REG Data Quality Project - ONRC RAMM SQL Scripts 2017/18

Introduction

This document contains scripts for each of the 31 data quality metrics that can be run on your network. It provides you with the ability to run the suite of data quality metrics on your RAMM database.

We recommend that the person running these scripts be familiar with SQL and the RAMM database tables and structure.

These scripts are for version 5.1 of the DQP ONRC Report.

Selecting the SQL to run in RAMM

There are separate queries for each of the eight sub-categories.

To run the queries simply copy and paste the scripts in each grey box into RAMM SQL. The easiest way to do this is to hover over the top left corner of the box and click on the , right click and select copy.

Metrics that are time bound (ie reporting against financial years)

A number of the metrics interrogate the data for a specified time period. The desired financial year to be reported can be selected by changing the date specified at the top of the SQL script. This should be set to the end of the financial year. For example, results for the 2017/18 financial year would have a date of ‘2018-06-30‘.

All dates that require updating are highlighted yellow.

Specific Note on Metric Cr1

Metric Cr1 provides the age of the latest crash record at the time the data was imported into the ONRC Performance Measure Reporting Tool. It is not possible to replicate this querying the RAMM data alone. As a proxy the SQL provided in this document will return the age (in months) of the latest crash record compared to the date the script is run.

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| **Carriageway** |

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| --------------------------------------------------------------------------------  --Rural number of lanes matches width:  --Percentage of Rural sealed network length with alignment between carriageway  --width and no. of lanes (No. lanes=1 & width<6m, No. lanes=2 & width>4m or <17m  --No lanes>2 & width>9m)  --Ref - Ca1a  --------------------------------------------------------------------------------  {No. lanes = 1 & width <6m}  select sum(carrway\_end\_m - carrway\_start\_m) lane1  into #temp\_lane1\_r  from carr\_way c  where cway\_width < 6  and lanes = 1  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {No. lanes = 2 & width >4m or <17m}  select sum(carrway\_end\_m - carrway\_start\_m) lane2  into #temp\_lane2\_r  from carr\_way c  where (cway\_width > 4 and cway\_width < 17)  and lanes = 2  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {No lanes >2 & width > 9m}  select sum(carrway\_end\_m - carrway\_start\_m) lanegr2  into #temp\_lanegr2\_r  from carr\_way c  where cway\_width > 9  and lanes > 2  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  update #temp\_lane1\_r  set lane1 = 0  where lane1 is null;  update #temp\_lane2\_r  set lane2 = 0  where lane2 is null;  update #temp\_lanegr2\_r  set lanegr2 = 0  where lanegr2 is null;  {Select total rural carriageway length}  select sum(carrway\_end\_m - carrway\_start\_m) as tot\_rural\_lgth  into #temp\_tot\_rural\_lgth  from carr\_way c  where c.pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % sealed network length with alignment between carriageway width and no. of lanes}  select (cast(lane1 + lane2 + lanegr2 as decimal))/(cast(tot\_rural\_lgth as decimal)) \*100 as Ca1a\_rural\_align  into #temp\_carrway\_1  from #temp\_lane1\_r, #temp\_lane2\_r, #temp\_lanegr2\_r, #temp\_tot\_rural\_lgth;  drop table #temp\_lane1\_r, #temp\_lane2\_r, #temp\_lanegr2\_r, #temp\_tot\_rural\_lgth;  --------------------------------------------------------------------------------  --Urban number of lanes matches width:  --Percentage of Urban sealed network length with alignment between carriageway  --width and no. of lanes (No. lanes=1 & width<6m, No. lanes=2 & width>4m or <17m,  --No lanes>2 & width>9m)  --Ref - Ca1b  --------------------------------------------------------------------------------  {No. lanes = 1 & width <6m}  select sum(carrway\_end\_m - carrway\_start\_m) lane1  into #temp\_lane1\_u  from carr\_way c  where cway\_width < 6  and lanes = 1  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {No. lanes = 2 & width >4m or <17m}  select sum(carrway\_end\_m - carrway\_start\_m) lane2  into #temp\_lane2\_u  from carr\_way c  where (cway\_width > 4 and cway\_width < 17)  and lanes = 2  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {No lanes >2 & width < 9m}  select sum(carrway\_end\_m - carrway\_start\_m) lanegr2  into #temp\_lanegr2\_u  from carr\_way c  where cway\_width > 9  and lanes > 2  and owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  update #temp\_lane1\_u  set lane1 = 0  where lane1 is null;  update #temp\_lane2\_u  set lane2 = 0  where lane2 is null;  update #temp\_lanegr2\_u  set lanegr2 = 0  where lanegr2 is null;  {Select total urban carriageway length}  select sum(carrway\_end\_m - carrway\_start\_m) as tot\_urban\_lgth  into #temp\_tot\_urban\_lgth  from carr\_way c  where c.pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % sealed network length with alignment between carriageway width and no. of lanes}  select (cast(lane1 + lane2 + lanegr2 as decimal))/(cast(tot\_urban\_lgth as decimal)) \*100 as Ca1b\_urban\_align  into #temp\_carrway\_2  from #temp\_lane1\_u, #temp\_lane2\_u, #temp\_lanegr2\_u, #temp\_tot\_urban\_lgth;  drop table #temp\_lane1\_u, #temp\_lane2\_u, #temp\_lanegr2\_u, #temp\_tot\_urban\_lgth;  --------------------------------------------------------------------------------  --ONRC categories are assigned:  --Proportion of carriageway section records with an assigned ONRC category  --(where road type = "L" and owner type "L")  --Ref - Ca2  --------------------------------------------------------------------------------  {Select total sealed carriageway sections}  select count(\*) as cway\_count  into #temp\_carway\_no  from carr\_way c  where pavement\_type in ('T', 'S', 'C')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select carriageway sections with ONRC}  select count(\*) as onrc\_count  into #temp\_onrc\_no  from carr\_way c  left join onrc\_cway\_view o  on c.carr\_way\_no = o.carr\_way\_no  where pavement\_type in ('T', 'S', 'C')  and o.category\_id is not null  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % with ONRC}  select (cast(onrc\_count as decimal))/(cast(cway\_count as decimal)) \*100 as Ca2\_onrc  into #temp\_carrway\_3  from #temp\_carway\_no, #temp\_onrc\_no;  drop table #temp\_carway\_no, #temp\_onrc\_no;  --------------------------------------------------------------------------------  --Rural carriageways are generally not short:  --Proportion of Rural sealed carriageway records greater than 50m in length  --(ie. not short)  --Ref - Ca3a  --------------------------------------------------------------------------------  {Select total sealed rural carriageway sections}  select count(\*) as cway\_rur\_count  into #temp\_carway\_no\_rur  from carr\_way c  where pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select rural carriageway sections with length >= 50m}  select count(\*) rural\_50  into #temp\_rural\_50  from carr\_way c  where owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'R'  and (carrway\_end\_m - carrway\_start\_m) >= 50  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % rural sealed network length with length >= 50m}  select (cast(rural\_50 as decimal))/(cast(cway\_rur\_count as decimal)) \*100 as Ca3a\_rural\_50  into #temp\_carrway\_4  from #temp\_carway\_no\_rur, #temp\_rural\_50;  drop table #temp\_carway\_no\_rur, #temp\_rural\_50;  --------------------------------------------------------------------------------  --Urban carriageways are generally not short:  --Proportion of Urban sealed carriageway records greater than 20m in length  --(ie not short)  --Ref - Ca3b  --------------------------------------------------------------------------------  {Select total sealed urban carriageway sections}  select count(\*) as cway\_urb\_count  into #temp\_carway\_no\_urb  from carr\_way c  where pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select urban carriageway sections with length >= 20}  select count(\*) urban\_20  into #temp\_urban\_20  from carr\_way c  where owner\_type = 'L'  and pavement\_type in ('T', 'S', 'C')  and urban\_rural = 'U'  and (carrway\_end\_m - carrway\_start\_m) >= 20  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % urban sealed network length with length >= 20m}  select (cast(urban\_20 as decimal))/(cast(cway\_urb\_count as decimal)) \*100 as Ca3b\_urban\_20  into #temp\_carrway\_5  from #temp\_carway\_no\_urb, #temp\_urban\_20;  drop table #temp\_carway\_no\_urb, #temp\_urban\_20;  --------------------------------------------------------------------------------  --Sealed/unsealed network correctly defined:  --Percentage of sealed network length with a surface record, or unsealed network  --with no surface record. Excludes pavement type of bridge.  --Ref - Ca4  --------------------------------------------------------------------------------  {Select total carriageway length}  select sum(carrway\_end\_m - carrway\_start\_m) as cway\_total  into #temp\_cway\_total  from carr\_way c  where c.pavement\_type not in ('B')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select sealed length with surface record}  select sum(carr\_way.carrway\_end\_m - carr\_way.carrway\_start\_m) as surf\_sealed  into #temp\_surf\_sealed  from carr\_way  where carr\_way\_no in (select distinct carr\_way\_no  from surface\_structure  join carr\_way  on (carr\_way.road\_id = surface\_structure.road\_id)  left join surf\_material  on surface\_structure.surf\_material = surf\_material.surf\_material  where surf\_sectioning = 'C'  and surf\_structure\_set = 'T'  and major\_surface = 'Y'  and surf\_width > 3  and (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and surf\_material.surf\_category <> 'METAL');  {Select unsealed length with no surface record}  select sum(carr\_way.carrway\_end\_m - carr\_way.carrway\_start\_m) as no\_surf\_unsealed  into #temp\_no\_surf\_unsealed  from carr\_way  where carr\_way\_no in (select distinct carr\_way\_no  from carr\_way  left join surface\_structure on (carr\_way.road\_id = surface\_structure.road\_id  and surf\_sectioning = 'C'  and surf\_structure\_set = 'T'  and major\_surface = 'Y'  and surf\_width > 3  and (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m))  left join surf\_material  on surface\_structure.surf\_material = surf\_material.surf\_material  where carr\_way.pavement\_type in ('U')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and (surf\_structure\_id is null or surf\_material.surf\_category = 'METAL'));  update #temp\_no\_surf\_unsealed  set no\_surf\_unsealed = 0  where no\_surf\_unsealed is null;  {Express as % alignment between total carriageway and surface length}  select ((cast(surf\_sealed + no\_surf\_unsealed as decimal))/(cast(cway\_total as decimal))) \* 100 as Ca4\_correctly\_defined  into #temp\_carrway\_6  from #temp\_surf\_sealed, #temp\_no\_surf\_unsealed , #temp\_cway\_total;  drop table #temp\_surf\_sealed, #temp\_no\_surf\_unsealed, #temp\_cway\_total;  --==============================================================================  {Display carriageway results}  select \* from #temp\_carrway\_1, #temp\_carrway\_2, #temp\_carrway\_3, #temp\_carrway\_4, #temp\_carrway\_5, #temp\_carrway\_6;  drop table #temp\_carrway\_1, #temp\_carrway\_2, #temp\_carrway\_3, #temp\_carrway\_4, #temp\_carrway\_5, #temp\_carrway\_6; |

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| **Treatment Length** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Treatment Lengths are generally not short:  --Proportion of sealed Treatment Length records (excludes disabled TLs) that  --are not very short (<20m Urban and 100m Rural)  --Ref - TL1a  --------------------------------------------------------------------------------  {Select count of total treatment length sections}  select count(\*) as tot\_tls  into #temp\_tot\_tls  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';    {Select count of treatment length sections that are not short}  select count(\*) as not\_short\_tls  into #temp\_short\_tls  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and ((treatment\_length.urban\_rural = 'R'  and tl\_length\_m >= 100) or (treatment\_length.urban\_rural = 'U'  and tl\_length\_m >= 20));    {Total Proportion that are not short or very long TL}    update #temp\_short\_tls  set not\_short\_tls = 0  where not\_short\_tls is null;  select (cast(not\_short\_tls as decimal)) / (cast(tot\_tls as decimal)) \*100 as TL1a\_not\_short  into #temp\_tlength\_1  from #temp\_short\_tls, #temp\_tot\_tls;  drop table #temp\_short\_tls;  --------------------------------------------------------------------------------  --Treatment Lengths are not too long:  --Proportion of sealed Treatment Length records (excludes disabled TLs) that  --are not exceptionally long (>500m Urban and 1km Rural)  --Ref - TL1b  --------------------------------------------------------------------------------    {Select count of treatment length sections that are not very long}  select count(\*) as not\_long\_tls  into #temp\_not\_long\_tls  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and ((treatment\_length.urban\_rural = 'R'  and tl\_length\_m <= 1000) or (treatment\_length.urban\_rural = 'U'  and tl\_length\_m <= 500));    {Total Proportion that are not short or very long TL}    update #temp\_not\_long\_tls  set not\_long\_tls = 0  where not\_long\_tls is null;  select (cast(not\_long\_tls as decimal)) / (cast(tot\_tls as decimal)) \*100 as TL1b\_not\_long  into #temp\_tlength\_2  from #temp\_not\_long\_tls, #temp\_tot\_tls;  drop table #temp\_not\_long\_tls;    --------------------------------------------------------------------------------  --Treatment Lengths match major surfaces:  --Proportion of Treatment Length records with >= 80% coverage of the major  --surfacing (excludes disabled TLs)  --Ref - TL2  --------------------------------------------------------------------------------  {Select total count of treatment lengths}  select count(\*) as tot\_sealed\_tls  into #temp\_tot\_sealed\_tls  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select count of treatment lengths with >=80% coverage of major surfacing}  select count(\*) as PC\_count  into #temp\_PCless80  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and surface\_covered >= 0.8  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';    {Express as % treament length with >=80% coverage}  select (cast(PC\_count as decimal)) / (cast(tot\_sealed\_tls as decimal)) \*100 as TL2\_coverage  into #temp\_tlength\_3  from #temp\_PCless80, #temp\_tot\_sealed\_tls;  drop table #temp\_PCless80, #temp\_tot\_sealed\_tls;  --------------------------------------------------------------------------------  --Network with STE reading:  --Proportion of sealed Treatment Length records with a  --Smooth Travel Exposure (STE) value (excludes disabled TLs)"  --Ref - TL4  --------------------------------------------------------------------------------  {Select treatment length sections with STE value}  select count(\*) as tl\_ste  into #temp\_tl\_ste  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and treatment\_length.tl\_disabled = 'N'  and ste\_length is not null;  update #temp\_tl\_ste  set tl\_ste = 0  where tl\_ste is null;  {Express as % treament lengths with STE record}  select (cast(tl\_ste as decimal)) / (cast(tot\_tls as decimal)) \* 100 TL4\_ste  into #temp\_tlength\_4  from #temp\_tl\_ste, #temp\_tot\_tls;  drop table #temp\_tl\_ste, #temp\_tot\_tls;  --------------------------------------------------------------------------------  --Treatment Lengths match renewals:  --Proportion of Treatment Length records with >= 80% coverage of the major  --surfacing with a surface date in the reported financial year  --(excludes disabled TLs)  --Ref - TL5.1  --------------------------------------------------------------------------------  {Select total count of treatment lengths in financial year}  select count(\*) as recent\_sealed\_tl  into #temp\_recent\_sealed\_tl  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and surface\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Select count of treatment lengths with >=80% coverage of major surfacing in financial year}  select count(\*) as tl\_coverage  into #temp\_tl\_coverage  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where(tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.tl\_disabled = 'N'  and surface\_covered >= 0.8  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and surface\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Express as % treament length with >=80% coverage}  select (cast(tl\_coverage as decimal)) / (cast(recent\_sealed\_tl as decimal)) \*100 as 'TL5.1\_renewals'  into #temp\_tlength\_5  from #temp\_tl\_coverage, #temp\_recent\_sealed\_tl;  drop table #temp\_tl\_coverage, #temp\_recent\_sealed\_tl;  --==============================================================================  {Display treatment length results}  select \* from #temp\_tlength\_1, #temp\_tlength\_2, #temp\_tlength\_3, #temp\_tlength\_4,  #temp\_tlength\_5;  drop table #temp\_tlength\_1, #temp\_tlength\_2, #temp\_tlength\_3, #temp\_tlength\_4,  #temp\_tlength\_5;  drop table #tempDate; |

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| **Surfacing** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Surface records correctly located:  --Proportion of surface records loaded in reported financial year that are  --within the limits of the road and have a width no more than 2m wider than  --the carriageway width  --Ref - Su2  --------------------------------------------------------------------------------  {Find the minimum start and maximum end for each road in carr\_way}  select road\_id, min(carrway\_start\_m) min\_start, max(carrway\_end\_m) max\_end  into #tmp\_min\_max  from carr\_way  where carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and carr\_way.owner\_type = 'L'  group by carr\_way.road\_id;  {Find surfaces with widths <= carriageway widths plus 2m and within road limits}  select count(\*) as within\_road  into #temp\_within\_road  from c\_surface c  join carr\_way cw on (c.road\_id = cw.road\_id)  join #tmp\_min\_max m on (c.road\_id = m.road\_id and (c.start\_m >= min\_start  and c.end\_m <= max\_end))  where (c.start\_m >= cw.carrway\_start\_m  and c.start\_m < cw.carrway\_end\_m)  and cw.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and cw.owner\_type = 'L'  and surface\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate)  and (surf\_width <= (cway\_width + 2) or surf\_width is null);    {Count all surface records}  select count(\*) as surf\_count  into #temp\_surf\_count  from c\_surface c  join roadnames r on r.road\_id = c.road\_id  where road\_type = 'L'  and surface\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);    {Express as % surfaces within limits of road and not more than 2m wider than carr\_way width}  select (cast(within\_road as decimal)) / (cast(surf\_count as decimal)) \*100 as Su2\_location  into #temp\_surf\_2  from #temp\_surf\_count, #temp\_within\_road;  drop table #tmp\_min\_max, #temp\_surf\_count, #temp\_within\_road;  --------------------------------------------------------------------------------  --Surface records with original cost:  --Proportion of surface records with a surface date greater than  --30 June 2016 with a cost recorded  --Ref - Su3  --------------------------------------------------------------------------------  {Count total surfaces with work category (212, 214) since 30 June 2016}  select count(\*) surf\_since\_june  into #temp\_surf\_june16  from c\_surface s  join carr\_way on (carr\_way.road\_id = s.road\_id)  and (s.start\_m >= carr\_way.carrway\_start\_m  and s.start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and surface\_date > '2016-06-30'  join fund\_work\_origin fw  on s.work\_origin\_id = fw.id  join fund\_work\_category fc  on fw.work\_category\_id = fc.id  where fc.work\_category\_code in ('212', '214');  {Count surfaces with cost recorded}  select count(\*) as surf\_cost\_recorded  into #temp\_surf\_cost  from c\_surface s  join carr\_way c  on (c.road\_id = s.road\_id)  and (s.start\_m >= c.carrway\_start\_m  and s.start\_m < c.carrway\_end\_m)  and c.pavement\_type in ('T', 'S', 'C')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and original\_cost > 0  and surface\_date > '2016-06-30'  join fund\_work\_origin fw  on s.work\_origin\_id = fw.id  join fund\_work\_category fc  on fw.work\_category\_id = fc.id  where fc.work\_category\_code in ('212', '214');  update #temp\_surf\_cost  set surf\_cost\_recorded = 0  where surf\_cost\_recorded is null;  {Express as % surfaces with cost recorded}  select (cast(surf\_cost\_recorded as decimal)) / (cast(surf\_since\_june as decimal)) \*100 as Su3\_cost\_recorded  into #temp\_surf\_3  from #temp\_surf\_june16, #temp\_surf\_cost;  drop table #temp\_surf\_june16, #temp\_surf\_cost;  --------------------------------------------------------------------------------  --Surface records with works origin:  --Proportion of surface records with a surface date greater than  --30 June 2016 with a works origin/category recorded  --Ref - Su4  --------------------------------------------------------------------------------  {Select current top surfaces with works origin/category}  select count(\*) as all\_surf\_since\_june  into #temp\_all\_surf\_june16  from c\_surface s  join carr\_way on (carr\_way.road\_id = s.road\_id)  and (s.start\_m >= carr\_way.carrway\_start\_m  and s.start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and surface\_date > '2016-06-30';  {Select current top surfaces with works origin/category}  select count(\*) as works\_origin\_recorded  into #temp\_works\_origin  from c\_surface s  join carr\_way on (carr\_way.road\_id = s.road\_id)  and (s.start\_m >= carr\_way.carrway\_start\_m  and s.start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and work\_origin\_id is not null  and surface\_date > '2016-06-30';  update #temp\_works\_origin  set works\_origin\_recorded = 0  where works\_origin\_recorded is null;  {Express as % surfaces with works origin/category}  select (cast(works\_origin\_recorded as decimal)) / (cast(all\_surf\_since\_june as decimal)) \*100 as Su4\_works\_origin  into #temp\_surf\_4  from #temp\_all\_surf\_june16, #temp\_works\_origin;  drop table #temp\_all\_surf\_june16, #temp\_works\_origin;  --------------------------------------------------------------------------------  --Surface records newer than pavement:  --Percentage of top surface records newer than underlying pavement layers  --in the last 3.5 years  --Ref - Su5  --------------------------------------------------------------------------------  {Count surface records in the last 3.5 years}  select count(\*) no\_layer  into #temp\_no\_layer  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where (tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.pavement\_type in ('T', 'S', 'C')  and treatment\_length.tl\_disabled = 'N'  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and layer\_date between ((select targetDate from #tempDate) - 1277) and (select targetDate from #tempDate);    {Count top surface records newer than underlying pavement layers in last 3.5 years}  select count(\*) no\_1stcoat  into #temp\_first\_coat  from treatment\_length  join carr\_way on (carr\_way.road\_id = treatment\_length.road\_id)  where (tl\_start\_m >= carr\_way.carrway\_start\_m  and tl\_start\_m < carr\_way.carrway\_end\_m)  and treatment\_length.pavement\_type in ('T', 'S', 'C')  and treatment\_length.tl\_disabled = 'N'  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and carr\_way.owner\_type = 'L'  and surface\_date >= layer\_date  and layer\_date between ((select targetDate from #tempDate) - 1277) and (select targetDate from #tempDate);  update #temp\_first\_coat  set no\_1stcoat = 0  where no\_1stcoat is null;  {Express as % top surface newer than underlying pavement layers in last 3.5 years}  select  (cast(no\_1stcoat as decimal)) / (cast(no\_layer as decimal)) \*100 Su5\_new\_surf  into #temp\_surf\_5  from #temp\_first\_coat, #temp\_no\_layer;  drop table #temp\_first\_coat, #temp\_no\_layer;  --==============================================================================  {Display surfacing results}  select \* from #temp\_surf\_2, #temp\_surf\_3, #temp\_surf\_4, #temp\_surf\_5;  drop table #temp\_surf\_2, #temp\_surf\_3, #temp\_surf\_4, #temp\_surf\_5;  drop table #tempDate; |
| **Maintenance Activity** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Complete maintenance activity:  --Number months with at least one pavement (PA) or surfacing (SU) cost group  --record on sealed network in reported financial year  --Ref - MA1  --------------------------------------------------------------------------------  {Count number of months with at least one PU or SU cost group record}  select count(distinct datepart(month,transaction\_date)) as MA1\_month\_count  into #temp\_mc\_1  from mc\_cost  join carr\_way on (carr\_way.road\_id = mc\_cost.road\_id)  where (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and cost\_group in ('SU', 'PA')  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  --------------------------------------------------------------------------------  --Correctly located maintenance activity:  --Proportion of pavement (PA) and surfacing (SU) cost group records  --recorded at appropriate location on sealed network  --(Proportion of records not at the start of the road)  --Ref - MA2  --------------------------------------------------------------------------------  {Select all records}  select count(\*) as total\_records  into #temp\_total\_records  from carr\_way  join mc\_cost on (carr\_way.road\_id = mc\_cost.road\_id)  where (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and cost\_group in ('SU', 'PA')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Select records at not at road start}  select count(\*) as records\_not\_start  into #temp\_records\_not\_start  from carr\_way  join mc\_cost on (carr\_way.road\_id = mc\_cost.road\_id)  where (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and cost\_group in ('SU', 'PA')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and start\_m > (select min(carrway\_start\_m) from carr\_way where carr\_way.road\_id = mc\_cost.road\_id)  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Express as % of records not at road start}  select (cast(records\_not\_start as decimal))/(cast(total\_records as decimal)) \*100 as MA2\_location  into #temp\_mc\_2  from #temp\_records\_not\_start, #temp\_total\_records;  drop table #temp\_records\_not\_start, #temp\_total\_records;  --------------------------------------------------------------------------------  --Maintenance effort recorded:  --Proportion of pavement (PA) and surfacing (SU) cost group records on  --sealed network with a cost recorded for the reported financial year  --(ie not $0.00 or null)  --Ref - MA3  --------------------------------------------------------------------------------  {Select all records with pavement (PA) and surfacing (SU) cost group }  select count(\*) as total\_pa\_su  into #temp\_total\_pa\_su  from carr\_way  join mc\_cost on (carr\_way.road\_id = mc\_cost.road\_id)  where (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and cost\_group in ('SU', 'PA')  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Select all PU and SU records with a cost recorded}  select count(\*) as nonzero\_cost  into #temp\_nonzero\_cost  from mc\_cost  join carr\_way on (carr\_way.road\_id = mc\_cost.road\_id)  where (start\_m >= carr\_way.carrway\_start\_m  and start\_m < carr\_way.carrway\_end\_m)  and cost\_group in ('SU', 'PA')  and cost\_amount > 0  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate)  and carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Express as % of PU or SU records that have a cost recorded}  select (cast(nonzero\_cost as decimal))/(cast(total\_pa\_su as decimal)) \*100 as MA3\_cost\_recorded  into #temp\_mc\_3  from #temp\_nonzero\_cost, #temp\_total\_pa\_su;  drop table #temp\_nonzero\_cost, #temp\_total\_pa\_su;  --------------------------------------------------------------------------------  --Maintenance activity has a valid location:  --Proportion of pavement (PA) and surfacing (SU) cost group records on  --sealed network for the reported financial year located within the  --extents of the road as defined in the carriageway table  --Ref - MA4  --------------------------------------------------------------------------------  {Find the minimum start and maximum end for each road in carr\_way}  select road\_id, min(carrway\_start\_m) min\_start, max(carrway\_end\_m) max\_end  into #tmp\_min\_max  from carr\_way  where carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and carr\_way.owner\_type = 'L'  group by carr\_way.road\_id;      {Find all mc inside of road limits (i.e. within gap or outside min\_start or max\_end)}  select count(\*) as mc\_within\_road  into #temp\_mc\_within\_road  from mc\_cost mc  join #tmp\_min\_max tm on (mc.road\_id = tm.road\_id and (mc.start\_m >= tm.min\_start  and mc.end\_m <= tm.max\_end))  and cost\_group in ('SU', 'PA')  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Total mc records with road\_type = 'L'}  select count(\*) as tot\_mc  into #temp\_tot\_mc  from mc\_cost mc  join roadnames r  on mc.road\_id = r.road\_id  where road\_type = 'L'  and cost\_group in ('SU', 'PA')  and transaction\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  select (cast(mc\_within\_road as decimal))/(cast(tot\_mc as decimal)) \*100 as MA4\_valid  into #temp\_mc\_4  from #temp\_mc\_within\_road, #temp\_tot\_mc;  drop table #tmp\_min\_max, #temp\_mc\_within\_road, #temp\_tot\_mc;  --==============================================================================  {Display maintenance results}  select \* from #temp\_mc\_1, #temp\_mc\_2, #temp\_mc\_3, #temp\_mc\_4;  drop table #temp\_mc\_1, #temp\_mc\_2, #temp\_mc\_3, #temp\_mc\_4;  drop table #tempDate; |
| **Roughness** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Roughness survey within 2.5 years:  --Percentage of sealed network length with a latest roughness reading  --less than 2.5 years old (from 30 June of reported financial year)  --Ref - Ro1  --------------------------------------------------------------------------------  {Select total network length}  select sum(carrway\_end\_m - carrway\_start\_m) as total\_lgth  into #temp\_total\_lgth  from carr\_way c  where c.pavement\_type in ('T', 'S', 'C')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';    {Select network length with roughness reading less than 2.5 years old}  select sum(carrway\_end\_m - carrway\_start\_m) as m\_rough  into #temp\_m\_temp\_rough  from carr\_way  where carr\_way.pavement\_type in ('T', 'S', 'C')  and carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and carr\_way.road\_id in (select rough.road\_id from rough  where carr\_way.road\_id = rough.road\_id  and (carrway\_start\_m >= rough.start\_m  and carrway\_start\_m < rough.end\_m)  and reading\_date between ((select targetDate from #tempDate) - 912) and (select targetDate from #tempDate)  and latest = 'L');  update #temp\_m\_temp\_rough  set m\_rough = 0  where m\_rough is null;  {Express as % network length with recent(2.5 years) roughness reading}  select (cast(m\_rough as decimal)) / (cast(total\_lgth as decimal)) \* 100 as Ro1\_recent\_rough  into #temp\_rough\_1  from #temp\_m\_temp\_rough, #temp\_total\_lgth;  drop table #temp\_m\_temp\_rough;  --------------------------------------------------------------------------------  --Roughness data has valid location:  --All latest roughness readings located within the extents of the road  --as defined in the carriageway table  --Ref - Ro3  --------------------------------------------------------------------------------  {Find the minimum start and maximum end for each road in carr\_way}  select road\_id, min(carrway\_start\_m) min\_start, max(carrway\_end\_m) max\_end  into #tmp\_min\_max  from carr\_way c  where pavement\_type in ('T', 'S', 'C', 'B')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and c.owner\_type = 'L'  group by c.road\_id;  {Find all roughness readings inside road limits (i.e. within gap or outside min\_start or max\_end)}  select count(\*) as rough\_within\_road  into #temp\_rough\_within\_road  from rough r  join #tmp\_min\_max tm on (r.road\_id = tm.road\_id)  join carr\_way c on (c.road\_id = r.road\_id and (r.start\_m >= c.carrway\_start\_m  and r.start\_m < c.carrway\_end\_m))  where (r.start\_m >= tm.min\_start  and r.end\_m <= tm.max\_end)  and c.pavement\_type in ('T', 'S', 'C', 'B')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and c.owner\_type = 'L'  and r.latest = 'L';  {Count total roughness records on sealed network}  select count(\*) as tot\_rough  into #temp\_tot\_rough  from rough r  join carr\_way c on (c.road\_id = r.road\_id and (r.start\_m >= c.carrway\_start\_m  and r.start\_m < c.carrway\_end\_m))  where c.pavement\_type in ('T', 'S', 'C', 'B')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and c.owner\_type = 'L'  and r.latest = 'L';  select (cast(rough\_within\_road as decimal)) / (cast(tot\_rough as decimal)) \* 100 as Ro3\_valid\_location  into #temp\_rough\_3  from #temp\_rough\_within\_road, #temp\_tot\_rough;  drop table #tmp\_min\_max, #temp\_rough\_within\_road, #temp\_tot\_rough;  --==============================================================================  {Display roughness results}  select \* from #temp\_rough\_1, #temp\_rough\_3;  drop table #temp\_rough\_1, #temp\_rough\_3;  drop table #tempDate; |

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| **Traffic Count** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Well targeted traffic count programme:  --Proportion of network VKT with latest traffic count less  --than 5 years old (from 30 June of reported financial year)  --Ref - TC1  --------------------------------------------------------------------------------  {Select total network vkt}  select sum(length\_m \* traffic\_adt\_est \* 365) as total\_network\_vkt  into #temp\_total\_network\_vkt  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  {Select network vkt with traffic count less than 5 years}  select sum(length\_m \* traffic\_adt\_est \* 365) as vkt\_count\_ls5yr  into #temp\_vkt\_count\_ls5yr  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and traffic\_adt\_count is not null  and count\_date between ((select targetDate from #tempDate) - 1824) and (select targetDate from #tempDate)  {Express as % vkt with traffic count older than 5 years}  select cast(vkt\_count\_ls5yr as decimal) / cast(total\_network\_vkt as decimal) \* 100 TC1\_vkt\_ls5yr  into #temp\_tcount\_1  from #temp\_vkt\_count\_ls5yr, #temp\_total\_network\_vkt;  drop table #temp\_vkt\_count\_ls5yr;  --------------------------------------------------------------------------------  --Traffic count programme activity:  --Proportion of sealed network VKT with traffic count record  --with a count date in reported financial year  --Ref - TC3  --------------------------------------------------------------------------------  {Select network vkt with count date in last financial year}  select sum(length\_m \* traffic\_adt\_est \* 365) as vkt\_sum  into #temp\_vkt\_sum  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and traffic\_adt\_count is not null  and count\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);    select cast(vkt\_sum as decimal) / cast(total\_network\_vkt as decimal) \* 100 TC3\_vkt\_activity  into #temp\_tcount\_3  from #temp\_total\_network\_vkt, #temp\_vkt\_sum;  drop table #temp\_vkt\_sum;  --------------------------------------------------------------------------------  --Traffic loading understood:  --Proportion of network VKT with classified traffic count records less than  --5 years old (from June 30 of reported financial year)  --Ref - TC4  --------------------------------------------------------------------------------  {Select vkt with classified traffic count in last 5 years}  select sum(vkt) as recent\_loading  into #temp\_recent\_loading  from  (select distinct carr\_way\_no, (length\_m \* traffic\_adt\_est \* 365) as vkt  from carr\_way\_view c  left join traffic\_loading t  on t.road\_id = c.road\_id  left join traffic\_loading\_dtl d  on tload\_asset\_id = traffic\_loading\_id  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and t.carrway\_start\_m = c.carrway\_start\_m  and tload\_asset\_type = 'TLOAD'  and t.latest = 'L'  and t.count\_status = 'C'  and traffic\_adt\_count is not null  and pccar is not null  and default\_category is null  and d.count\_date between ((select targetDate from #tempDate) - 1824) and (select targetDate from #tempDate)) as temp\_rload;  select cast(recent\_loading as decimal) / cast(total\_network\_vkt as decimal) \* 100 TC4\_recent\_loading  into #temp\_tcount\_4  from #temp\_recent\_loading, #temp\_total\_network\_vkt;  drop table #temp\_recent\_loading, #temp\_total\_network\_vkt;  --==============================================================================  {Display traffic count results}  select \* from #temp\_tcount\_1, #temp\_tcount\_3, #temp\_tcount\_4;  drop table #temp\_tcount\_1, #temp\_tcount\_3, #temp\_tcount\_4;  drop table #tempDate; |

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| **Traffic Estimate** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Network has traffic estimates:  --Proportion of sealed carriageway records having a traffic estimate  --Ref - TE1  --------------------------------------------------------------------------------  {select total carriageway sections}  select count(\*) as total\_sections  into #temp\_total\_sections  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';    {select total carriageway sections with traffic estimates}  select count(\*) as est\_sections  into #temp\_est\_sections  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and traffic\_adt\_est is not null;  {Express as % carriageway records having a traffic estimate}  select cast(est\_sections as decimal) / cast(total\_sections as decimal) \*100 TE1\_estimates  into #temp\_t\_est\_1  from #temp\_total\_sections, #temp\_est\_sections;  drop table #temp\_total\_sections, #temp\_est\_sections;  --------------------------------------------------------------------------------  --Traffic estimates are maintained (High Volume to Arterial):  --Proportion of traffic estimate records less than 1 year old on  --sealed High Volume, National, Regional and Arterial network  --(from 30 June of reported financial year)  --Ref - TE2a  --------------------------------------------------------------------------------  {Select estimate records with onrc in (5, 6, 7, 8)}  select count(\*) as estimate\_onrc\_gr\_4  into #temp\_estimate\_onrc\_gr\_4  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and o.category\_id in (5, 6, 7, 8);  {Select estimate records with onrc in (5, 6, 7, 8) and less than 1 year old}  select count(\*) as estimate\_less\_1yr  into #temp\_estimate\_less\_1yr  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and estimate\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate)  and o.category\_id in (5, 6, 7, 8);    update #temp\_estimate\_less\_1yr  set estimate\_less\_1yr = 0  where estimate\_less\_1yr is null;  {Express as % of High Volume, National, Arterial and Regional records less than 1 year old  Note: case statement has been used for when estimate\_onrc\_gr\_4 = 0 to avoid divide by 0 error}  select case when estimate\_onrc\_gr\_4 = 0 then 0  else cast(estimate\_less\_1yr as decimal) / cast(estimate\_onrc\_gr\_4 as decimal) \*100  end as TE2a\_high\_vol  into #temp\_t\_est\_2  from #temp\_estimate\_onrc\_gr\_4, #temp\_estimate\_less\_1yr;  drop table #temp\_estimate\_onrc\_gr\_4, #temp\_estimate\_less\_1yr;  --------------------------------------------------------------------------------  --Traffic estimates are maintained (Primary and Secondary Collectors):  --Proportion of traffic estimate records less than 3 years old on  --sealed Primary and Secondary Collector network  --(from 30 June of reported financial year)  --Ref - TE2b  --------------------------------------------------------------------------------  {Select estimate records with onrc in (3, 4)}  select count(\*) as estimate\_onrc\_3\_4  into #temp\_estimate\_onrc\_3\_4  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and o.category\_id in (3 ,4);    {Select estimate records with onrc in (3, 4) and less than 3 years old}  select count(\*) as estimate\_less\_3yr  into #temp\_estimate\_less\_3yr  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and estimate\_date between ((select targetDate from #tempDate) - 1094) and (select targetDate from #tempDate)  and o.category\_id in (3 ,4);    update #temp\_estimate\_less\_3yr  set estimate\_less\_3yr = 0  where estimate\_less\_3yr is null;  update #temp\_estimate\_onrc\_3\_4  set estimate\_onrc\_3\_4 = 0  where estimate\_onrc\_3\_4 is null;  {Express as % of Primary and Seconday Collector records less than 3 years old}  select cast(estimate\_less\_3yr as decimal) / cast(estimate\_onrc\_3\_4 as decimal) \*100 TE2b\_collector  into #temp\_t\_est\_3  from #temp\_estimate\_onrc\_3\_4, #temp\_estimate\_less\_3yr;  drop table #temp\_estimate\_onrc\_3\_4, #temp\_estimate\_less\_3yr;  --------------------------------------------------------------------------------  --Traffic estimates are maintained (Access including Low Volume):  --Proportion of traffic estimate records less than 5 years old on  --sealed Access including Low Volume Access network  --(from 30 June of reported financial year)  --Ref - TE2c  --------------------------------------------------------------------------------  {Select estimate records with onrc in (1, 2)}  select count(\*) as estimate\_onrc\_1\_2  into #temp\_estimate\_onrc\_1\_2  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and o.category\_id in (1 ,2);  {Select estimate records with onrc in (1, 2) and less than 5 years old}  select count(\*) as estimate\_less\_5yr  into #temp\_estimate\_less\_5yr  from carr\_way\_view c  join onrc\_cway\_view o on (c.carr\_way\_no = o.carr\_way\_no)  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and estimate\_date between ((select targetDate from #tempDate) - 1824) and (select targetDate from #tempDate)  and o.category\_id in (1 ,2);    update #temp\_estimate\_less\_5yr  set estimate\_less\_5yr = 0  where estimate\_less\_5yr is null;  update #temp\_estimate\_onrc\_1\_2  set estimate\_onrc\_1\_2 = 0  where estimate\_onrc\_1\_2 is null;  {Express as % of Access and Low Volume records less than 5 years old}  select cast(estimate\_less\_5yr as decimal) / cast(estimate\_onrc\_1\_2 as decimal) \*100 TE2c\_low\_vol  into #temp\_t\_est\_4  from #temp\_estimate\_onrc\_1\_2, #temp\_estimate\_less\_5yr;  drop table #temp\_estimate\_onrc\_1\_2, #temp\_estimate\_less\_5yr;  --------------------------------------------------------------------------------  --Traffic estimates updated following counts:  --Proportion of estimate records newer than count records  --Ref - TE3  --------------------------------------------------------------------------------  {Select total number of count records}  select count(\*) as total\_counts  into #temp\_total\_counts  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and count\_date is not null;  {Select estimate records newer than count records}  select count(\*) as est\_older\_than\_count  into #temp\_est\_older\_than\_count  from carr\_way\_view c  where c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and estimate\_date >= count\_date  and count\_date is not null;  {Express as % of estimate records newer than count records}  select cast(est\_older\_than\_count as decimal) / cast(total\_counts as decimal) \*100 TE3\_est\_updated  into #temp\_t\_est\_5  from #temp\_total\_counts, #temp\_est\_older\_than\_count;  drop table #temp\_est\_older\_than\_count, #temp\_total\_counts;  --------------------------------------------------------------------------------  --Considered traffic loading:  --Proportion of estimate records with a loading estimate (i.e. not a default)  --Ref - TE4  --------------------------------------------------------------------------------  {Select count of total estimate records}  select count(distinct carr\_way\_no) as total\_estimates  into #temp\_total\_estimates  from traffic\_loading t  join carr\_way c on (t.road\_id = c.road\_id)  where t.carrway\_start\_m = c.carrway\_start\_m  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and t.latest = 'L'  and t.count\_status = 'E';  {Select count of estimates with a loading estimate}  select count(distinct carr\_way\_no) as not\_default  into #temp\_not\_default  from traffic\_loading t  join carr\_way c on (t.road\_id = c.road\_id)  where t.carrway\_start\_m = c.carrway\_start\_m  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L'  and default\_category is null  and t.latest = 'L'  and t.count\_status = 'E';  {Express as % of total estimates with a loading estimate}  select cast(not\_default as decimal) / cast(total\_estimates as decimal) \*100 TE4\_loading\_est  into #temp\_t\_est\_6  from #temp\_total\_estimates, #temp\_not\_default;  drop table #temp\_total\_estimates, #temp\_not\_default;  --==============================================================================  {Display traffic estimate results}  select \* from #temp\_t\_est\_1, #temp\_t\_est\_2, #temp\_t\_est\_3, #temp\_t\_est\_4,  #temp\_t\_est\_5, #temp\_t\_est\_6;  drop table #temp\_t\_est\_1, #temp\_t\_est\_2, #temp\_t\_est\_3, #temp\_t\_est\_4,  #temp\_t\_est\_5, #temp\_t\_est\_6;  drop table #tempDate; |

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| **Crash** |

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| --Initialise desired financial year by changing the date below.  --Example: Results for 2017/18 would have a date of 2018-06-30  create table #tempDate(targetDate datetime);  insert #tempDate(targetDate) values('2018-06-30');  --------------------------------------------------------------------------------  --Crash data is recent:  --Age (in months) of crash data in terms of time difference  --between RAMM date\_added field and date loaded to the PMRT  --Ref - Cr1  --------------------------------------------------------------------------------  {Difference between current date and most recent crash\_date (in months)}  select datediff(month, max(crash\_date), getdate()) as Cr1\_recent  into #temp\_crash\_1  from cas\_crash  join carr\_way c on (c.road\_id = cas\_crash.road\_id)  where (location >= c.carrway\_start\_m  and location < c.carrway\_end\_m)  and pavement\_type in ('T', 'S', 'C')  and c.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and owner\_type = 'L';  --------------------------------------------------------------------------------  --Crash records with valid location:  --Proportion of crash records located within the extents of the road for  --the five year period up to the end of the reported financial year  --Ref - Cr2  --------------------------------------------------------------------------------  {Find the minimum start and maximum end for each road in carr\_way}  select road\_id, min(carrway\_start\_m) min\_start, max(carrway\_end\_m) max\_end  into #tmp\_min\_max  from carr\_way  where carr\_way.road\_id in (select road\_id from roadnames  where road\_type = 'L')  and carr\_way.owner\_type = 'L'  group by carr\_way.road\_id;      {Find all mc inside of road limits (i.e. within gap or outside min\_start or max\_end)}  select count(\*) as cr\_within\_road  into #temp\_cr\_within\_road  from cas\_crash cr  join #tmp\_min\_max tm on (cr.road\_id = tm.road\_id and (cr.location >= tm.min\_start  and cr.location <= tm.max\_end))  and crash\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  {Total mc records with road\_type = 'L'}  select count(\*) as tot\_cr  into #temp\_tot\_cr  from cas\_crash cr  join roadnames r  on cr.road\_id = r.road\_id  where road\_type = 'L'  and crash\_date between ((select targetDate from #tempDate) - 364) and (select targetDate from #tempDate);  select (cast(cr\_within\_road as decimal))/(cast(tot\_cr as decimal)) \*100 as Cr2\_valid  into #temp\_crash\_2  from #temp\_cr\_within\_road, #temp\_tot\_cr;  drop table #tmp\_min\_max, #temp\_cr\_within\_road, #temp\_tot\_cr;  --==============================================================================  {Display crash results}  select \* from #temp\_crash\_1, #temp\_crash\_2;  drop table #temp\_crash\_1, #temp\_crash\_2;  drop table #tempDate; |