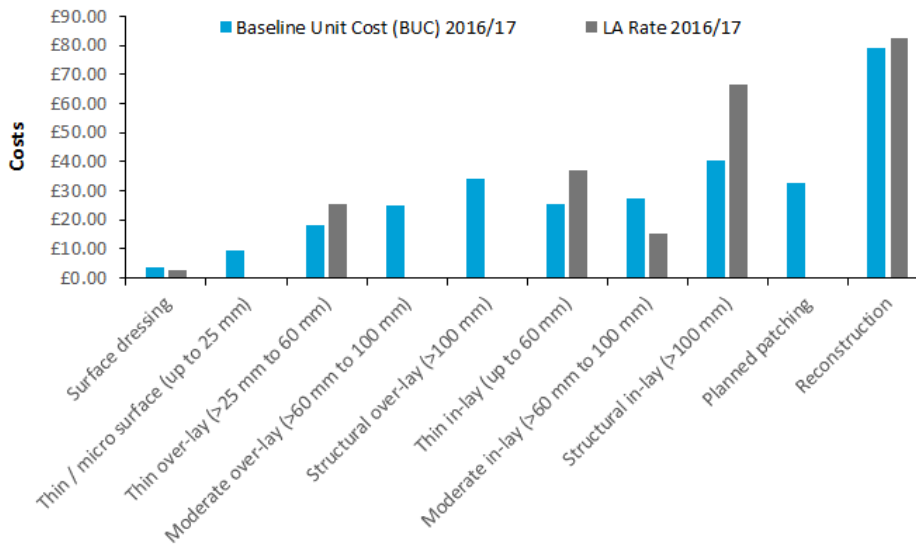
Family Group: Rural (7/8)

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| Local Authority PIN | 8063 |
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| Moray Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|---|------------------------|---------------------|
| Surface dressing | £3.40 | £2.63 | -23% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £25.59 | 40% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £36.92 | 46% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £15.05 | -45% |
| Structural in-lay (>100 mm) | £40.14 | £66.42 | 65% |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | £82.35 | 4% |

Moray Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|-----------------------|---|
| Thin in-lay (up to 60 mm) | 5 | 5/5 |
| Surface dressing | 7 | 4/7 |
| Planned patching | 5 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 4 | 4/4 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 6/6 |

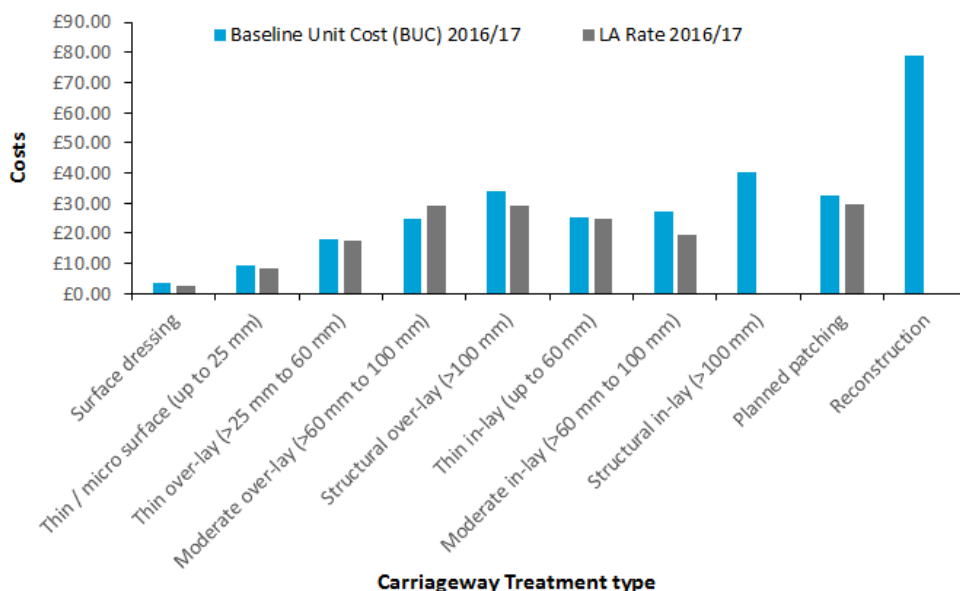
Family Group: Rural (8/8)

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| Local Authority PIN | 8158 |
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| Perth and Kinross Council | Year | 2016/17 |
|---------------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.36 | -31% |
| Thin / micro surface (up to 25 mm) | £9.25 | £8.19 | -11% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £17.70 | -3% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £29.37 | 18% |
| Structural over-lay (>100 mm) | £34.08 | £29.26 | -14% |
| Thin in-lay (up to 60 mm) | £25.30 | £24.95 | -1% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £19.35 | -29% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £29.50 | -9% |
| Reconstruction | £78.91 | | N/A |

Perth and Kinross Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1=lowest rate within the group) |
|------------------------------------|----------------|---|
| Thin in-lay (up to 60 mm) | 5 | 1/5 |
| Surface dressing | 7 | 5/7 |
| Planned patching | 5 | 3/5 |
| Moderate in-lay (>60 mm to 100 mm) | 4 | 3/4 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 1/6 |

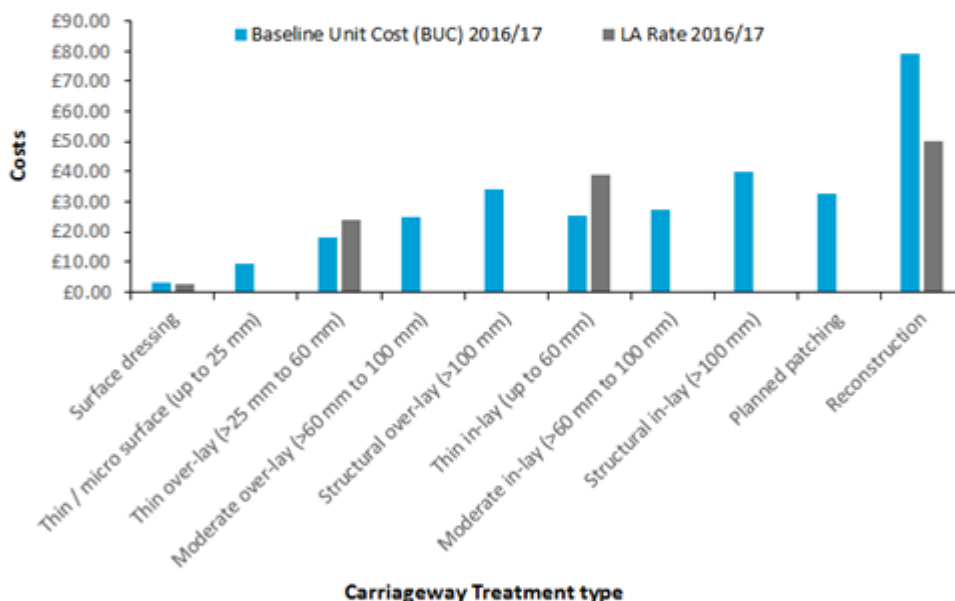
Family Group: Island (1/3)

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| Local Authority PIN | 8081 |
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| Orkney Islands Council | Year | 2016/17 |
|------------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.62 | -23% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £24.12 | 32% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £39.18 | 55% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | £50.00 | -37% |

Orkney Islands Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 3/3 |
| Surface dressing | 3 | 2/3 |
| Planned patching | 1 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 0 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 3 | 3/3 |

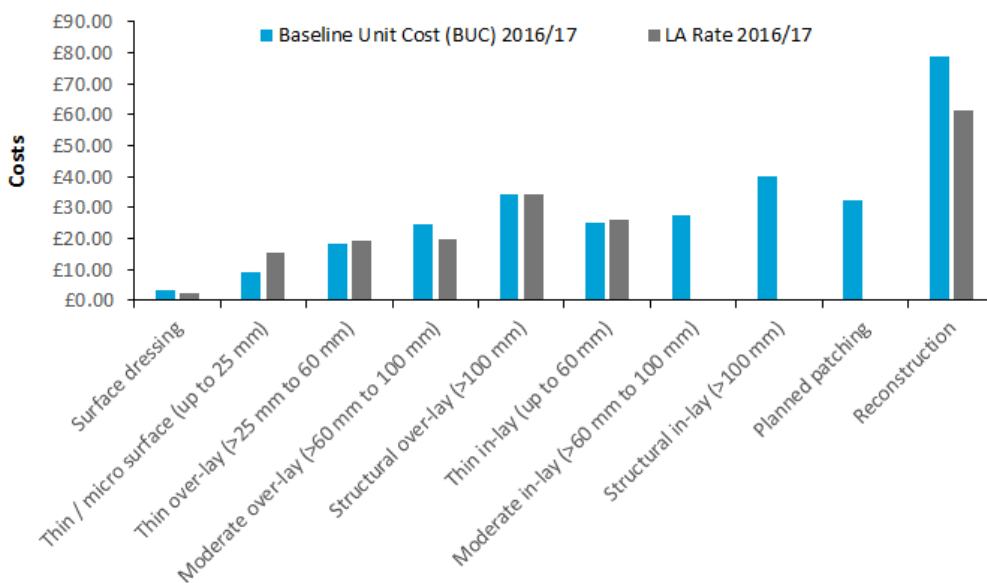
Family Group: Island (2/3)

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| Local Authority PIN | 8037 |
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| Shetland Islands Council | Year | 2016/17 |
|--------------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.47 | -27% |
| Thin / micro surface (up to 25 mm) | £9.25 | £15.26 | 65% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £19.32 | 6% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £19.81 | -20% |
| Structural over-lay (>100 mm) | £34.08 | £34.08 | 0% |
| Thin in-lay (up to 60 mm) | £25.30 | £26.13 | 3% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | £61.43 | -22% |

Shetland Islands Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 1/3 |
| Surface dressing | 3 | 3/3 |
| Planned patching | 1 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 0 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 3 | 2/3 |

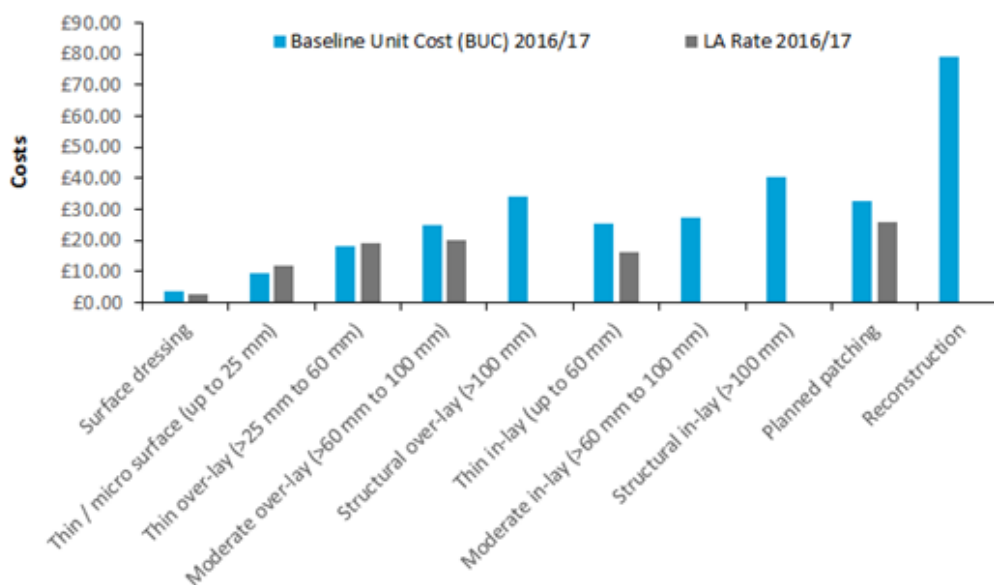
Family Group: Island (3/3)

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| Local Authority PIN | 8101 |
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| Comhairle nan Eilean Siar | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.68 | -21% |
| Thin / micro surface (up to 25 mm) | £9.25 | £11.61 | 25% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £18.84 | 3% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £20.12 | -19% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £16.20 | -36% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £25.77 | -21% |
| Reconstruction | £78.91 | | N/A |

Comhairle nan Eilean Siar



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 2/3 |
| Surface dressing | 3 | 1/3 |
| Planned patching | 1 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 0 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 3 | 1/3 |

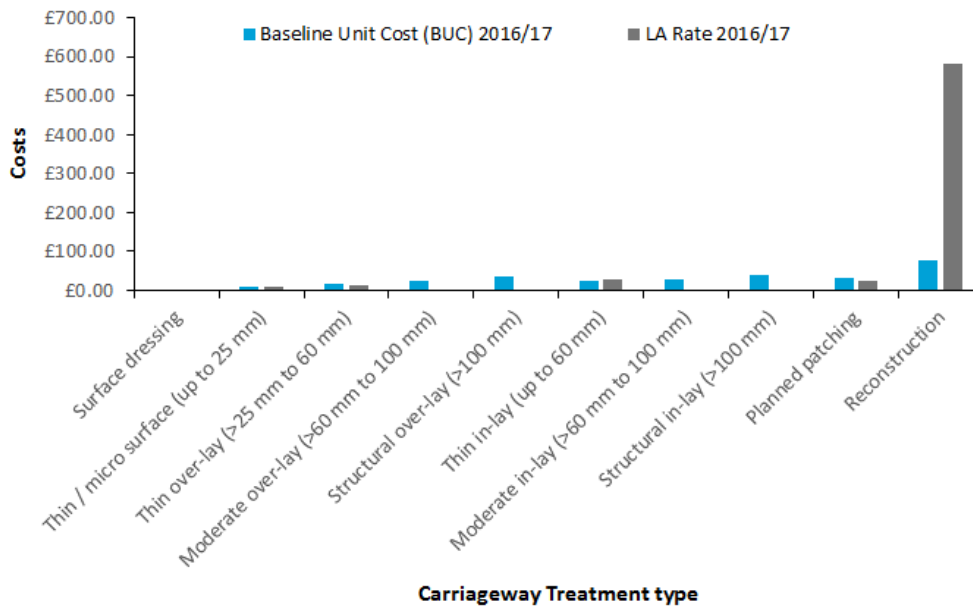
Family Group: Semi Urban (1/9)

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| Local Authority PIN | 8082 |
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| East Ayrshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.91 | -14% |
| Thin / micro surface (up to 25 mm) | £9.25 | £8.11 | -12% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £11.71 | -36% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £28.37 | 12% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £25.34 | -22% |
| Reconstruction | £78.91 | £580.84 | 636% |

East Ayrshire Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 6/9 |
| Surface dressing | 8 | 3/8 |
| Planned patching | 7 | 4/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | 6/8 |

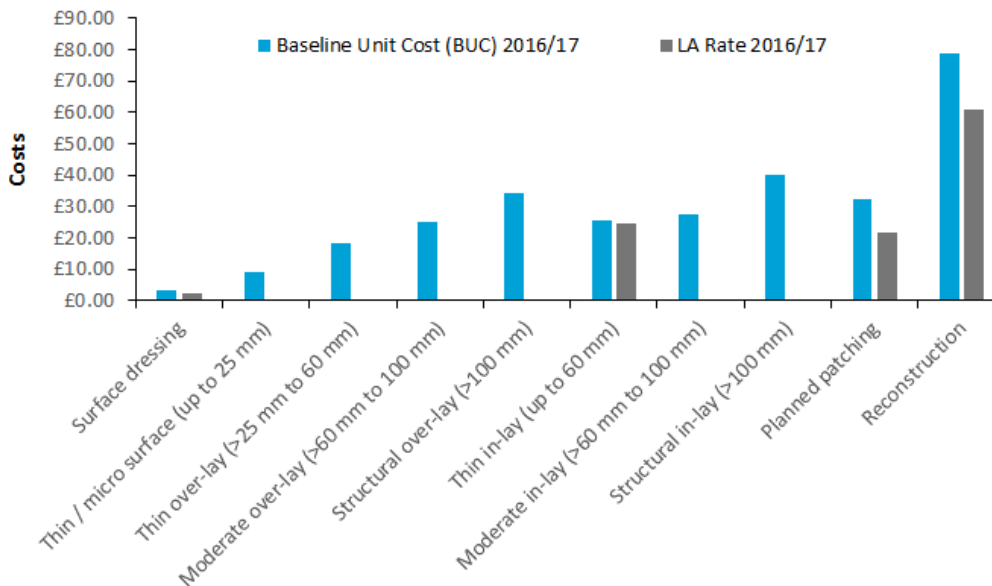
Family Group: Semi Urban (2/9)

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| Local Authority PIN | 8064 |
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| East Lothian Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.38 | -30% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £24.60 | -3% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £21.69 | -33% |
| Reconstruction | £78.91 | £60.68 | -23% |

East Lothian Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 3/9 |
| Surface dressing | 8 | 4/8 |
| Planned patching | 7 | 5/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | N/A |

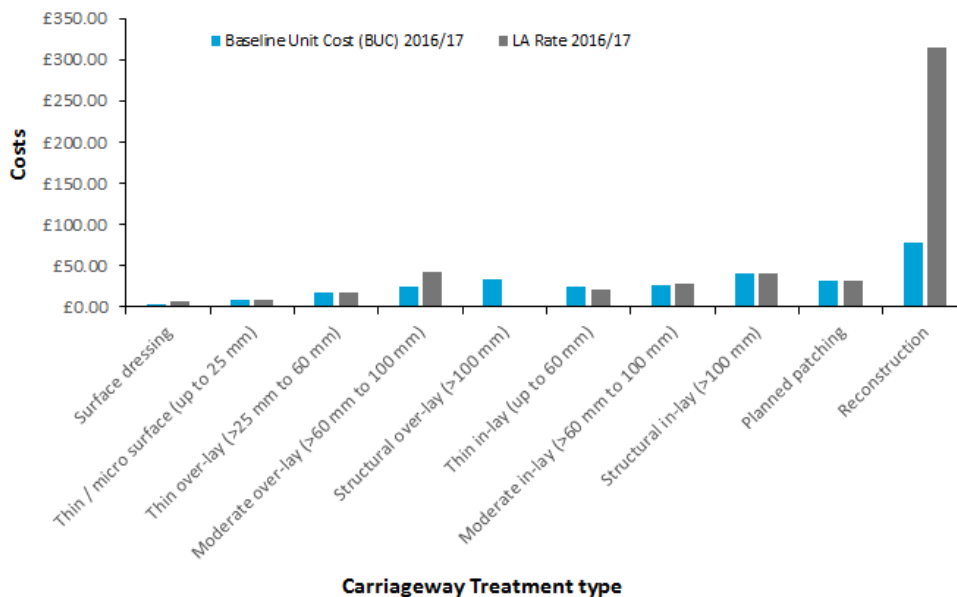
Family Group: Semi Urban (3/9)

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| Local Authority PIN | 8134 |
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| Fife Council | Year | 2016/17 |
|--------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £6.51 | 91% |
| Thin / micro surface (up to 25 mm) | £9.25 | £8.10 | -12% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £17.97 | -2% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £42.34 | 70% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £21.23 | -16% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £28.14 | 3% |
| Structural in-lay (>100 mm) | £40.14 | £40.14 | 0% |
| Planned patching | £32.51 | £31.92 | -2% |
| Reconstruction | £78.91 | £314.41 | 298% |

Fife Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 9/9 |
| Surface dressing | 8 | 7/8 |
| Planned patching | 7 | 2/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 1/3 |
| Thin over-lay (>25 mm to 60 mm) | 8 | 1/8 |

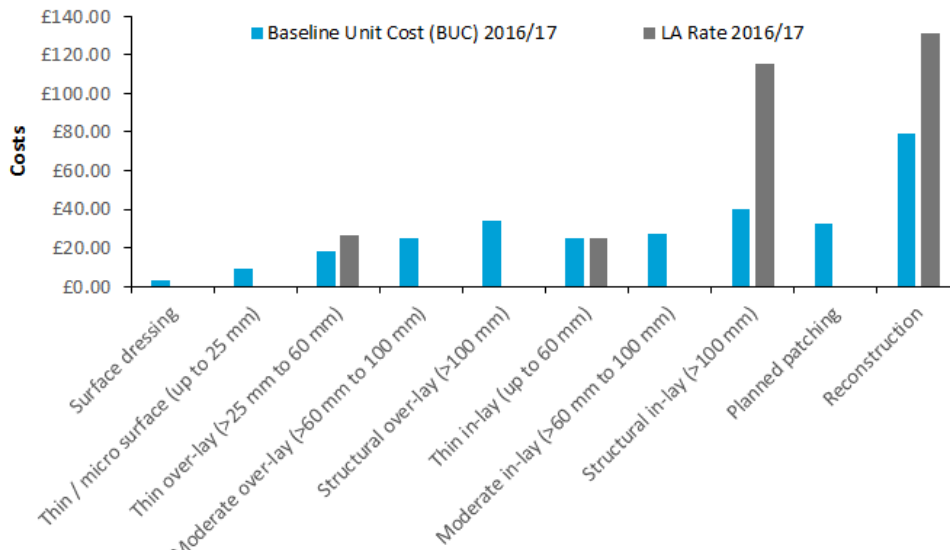
Family Group: Semi Urban (4/9)

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| Local Authority PIN | 8027 |
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| Midlothian Council | Year | 2016/17 |
|--------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £26.48 | 45% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £25.15 | -1% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | £115.55 | 188% |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | £131.04 | 66% |

Midlothian Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 1/9 |
| Surface dressing | 8 | N/A |
| Planned patching | 7 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | 7/8 |

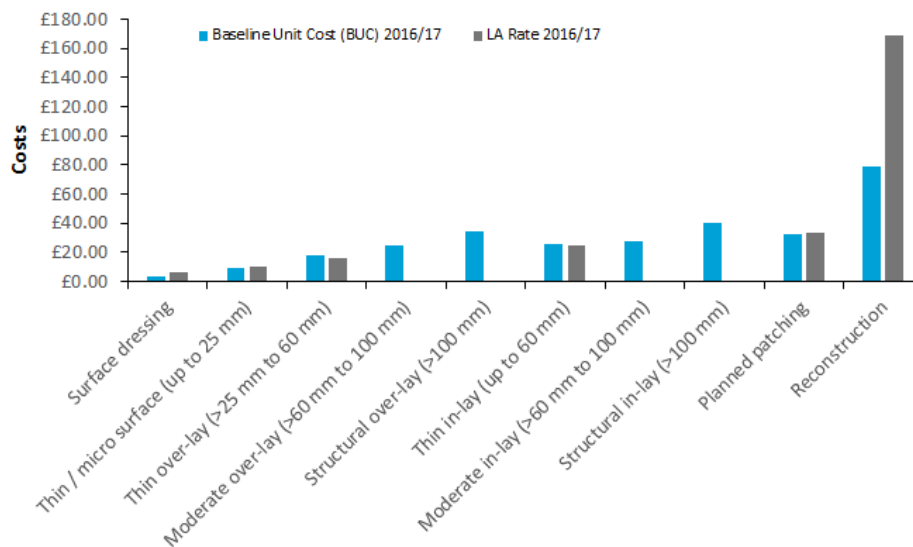
Family Group: Semi Urban (5/9)

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| Local Authority PIN | 8059 |
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| North Ayrshire Council | Year | 2016/17 |
|------------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £5.87 | 72% |
| Thin / micro surface (up to 25 mm) | £9.25 | £9.88 | 7% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £16.37 | -10% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £24.68 | -2% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £33.10 | 2% |
| Reconstruction | £78.91 | £169.30 | 115% |

North Ayrshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 8/9 |
| Surface dressing | 8 | 6/8 |
| Planned patching | 7 | 1/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | 3/8 |

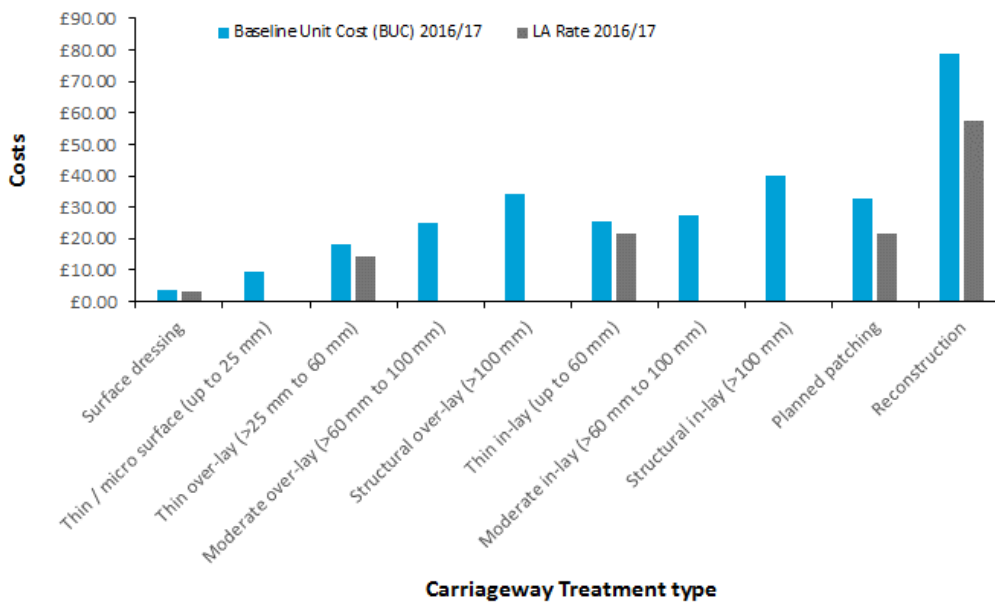
Family Group: Semi Urban (6/9)

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| Local Authority PIN | 8042 |
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| South Ayrshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £3.30 | -3% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £14.42 | -21% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £21.65 | -14% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £21.76 | -33% |
| Reconstruction | £78.91 | £57.37 | -27% |

South Ayrshire Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 7/9 |
| Surface dressing | 8 | 1/8 |
| Planned patching | 7 | 5/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | 5/8 |

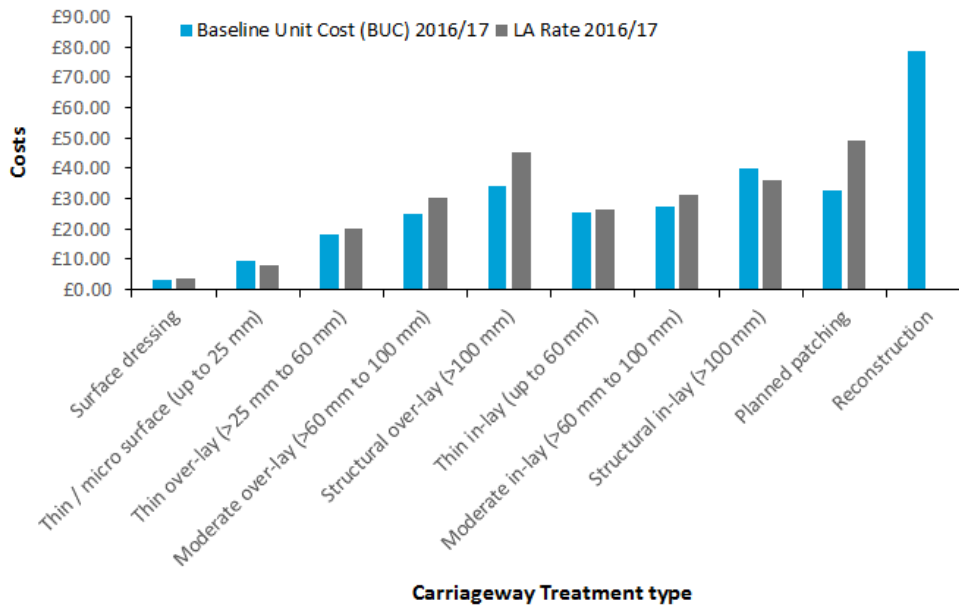
Family Group: Semi Urban (7/9)

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| Local Authority PIN | 8120 |
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| South Lanarkshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £3.50 | 3% |
| Thin / micro surface (up to 25 mm) | £9.25 | £8.01 | -13% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £19.93 | 9% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £30.34 | 22% |
| Structural over-lay (>100 mm) | £34.08 | £45.49 | 33% |
| Thin in-lay (up to 60 mm) | £25.30 | £26.26 | 4% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £31.21 | 14% |
| Structural in-lay (>100 mm) | £40.14 | £36.16 | -10% |
| Planned patching | £32.51 | £49.12 | 51% |
| Reconstruction | £78.91 | | N/A |

South Lanarkshire Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 4/9 |
| Surface dressing | 8 | 1/8 |
| Planned patching | 7 | 7/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 2/3 |
| Thin over-lay (>25 mm to 60 mm) | 8 | 2/8 |

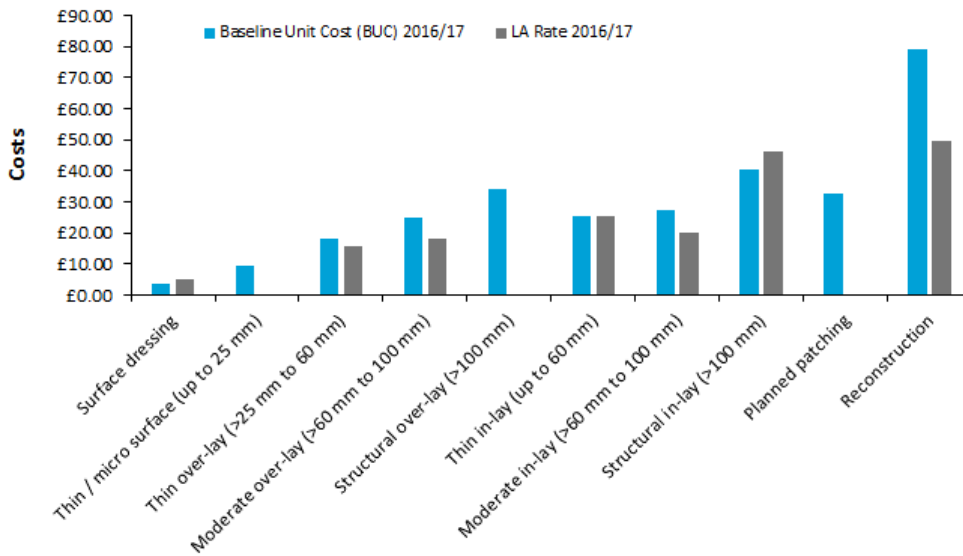
Family Group: Semi Urban (8/9)

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| Local Authority PIN | 8040 |
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| Stirling Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £5.11 | 50% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £15.75 | -14% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £17.88 | -28% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £25.45 | 1% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £20.18 | -26% |
| Structural in-lay (>100 mm) | £40.14 | £46.29 | 15% |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | £49.65 | -37% |

Stirling Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 2/9 |
| Surface dressing | 8 | 5/8 |
| Planned patching | 7 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 3/3 |
| Thin over-lay (>25 mm to 60 mm) | 8 | 4/8 |

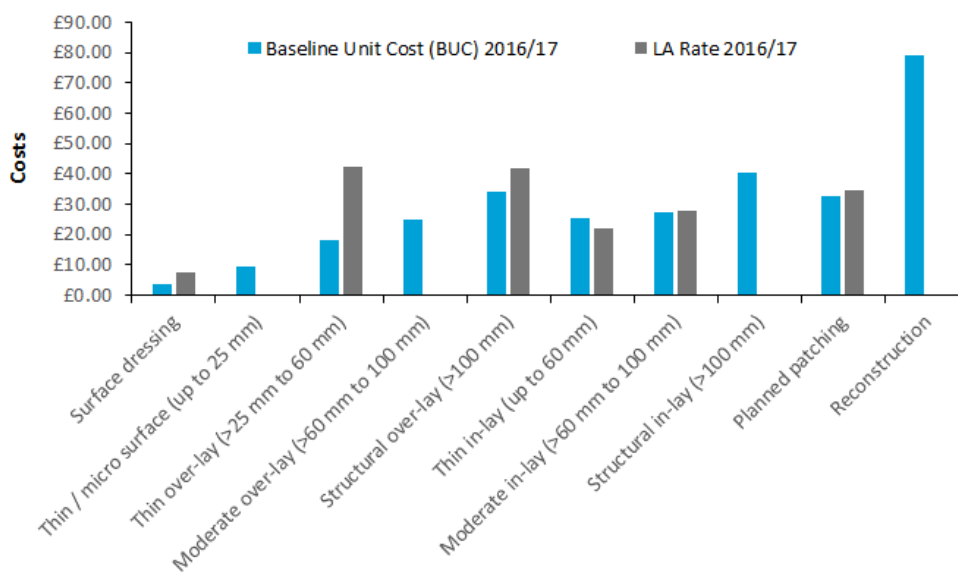
Family Group: Semi Urban (9/9)

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| Local Authority PIN | 8109 |
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| West Lothian Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £7.35 | 116% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £42.11 | 130% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | £42.00 | 23% |
| Thin in-lay (up to 60 mm) | £25.30 | £22.12 | -13% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £27.64 | 1% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £34.47 | 6% |
| Reconstruction | £78.91 | | N/A |

West Lothian Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 9 | 5/9 |
| Surface dressing | 8 | 8/8 |
| Planned patching | 7 | 2/7 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 8 | 8/8 |

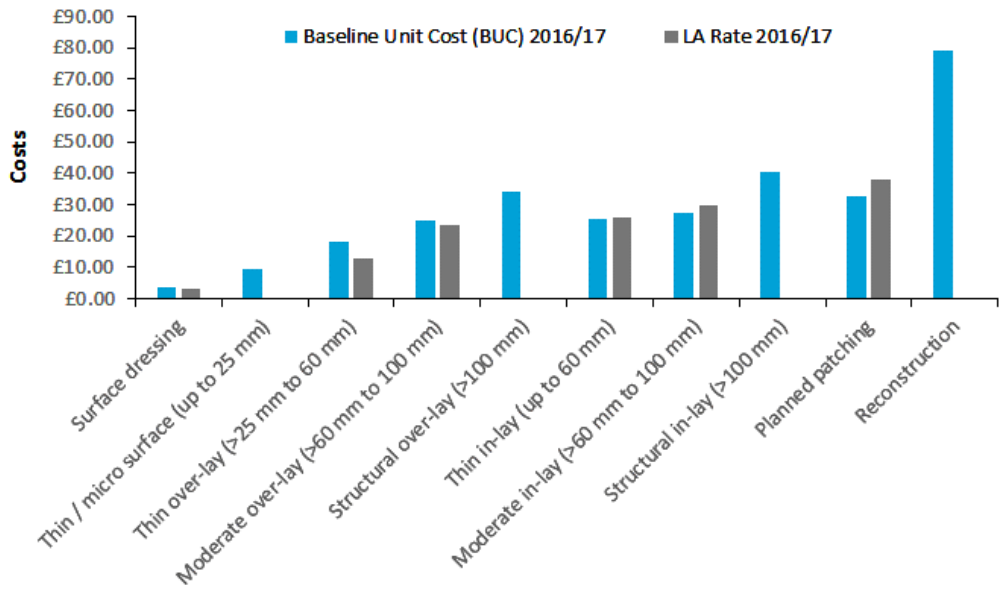
Family Group: Urban (1/8)

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| Local Authority PIN | 8087 |
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| Clackmannanshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £3.17 | -7% |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £12.92 | -29% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £23.40 | -6% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £25.67 | 1% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £29.61 | 8% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £38.01 | 17% |
| Reconstruction | £78.91 | | N/A |

Clackmannanshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 5/6 |
| Surface dressing | 4 | 3/4 |
| Planned patching | 8 | 3/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 5/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 2/6 |

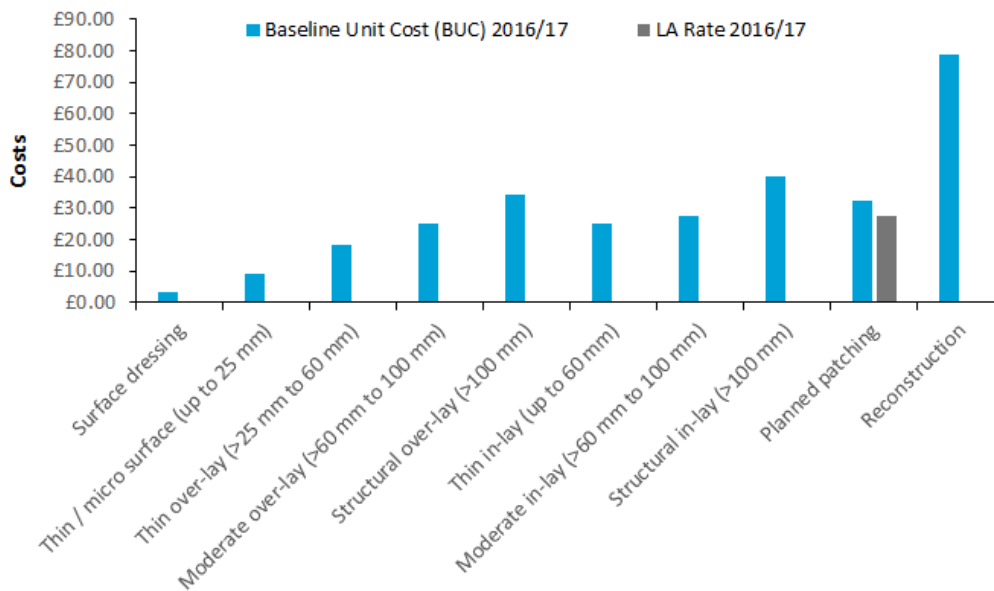
Family Group: Urban (2/8)

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| Local Authority PIN | 8014 |
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| East Dunbartonshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £27.33 | -16% |
| Reconstruction | £78.91 | | N/A |

East Dunbartonshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | N/A |
| Surface dressing | 4 | N/A |
| Planned patching | 7 | 2/7 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 6 | N/A |

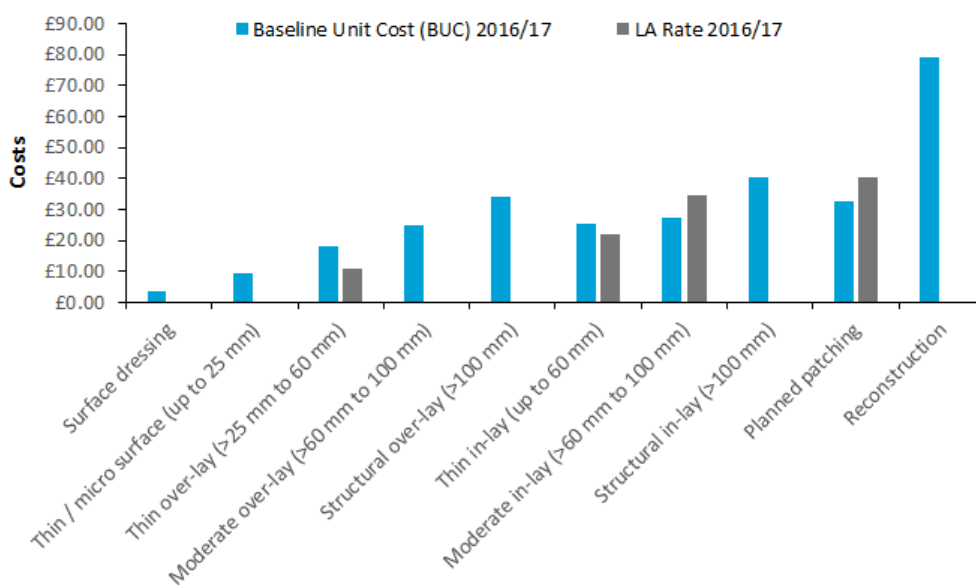
Family Group: Urban (3/8)

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| Local Authority PIN | 8137 |
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| East Renfrewshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £10.61 | -42% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £21.99 | -13% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £34.72 | 27% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £40.44 | 24% |
| Reconstruction | £78.91 | | N/A |

East Renfrewshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 4/5 |
| Surface dressing | 4 | N/A |
| Planned patching | 8 | 5/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 6/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 1/6 |

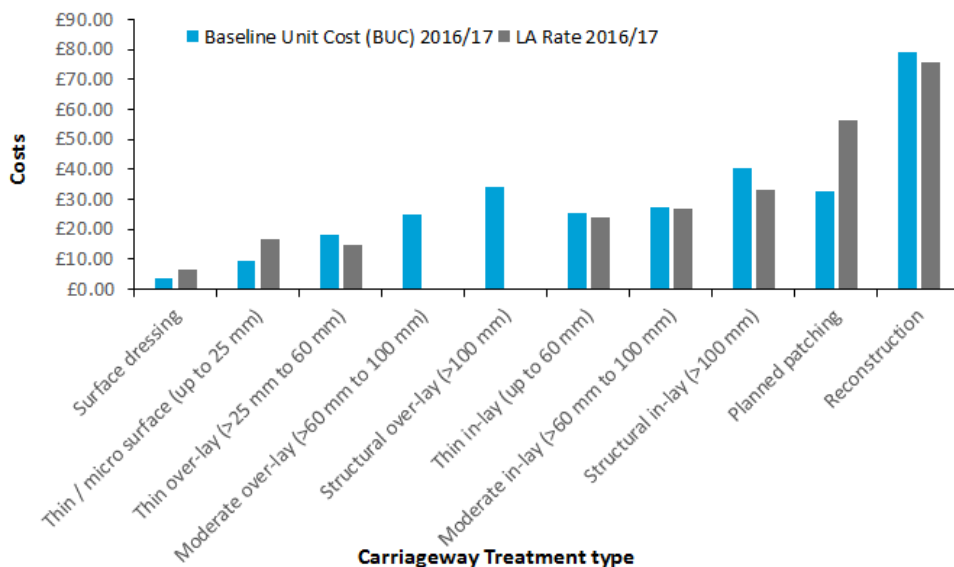
Family Group: Urban (4/8)

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| Local Authority PIN | 8071 |
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| Falkirk Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £6.69 | 97% |
| Thin / micro surface (up to 25 mm) | £9.25 | £16.82 | 82% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £14.54 | -20% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £23.81 | -6% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £26.95 | -1% |
| Structural in-lay (>100 mm) | £40.14 | £32.93 | -18% |
| Planned patching | £32.51 | £56.40 | 74% |
| Reconstruction | £78.91 | £75.46 | -4% |

Falkirk Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 2/5 |
| Surface dressing | 4 | 4/4 |
| Planned patching | 8 | 7/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 3/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 4/6 |

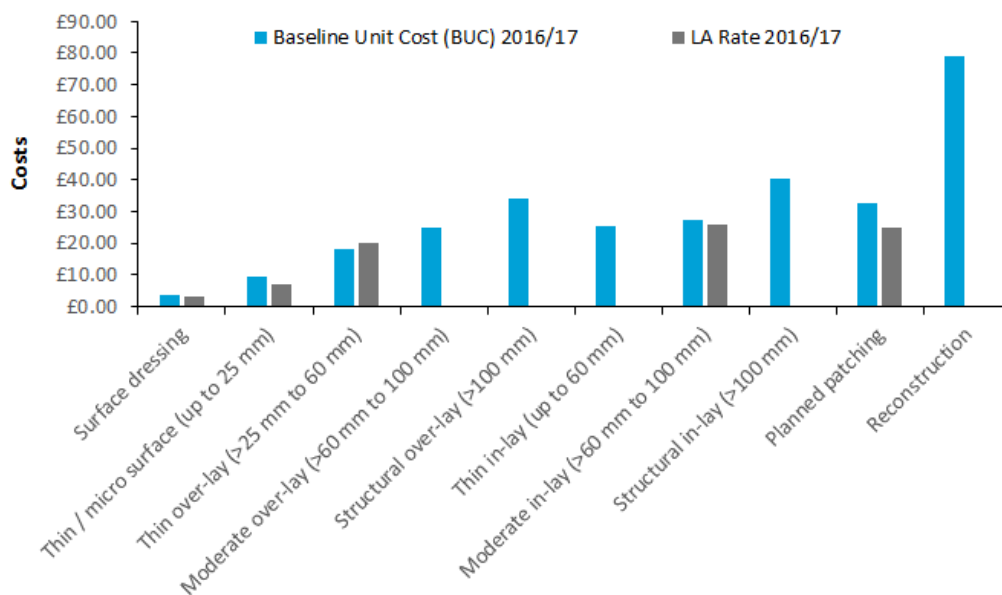
Family Group: Urban (5/8)

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| Local Authority PIN | 8060 |
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| Inverclyde Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.92 | -14% |
| Thin / micro surface (up to 25 mm) | £9.25 | £6.78 | -27% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £20.23 | 11% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £26.07 | -5% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £24.72 | -24% |
| Reconstruction | £78.91 | | N/A |

Inverclyde Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | N/A |
| Surface dressing | 4 | 2/4 |
| Planned patching | 8 | 6/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 3/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 2/6 |

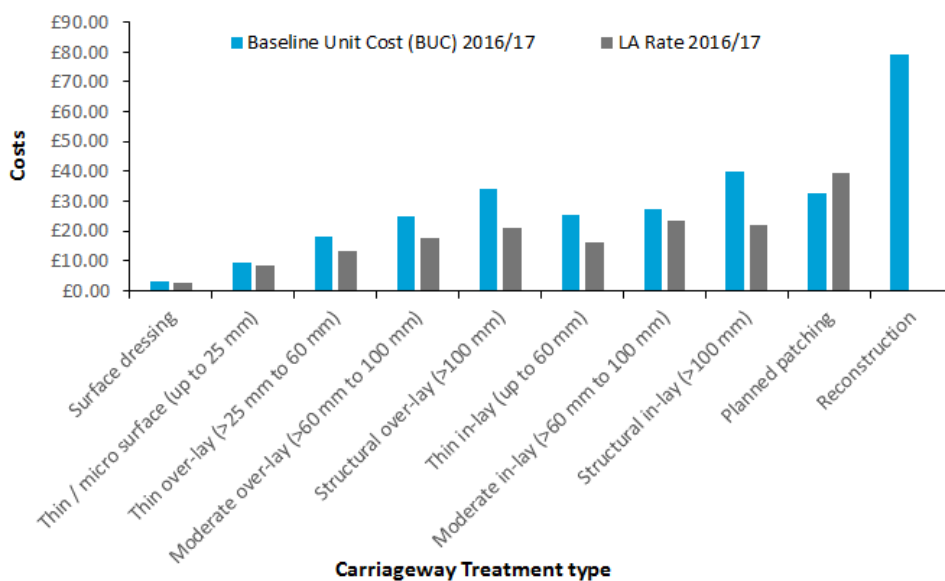
Family Group: Urban (6/8)

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| Local Authority PIN | 8121 |
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| North Lanarkshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £2.54 | -25% |
| Thin / micro surface (up to 25 mm) | £9.25 | £8.34 | -10% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £13.52 | -26% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £17.83 | -28% |
| Structural over-lay (>100 mm) | £34.08 | £20.98 | -38% |
| Thin in-lay (up to 60 mm) | £25.30 | £16.31 | -36% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £23.35 | -14% |
| Structural in-lay (>100 mm) | £40.14 | £21.80 | -46% |
| Planned patching | £32.51 | £39.29 | 21% |
| Reconstruction | £78.91 | | N/A |

North Lanarkshire Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 6/6 |
| Surface dressing | 4 | 3/4 |
| Planned patching | 8 | 3/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 6/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 4/6 |

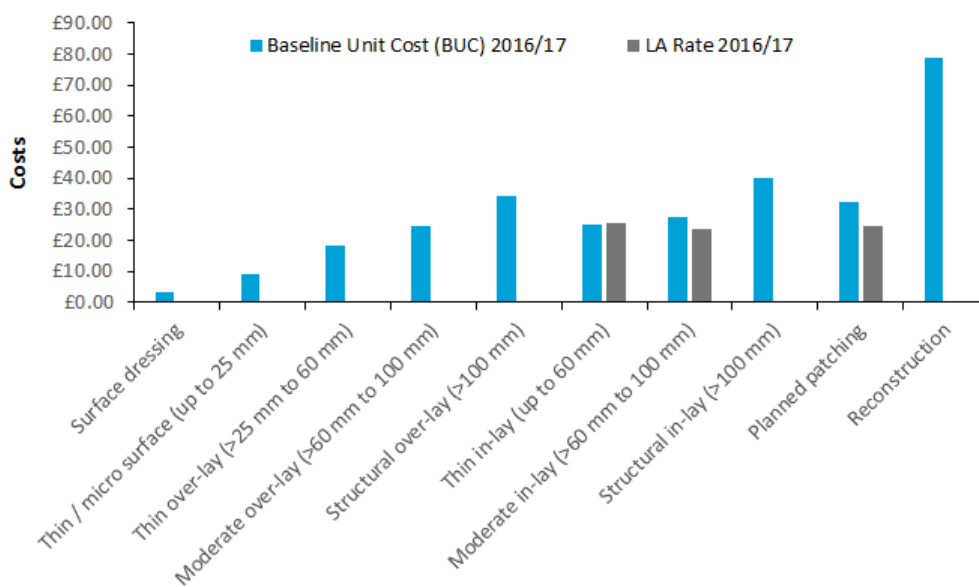
Family Group: Urban (7/8)

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| Local Authority PIN | 8036 |
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| Renfrewshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £25.70 | 2% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £23.57 | -14% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £24.80 | -24% |
| Reconstruction | £78.91 | | N/A |

Renfrewshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 1/6 |
| Surface dressing | 4 | N/A |
| Planned patching | 8 | 5/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 5/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | N/A |

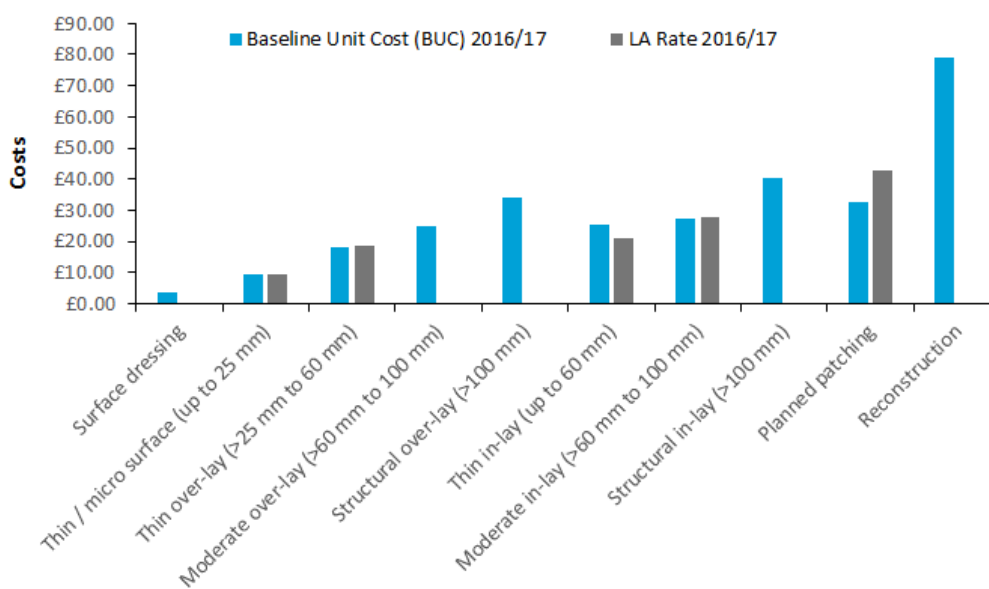
Family Group: Urban (8/8)

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| Local Authority PIN | 8057 |
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| West Dunbartonshire Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | £9.25 | 0% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £18.59 | 2% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £21.00 | -17% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £27.66 | 1% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £42.55 | 31% |
| Reconstruction | £78.91 | | N/A |

West Dunbartonshire Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 6 | 5/6 |
| Surface dressing | 4 | N/A |
| Planned patching | 8 | 7/8 |
| Moderate in-lay (>60 mm to 100 mm) | 7 | 1/7 |
| Thin over-lay (>25 mm to 60 mm) | 6 | 1/6 |

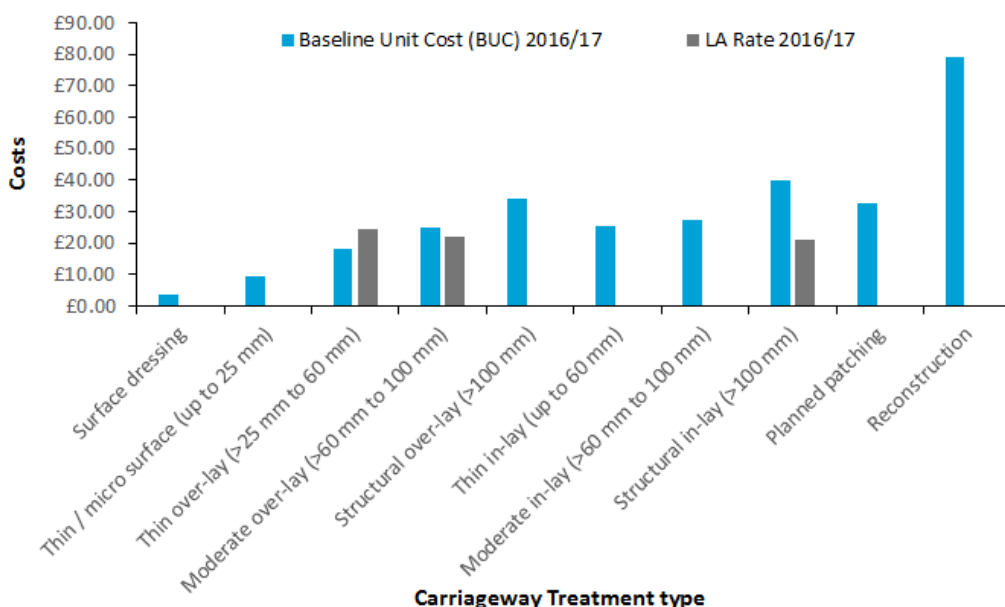
Family Group: City (1/4)

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| Local Authority PIN | 8073 |
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| Aberdeen City Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | | N/A |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £24.63 | 35% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | £21.83 | -12% |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | | N/A |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | | N/A |
| Structural in-lay (>100 mm) | £40.14 | £20.83 | -48% |
| Planned patching | £32.51 | | N/A |
| Reconstruction | £78.91 | | N/A |

Aberdeen City Council



Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | N/A |
| Surface dressing | 2 | N/A |
| Planned patching | 3 | N/A |
| Moderate in-lay (>60 mm to 100 mm) | 3 | N/A |
| Thin over-lay (>25 mm to 60 mm) | 3 | 2/3 |

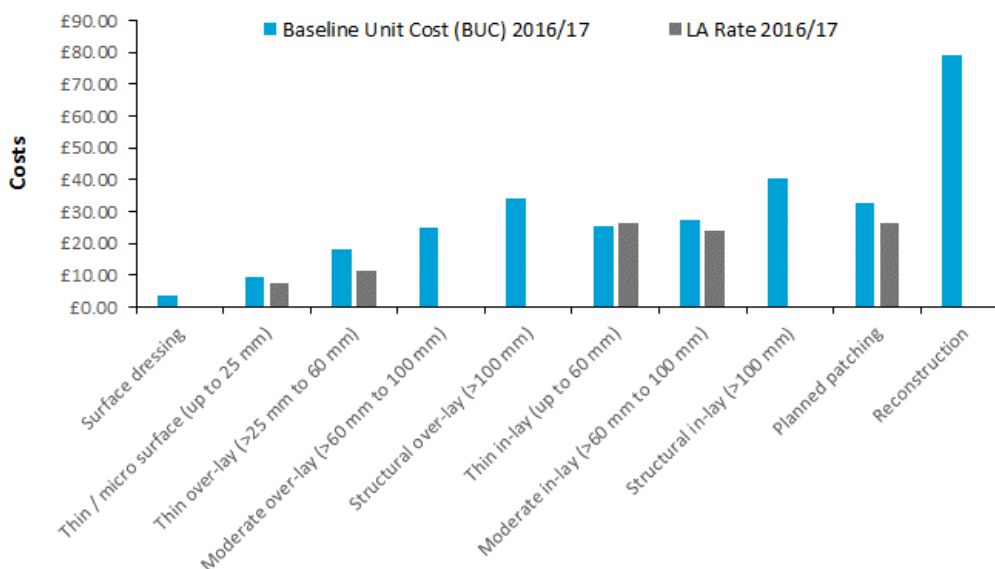
Family Group: City (2/4)

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| Local Authority PIN | 8159 |
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| Dundee City Council | Year | 2016/17 |
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| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | | N/A |
| Thin / micro surface (up to 25 mm) | £9.25 | £7.61 | -18% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £11.20 | -39% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £26.51 | 5% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £23.79 | -13% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £26.14 | -20% |
| Reconstruction | £78.91 | | N/A |

Dundee City Council



Carriageway Treatment type

Family group comparison

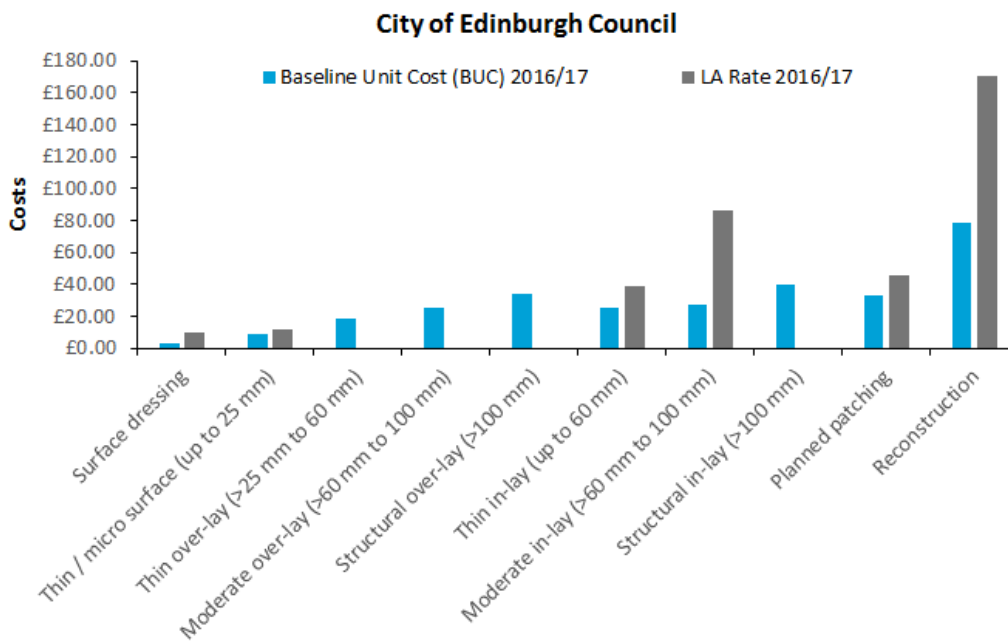
| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 2/3 |
| Surface dressing | 2 | N/A |
| Planned patching | 3 | 2/3 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 2/3 |
| Thin over-lay (>25 mm to 60 mm) | 3 | 3/3 |

Family Group: City (3/4)

| | |
|---------------------|------|
| Local Authority PIN | 8015 |
|---------------------|------|

| | | |
|---------------------------|------|---------|
| City of Edinburgh Council | Year | 2016/17 |
|---------------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £9.85 | 189% |
| Thin / micro surface (up to 25 mm) | £9.25 | £12.15 | 31% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | | N/A |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £38.98 | 54% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £86.18 | 216% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £45.40 | 40% |
| Reconstruction | £78.91 | £170.90 | 117% |



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 3/3 |
| Surface dressing | 2 | N/A |
| Planned patching | 3 | 3/3 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 3/3 |
| Thin over-lay (>25 mm to 60 mm) | 3 | N/A |

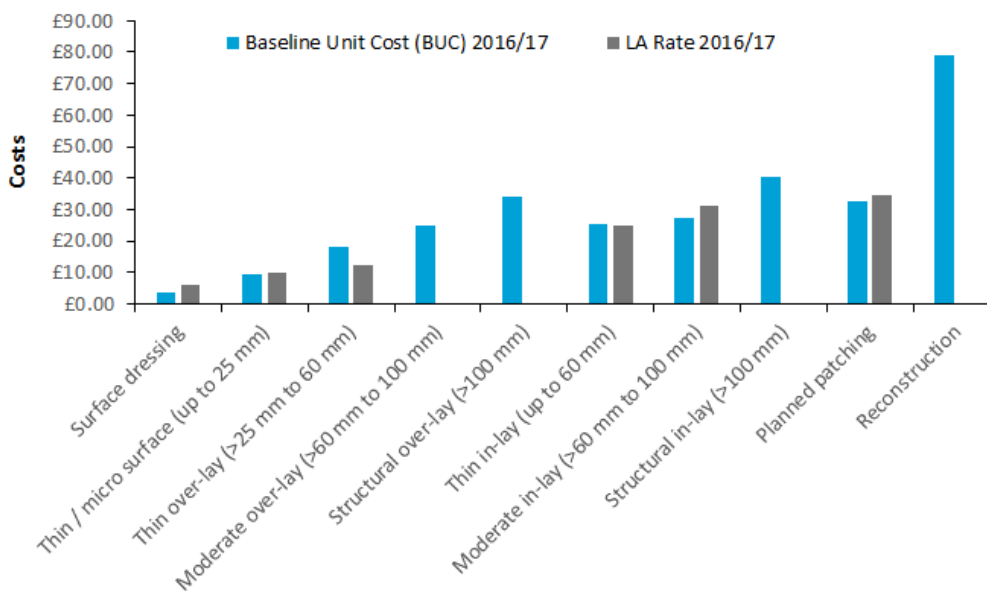
Family Group: City (4/4)

| | |
|---------------------|------|
| Local Authority PIN | 8016 |
|---------------------|------|

| | | |
|----------------------|------|---------|
| Glasgow City Council | Year | 2016/17 |
|----------------------|------|---------|

| Carriageway Treatment Types | Baseline Unit Cost (BUC) 2016/17 | LA Rate 2016/17 | % +/- of BUC |
|--------------------------------------|----------------------------------|-----------------|--------------|
| Surface dressing | £3.40 | £5.95 | 75% |
| Thin / micro surface (up to 25 mm) | £9.25 | £9.97 | 8% |
| Thin over-lay (>25 mm to 60 mm) | £18.28 | £12.53 | -31% |
| Moderate over-lay (>60 mm to 100 mm) | £24.86 | | N/A |
| Structural over-lay (>100 mm) | £34.08 | | N/A |
| Thin in-lay (up to 60 mm) | £25.30 | £24.84 | -2% |
| Moderate in-lay (>60 mm to 100 mm) | £27.30 | £31.08 | 14% |
| Structural in-lay (>100 mm) | £40.14 | | N/A |
| Planned patching | £32.51 | £34.66 | 7% |
| Reconstruction | £78.91 | | N/A |

Glasgow City Council



Carriageway Treatment type

Family group comparison

| Significant Treatment Types | No. of returns | Relative Placing (1= lowest rate within the group) |
|------------------------------------|----------------|--|
| Thin in-lay (up to 60 mm) | 3 | 1/3 |
| Surface dressing | 2 | N/A |
| Planned patching | 3 | 1/3 |
| Moderate in-lay (>60 mm to 100 mm) | 3 | 1/3 |
| Thin over-lay (>25 mm to 60 mm) | 3 | 1/3 |

Appendix B

Questionnaire Template

Appendix B: Questionnaire Template

Road Asset Management Data Template Guidance Tool - Survey & Questionnaire

As part of our research into cost benchmarking aimed at establishing baseline unit costs, we are reviewing the guidance provided with the Road Asset Management (RAM) data template. We would like to know your experience and perspectives when using the APSE RAM data Template tool.

Your input is valuable to us; please complete this short survey to help us improve the accuracy of our data analysis and reporting.

Use: to provide responses to the questions/ statements, as applicable.

1. I find the RAM guidance clear, concise, and relevant.

- Agree
- Tend to Agree
- Neither agree nor disagree
- Tend to disagree
- Disagree

Other comments:

2. I understand the SCOTS performance indicators, the priority flagging, supplementary information required and the relevant guidance notes provided.

- Agree
- Tend to Agree
- Neither agree nor disagree
- Tend to disagree
- Disagree

Other comments:

3. I find the hyperlinks useful and the information helpful.

- Agree
- Tend to Agree
- Neither agree nor disagree
- Tend to disagree
- Disagree

Other comments:

4. I am always notified when the RAM template is updated.

Agree

Tend to Agree

Neither agree nor disagree

Tend to disagree

Disagree

Other comments:

5. I find that my usage of the tool is improved with each update.

Agree

Tend to Agree

Neither agree nor disagree

Tend to disagree

Disagree

Other comments:

Carriageway Treatment types (Guidance Notes)

| Guidance Note | Treatment type | Question/ Statement | Response |
|---------------|-----------------------------------|---|---|
| 11.1 | Surface dressing | <ul style="list-style-type: none"> • Are you including base patching costs? • Are you including costs for lane closures on dual carriageways? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | <u>Other comments:</u> | |
| 11.2 | Thin/ micro surface (up to 25 mm) | <ul style="list-style-type: none"> • Are you including the area of heavy duty slurry seals? • Are you including costs for lane closures on dual carriageways? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | <u>Other comments:</u> | |

| Guidance Note | Treatment type | Question/ Statement | Response |
|---------------|---|---|---|
| 12.1 | Carriageway treatment (thin over-lay > 25 mmm to 60 mm) | <ul style="list-style-type: none"> • Are you entering the total length of overlay of existing surfacing course? • Are you including costs where only the channel is scarified? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |
| 12.2 | Carriageway treatment (moderate over-lay > 60 mm to 100 mm) | <ul style="list-style-type: none"> • Are you entering the total length where a new binder course and surface overlay course have been applied? • Are you including base patching costs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |

| Guidance Note | Treatment type | Question/ Statement | Response |
|---------------|---|---|---|
| 12.3 | Carriageway treatment (structural overlay > 100 mm) | <ul style="list-style-type: none"> • Are you including structural strength elements of the carriageway construction? • Are you including base patching costs? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |
| 13.1 | Carriageway treatment (thin in-lay up to 60 mm)* | <ul style="list-style-type: none"> • Are you including costs for any necessary minor reconstruction patching/ regulation? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |

| Guidance Note | Treatment type | Question/ Statement | Response |
|---------------|---|--|---|
| 13.2 | Carriageway treatment (moderate in-lay > 60 mm to 100 mm) | <ul style="list-style-type: none"> • Are you including replacement of binder course layer? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |
| 13.3 | Carriageway treatment (structural in-lay >100 mm) | <ul style="list-style-type: none"> • Are you including structural strength elements of the carriageway? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> • I think the treatment parameters are appropriate | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |

| Guidance Note | Treatment type | Question/ Statement | Response |
|---------------|---------------------------------|---|---|
| 58.1 | Planned patching (carriageways) | <ul style="list-style-type: none"> Are you including costs for reactive maintenance or work related to other schemes like reconstruction/ resurfacing? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> I think the treatment parameters are appropriate. | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |
| 14.1 | Reconstruction | <ul style="list-style-type: none"> Are you including areas of full depth in-situ recycling? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | <ul style="list-style-type: none"> I think the treatment parameters are appropriate. | <input type="checkbox"/> Agree <input type="checkbox"/> Tend to Agree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Tend to disagree <input type="checkbox"/> Disagree |
| | | Other comments: | |

Are you including the following costs in your unit costs?

- 1. Preliminary costs
- 2. Traffic Management
- 3. Contract/ direct costs

Comments:

Comments and suggestions for improvement.



Thank you.

Appendix C

Detailed Feedback from Questionnaire

Appendix C: Detailed Feedback from Questionnaire

Detailed feedback from the respondents on guidance notes is summarised in Appendix Table 1.

Appendix Table 1: Detailed comments from respondents based on questions asked in the questionnaire

| Respondent | General comments on RAMDT guidance notes and updates to template | Comments on Guidance notes for carriageway treatment types |
|---|---|--|
| <ul style="list-style-type: none"> • Stuart Young (Technical Officer) • Aberdeen City Council • Family Group 5 (City) | <ul style="list-style-type: none"> • Some of the newly added fields were not properly explained in the 2016/17 template (Street lighting LAMSPP-LPMSRO). • Most of the changes have been easy to understand. Improvements could also be attributed to my better understanding of the template with each submission. | <ul style="list-style-type: none"> • Don't tend to carry out thin over-lay treatments. • Don't carry out structural overlays • Don't carry out reconstruction work |
| <ul style="list-style-type: none"> • Bill Peterson (Roads QS) & Neil Hutcheson (Team leader Network) • Shetland Islands Council • Family Group 2 (Island) | | <ul style="list-style-type: none"> • Don't carry out surface dressing treatments • Don't carry out thin/ micro surface treatments • Don't carry out any reconstruction involving full depth insitu recycling. |
| <ul style="list-style-type: none"> • Bill Lennox (Roads Quality & Resources Manager) • Aberdeenshire Council • Family Group 1 (Rural) | <ul style="list-style-type: none"> • Could the guidance page be edited to run sequentially? | <ul style="list-style-type: none"> • Sometimes difficult to separate which patching is advance prep work for surface dressing as patched/ prepped sites could sit for more than one year before being dressed (as budgets/ competing sites change). • The definitions of planned, reactive and routine when relating to patching are confusing and a bit contradictory. Clearer definitions would help. • We do a lot of edge reconstruction and whether this is reconstruction or planned patching is unclear. I think there is a typo in the guidance note (planing not planning) |
| <ul style="list-style-type: none"> • Donald Scott (Roads& Bridges Asset Team leader) • Scottish Borders Council • Family Group 1 (Rural) | <ul style="list-style-type: none"> • Some of the guidance notes can be difficult to understand and lacking in clarity. It is only when we have our family group meetings when the group discussion can assist in providing greater clarity. | <ul style="list-style-type: none"> • We don't have any dual carriageways • We don't carry out micro surfacing works • We include for the scarifying of the end joints and any other localised areas requiring scarifying. (REF: Thin overlay) • I would include any Rhino Patching if we programmed this for the year. (REF: Planned patching unit costs) • We would include all contract associated costs except any staff costs associated with the procurement, design or supervision. |

| Respondent | General comments on RAMDT guidance notes and updates to template | Comments on Guidance notes for carriageway treatment types |
|--|---|---|
| <ul style="list-style-type: none"> • Elizabeth Maciver (Senior Engineer - Asset Management) • Highland Council • Family Group 1 (Rural) | <ul style="list-style-type: none"> • Some of the information asked for is useful but some of it is either unobtainable (and never will be) or does not appear to be useful as a performance measure. We cannot always compare Councils with each other as data is collected in different ways (or not at all). • I don't think all of the explanation notes are clear. It has helped to have the performance group meeting where queries can be raised. However, some feedback has not been actioned and some guidance notes on the APSE/ SCOTS spreadsheet have not been changed. • I look for updates on KHub but I don't think we are always notified if errors are found. • There is so much data required to complete this that each update takes the same amount of time. I also have to create my own additional spreadsheets as the SCOTS ones do not cover everything. Although I see there is now a new template for surfacing projects, etc. • I would prefer to go back to the simpler performance sheet we had under SCOTS as trying to get people to complete the current spreadsheet is challenging. It is set out in an unfriendly way and is too complicated. • It would also be beneficial to be able to put totals in where we have data, rather than trying to split it up into figures we will never have. • We also think it would be beneficial to record the tonnage of material used. | <ul style="list-style-type: none"> • Minor patching costs, not machine inlay, included in surface dressing costs. • Should include type of SD and whether or not ancillaries like lining are included. • Consideration should be given as to whether regulating course is included in thin overlay treatments. • I think we should also define the type of material used, e.g. between HRA and others. (REF: Moderate overlay) • It may be prudent to check if the same depth of material removed is put back.(REF: Moderate inlay treatment) • We have put our recycling figures in here as there is nowhere else to record them on the spreadsheet. We think they should be separated out. (REF: Reconstruction) |
| <ul style="list-style-type: none"> • Gregory Walker (Corporate Asset Management Officer) & Willie Mahoney (Senior Engineer) • Perth & Kinross Council • Family Group 1 (Rural) | | <ul style="list-style-type: none"> • Base Patching not included as work not always done in same year as dressing, and often patching work done as part of a bigger project. (REF: surface dressing) • This depth is seldom used except where reconstruction required. (REF: Structural overlay) • We would consider thin inlay from 25-40mm. • We would tend to suggest that a thin overlay would be 25-40 mm only. However, we do record 25-60 mm. • We would consider moderate inlay to be 40 to 80mm • We use some retread and other in depth recycling (75-150mm) processes in lieu of reconstruction. We asked for advice and have been told to record these processes as structural inlay. • Client costs not included in any of the rates. DLO costs are included as all work done on tendered rates which include DLO supervision/admin and overheads. |

| Respondent | General comments on RAMDT guidance notes and updates to template | Comments on Guidance notes for carriageway treatment types |
|---|--|---|
| <ul style="list-style-type: none"> • Neil Watson (Lead Professional - Road Asset Management) • Fife Council • Family Group 3 (Semi Urban) | <ul style="list-style-type: none"> • Why are overheads separated for some asset types such as carriageways and footways etc. but are not separated for Traffic Management Systems and Street Furniture? • The financial Summary tab pulls through data from both the Financial Input sheet and individual asset sheets – is this double entry which could be removed? • WE provide notes on assumptions or interpretation we have made when completing some items in the form. Are these reviewed along with comments from other authorities to find any improvements that can be made to the form? | <ul style="list-style-type: none"> • For surface dressing, we patch one year and surface dress the next year. |
| <ul style="list-style-type: none"> • Mark Rankine (Roads Operations & Asset Manager) • Midlothian Council • Family Group 3 (Semi Urban) | | <ul style="list-style-type: none"> • Why would you include base patching for an overlay item? Would this then make it an inlay (REF: moderate overlay) • Don't use thin/micro surface treatments • Patching should be recorded separately to allow comparison of treatment costs (REF: surface dressing) • |
| <ul style="list-style-type: none"> • Kenneth Brown (West Lothian Council) • West Lothian Council • Family Group 3 (Semi Urban) | <ul style="list-style-type: none"> • The only costs that we have readily available are the total costs for schemes. Our costing system does not allow individual schemes to be broken down. | <ul style="list-style-type: none"> • Don't carry out structural overlay treatments • Don't carry out any thin/ micro surface treatments |
| <ul style="list-style-type: none"> • Ewan Hogg (Asset Management Officer) • Falkirk council • Family Group 4 (Urban) | <ul style="list-style-type: none"> • Some of the guidance notes could be more concise. Some notes are lengthy and it would be easy to overlook key pieces of information. | |
| <ul style="list-style-type: none"> • Brenda McDonald (Supervisory Officer) • Inverclyde council • Family Group 4 (Urban) | <ul style="list-style-type: none"> • Some of the guidance could perhaps be clearer regarding what items are to be included in costs. Aware | <ul style="list-style-type: none"> • Works are carried out by contractor so all costs are included in the contract. Pre-patching and lining are also included although not in the contract (REF: Surface dressing & thin/ micro surface treatments) • Don't tend to carry out moderate and structural overlay treatments. • We do not tend to carry out insitu recycling on the small number of jobs we carry out. (REF: Reconstruction). • design and contract preparation costs are not included in the unit costs. |

| Respondent | General comments on RAMDT guidance notes and updates to template | Comments on Guidance notes for carriageway treatment types |
|---|---|--|
| <ul style="list-style-type: none"> • John Scougall (Senior Engineer) • North Lanarkshire Council • Family Group 4 (Urban) | <ul style="list-style-type: none"> • some references to Parish Council for example are not concise/ clear/ relevant • It is assumed we are notified through the Working Group about updates to the RAM tool | <ul style="list-style-type: none"> • Going forward it is proposed to include Preparatory Patching in surface dressing unit costs • Currently do not use Slurry Sealing. Tend to use Nimpactocote (REF: Thin micro surface) • Normally this would be a 50 mm Overlay therefore no Binder course and is reported per scheme (REF: Moderate overlay) • Generally maximum 110 mm 50/60 Therefore no Base (REF: structural overlay) • This would generally be a plane off 70mm , Regulate then 50mm surface course (REF: Moderate Inlay) • This would generally be a 110mm Inlay (REF: Structural inlay) • Currently do not utilise insitu recycling (REF: reconstruction) • All Routine works are carried out by Contracting Partner and include Preliminaries. Tendered works include Preliminaries within Rates • All Routine works are carried out by Contracting Partner and include Traffic Management. Tendered works include Traffic management • No DLO therefore all costs are Direct Costs |