**Why the Local Government Commission's report on Council owned infrastructure in Hawke's Bay is wrong**

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**11 March 2015**

The Local Government Commission (LGC) commissioned MWH, an engineering consultancy, to prepare a report to compare the condition of the infrastructure assets of the five Councils in Hawke's Bay. MWH mailed questionnaires to the Councils to obtain the information they needed to do the comparison. The report that was produced by MWH is available [on the LGC website](http://www.lgc.govt.nz/assets/Hawkes-Bay-27-Feb-2015/MWH-Asset-Management-Activities-Hawkes-Bay-Region-Local-Authorities-finalreport-PDF.pdf).

The LGC has focussed on the following tables:

* Table 3.3 on page 22 that shows the total Replacement Value (RV) and Depreciated Replacement Value (DRV) for each Council's infrastructure assets. It shows that, on average, Hawke's Bay Regional Council's assets are 10% through its life (DRV÷RV=90%) and Hastings' infrastructure is almost a quarter through its life (DRV÷RV=77%). Napier's assets have 58% life remaining, Central Hawke's Bay 73% and Wairoa 63%.
* Table 4.5A on page 28 that shows DRV÷RV values for each Council's roads, water supply, wastewater and stormwater/flood control assets. Three of the numbers on this table immediately stood out when we first read the report: The DRV÷RV value for Hastings' Roads is shown as 90%, the Regional Council's flood control assets is shown as 90% and Central Hawke's Bay's Roads is shown as 76%. These values are very high and this is why Napier immediately questioned the accuracy of the MWH report.

Infrastructure Valuations

Infrastructure is generally valued using a method known as "Depreciated Replacement Value". This works as follows:

1. Calculate the replacement cost (also known as 'Replacement Value' or RV) of an infrastructure asset, for example a pipeline. Complex assets such as roads are broken up into components such as the seal (the black stuff) which has a much shorter life than the pavement layers (the gravel that is used to build roads).
2. Estimate the remaining life of the asset.
3. Add the age of the asset to the remaining life. This is the asset's useful life.
4. Divide the replacement value into the useful life. This gives the annual depreciation, which measures the dollar value of asset that is consumed each year.
5. Multiply the remaining life with the annual depreciation. This gives the Depreciated Replacement Value (DRV). This is the book value of the asset and a measure of the remaining service potential of the asset.
6. By looking at the ratio of DRV÷RV one gets an idea of how far an asset has progressed through its life. When an asset is new DRV÷RV=100%, if it is at the end of its life DRV÷RV=0% and when it is a quarter through its life DRV÷RV=75%.

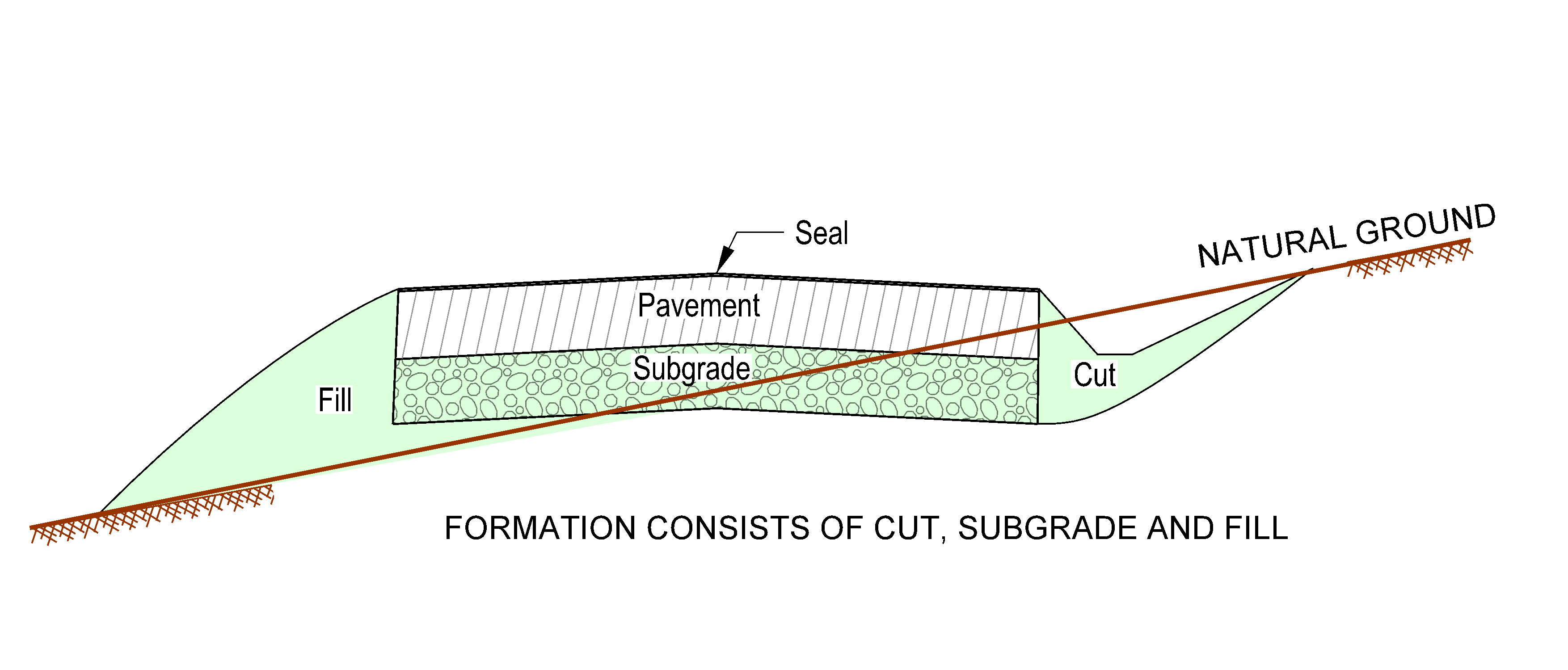
**Why does DRV÷RV matter?**

The LGC calculated the average DRV÷RV for Hawke’s Bay (the LGC says it is 72%). It then compared each Council's DRV÷RV with the Hawke's Bay average and calculated what the dollar difference is. For example, if a Council has assets with a RV of $100 million and its DRV÷RV=60%, then it is 12% below the average. To change the DRV÷RV from 60% to 72% for assets with a RV of $100 million will cost $12 million.

**Where did the LGC go wrong?**

The MWH report included assets that will never require replacement in its analysis (non-depreciable assets). These are things such as the land under roads, road formation (the platform one builds roads on top of) and stop banks. This is a major issue, because non-depreciable assets' DRV÷RV is always 100%. They do not lose value, so if you compared two Councils that have exactly the same depreciable assets but one of the Councils also had a large proportion of non-depreciable assets, then the one with the non-depreciable assets will have a DRV÷RV that is much higher. This is the situation in Hawke's Bay and the way the LGC looked at it is that the Council with the higher DRV÷RV has done a better job, where in actual fact there is no difference.

To illustrate the point, consider two Councils, Council A and Council B. Their roads consist of the following elements:



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Council A** | | **Council B** | |
| *($million)* | *Replacement Value* | *Depreciated Replacement Value* | *Replacement Value* | *Depreciated Replacement Value* |
| Formation | 60 | 60 | 540 | 540 |
| Pavement | 1,000 | 500 | 1,000 | 500 |
| Seal | 200 | 100 | 200 | 100 |
| Total (LGC approach) (Formation+Pavement+Seal) | 1,260 | 660 | 1,740 | 1,140 |
| DRV÷RV | **52.4%** | | **65.5%** | |
| Total (Pavement+Seal, excluding formation) | 1,200 | 600 | 1,200 | 600 |
| DRV÷RV | **50%** | | **50%** | |

*Table 1: Effect of the Local Government Commission's approach to include Formation in the DRV÷RV calculation*

In this example the LGC would have considered Council B's roads as being in better condition because its DRV÷RV=65.5% compared to Council A's roads with a value of 52.4%, even though both Council's pavement and seal (the components that need to be renewed from time to time) are the same. When formation is excluded the true picture emerges: DRV÷RV=50% for both Councils.

**How did this happen?**

The questionnaires did not ask for information at this level of detail and MWH did not have time to check the information that was submitted. The information that was submitted simply gave the RV and DRV values, no distinction was made between depreciable and non-depreciable assets.

**What are the numbers?**

This is where it gets a bit more technical but the numbers are easy to follow. To start off, the numbers that were used by the LGC are as follows:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Comparative numbers based on Local Government Commission analysis and valuations obtained from the Councils** | | | | | | | | | | | | |
| *($million)* | **Central Hawke's Bay** | | **Hastings** | | **Napier** | | **Wairoa** | | **HBRC** | | **Total** | |
|  | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** |
| Road Formation & Berm | $299 | $299 | $541 | $541 | $28 | $28 | $53 | $53 |  |  | $920 | $920 |
| Road depreciable assets | $480 | $297 | $661 | $538 | $299 | $158 | $213 | $124 |  |  | $1,654 | $1,118 |
| *Sub total - Roads* | *$779* | *$596* | *$1,202* | *$1,079* | *$327* | *$186* | *$266* | *$177* | *$0* | *$0* | *$2,574* | *$2,038* |
| **DRV ÷ RV for Roads** | **77%** | | **90%** | | **57%** | | **67%** | | **N/A** | | **79%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Water Supply | $57 | $29 | $145 | $89 | $129 | $81 | $33 | $20 |  |  | $364 | $219 |
| Wastewater | $80 | $45 | $358 | $192 | $242 | $127 | $15 | $5 |  |  | $695 | $369 |
| Stormwater | $24 | $15 | $262 | $161 | $164 | $104 | $18 | $6 | $162 | $147 | $630 | $433 |
| *Sub total - 3 Waters* | *$161* | *$89* | *$765* | *$442* | *$535* | *$312* | *$66* | *$31* | *$162* | *$147* | *$1,689* | *$1,021* |
| **DRV ÷ RV for 3 Waters** | **55%** | | **58%** | | **58%** | | **47%** | | **91%** | | **60%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | **$939** | **$685** | **$1,969** | **$1,521** | **$861** | **$498** | **$332** | **$209** | **$162** | **$147** | **$4,263** | **$3,059** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **DRV ÷ RV for all assets** | **72.9%** | | **77.2%** | | **57.8%** | | **63.0%** | | **90.7%** | | **71.8%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | The LGC calculations used a value of 72.16% instead of 71.8% for the Total DRV/RV ratio. | | | | | | | | **72.16%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **The replacement cost is split as follows between Roads and the Three Waters (water supply, wastewater and stormwater):** | | | | | | | | |  |  |  |  |
| Roads | 83% | | 61% | | 38% | | 80% | | 0% | | 60% | |
| Three Waters | 17% | | 39% | | 62% | | 20% | | 100% | | 40% | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| The replacement costs are fixed, and for the average depreciated replacement cost to be 72.16% for each council, the DRV values must be as follows: | | | | | | | | | | |  |  |
| **Local Government Commission numbers ($ million)** | **Central Hawke's Bay** | | **Hastings** | | **Napier** | | **Wairoa** | |  | |  | |
| **For DRV/RV to be 72.16% the DRV must be** | **$678** | | **$1,421** | | **$621** | | **$240** | |  |  |  |  |
| **Current DRV** | **$685** | | **$1,521** | | **$498** | | **$209** | |  | |  | |
| **Adjustment to get to average** | **$7** | | **$100** | | **-$123** | | **-$31** | |  | |  | |
| **Current net financial assets** | **-$0.3** | | **-$45.2** | | **$78.6** | | **$12.5** | |  |  |  |  |
| **End position ($ million)** | **$7.1** | | **$55.0** | | **-$44.7** | | **-$18.1** | |  |  |  |  |
| This is saying that Napier needs to invest a further $123 million to get its ratio of DRV ÷ RV to equal the Region's average, and that Hastings has already invested $100 million more than average. | | | | | | | | | | | |  |
|  |  | | | | | |  |  |  |  |  |  |

*Table 2: The figures the Local Government commission based its conclusions on*

For the purposes of doing the comparison I assumed that no land has been included with the roading valuations, but the valuations from the different councils showed the following information for formation and berms:

* Central Hawke's Bay District Council: The valuation for roads contained in its 2012 Long Term Plan shows that the roading valuation includes $299 million of formation
* Hastings District Council provided the valuation the LGC's report is based on, which shows that the value of formation in its road network amounts to $541 million
* Wairoa District Council provided the valuation the LGC's report is based on, which shows that the value of formation in its road network amounts to $53 million
* In Napier's road network the value of formation and berms (another non depreciable item) amounts to $28 million (which is the valuation that was forwarded to the LGC).

The Regional Council's valuation shows that the Flood Control Valuation includes $133 million of non-depreciable assets.

In addition, the MWH report used a figure of $1,079 million for the DRV for Hastings Roads, where the Hastings valuation shows that the actual number is $950 million (including formation).

When all these errors, totalling some $1.2 billion, are removed, the figures look as follows:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Comparative analysis with non-depreciable assets removed** | | | | | | |  | |  | |  | |
| *($million)* | **Central Hawke's Bay** | | **Hastings** | | **Napier** | | **Wairoa** | | **HBRC** | | **Total** | |
|  | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** | ***RV*** | ***DRV*** |
| Road Formation & Berm | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Road depreciable assets | $480 | $297 | $661 | $410 | $299 | $158 | $213 | $124 | $0 | $0 | $1,654 | $989 |
| *Sub total – Roads* | *$480* | *$297* | *$661* | *$410* | *$299* | *$158* | *$213* | *$124* | *$0* | *$0* | *$1,654* | *$989* |
| **DRV ÷ RV for Roads** | **62%** | | **62%** | | **53%** | | **58%** | | **N/A** | | **60%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Water Supply | $57 | $29 | $145 | $89 | $129 | $81 | $33 | $20 | $0 | $0 | $364 | $219 |
| Wastewater | $80 | $45 | $358 | $192 | $242 | $127 | $15 | $5 | $0 | $0 | $695 | $369 |
| Stormwater | $24 | $15 | $262 | $161 | $164 | $104 | $18 | $6 | $29 | $13 | $497 | $299 |
| *Sub total - 3 Waters* | *$161* | *$89* | *$765* | *$442* | *$535* | *$312* | *$66* | *$31* | *$29* | *$13* | *$1,555* | *$887* |
| **DRV ÷ RV for 3 Waters** | **55%** | | **58%** | | **58%** | | **47%** | | **47%** | | **57%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | **$641** | **$386** | **$1,426** | **$852** | **$834** | **$470** | **$279** | **$155** | **$29** | **$13** | **$3,209** | **$1,876** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **DRV ÷ RV for all assets** | **60.2%** | | **59.7%** | | **56.4%** | | **55.5%** | | **44.8%** | | **58.5%** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **The replacement cost is split as follows between Roads and the Three Waters (water supply, wastewater and stormwater):** | | | | | | | | |  |  |  |  |
| Roads | 75% | | 46% | | 36% | | 76% | | 0% | | 52% | |
| Three Waters | 25% | | 54% | | 64% | | 24% | | 100% | | 48% | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| The replacement costs are fixed, and for the average depreciated replacement cost to be 57.7% for each council, the DRV values must be as follows: | | | | | | | | | | |  |  |
| **Adjusted figures, road formation and-non depreciable items removed ($ million)** | **Central Hawke's Bay** | | **Hastings** | | **Napier** | | **Wairoa** | |  | |  | |
| **For DRV/RV to be 58.5% the DRV must be** | **$375** | | **$834** | | **$488** | | **$163** | |  |  |  |  |
| **Current DRV** | **$386** | | **$852** | | **$470** | | **$155** | |  | |  | |
| **Adjustment to get to average** | **$11.5** | | **$17.9** | | **-$17.4** | | **-$8.1** | |  | |  | |
| **Current net financial assets** | **-$0.3** | | **-$45.2** | | **$78.6** | | **$12.5** | |  |  |  |  |
| **End position ($ million)** | **$11.2** | | **-$27.3** | | **$61.2** | | **$4.4** | |  |  |  |  |
| This shows that the DRV/ RV ratios for CHB and Hastings are slightly above average, and Napier, Wairoa and HBRC are slightly below average but no-one is significantly above or below. | | | | | | | | | | | | |

*Table 3: Figures excluding Formation and other non-depreciable assets*

**Does correcting the errors change things significantly?**

Yes, it does, as shown on the table below:

|  |  |  |
| --- | --- | --- |
| **Measure** | **Local Government Commission Figures** | **Adjusted figures after road formation and other non-depreciable items have been removed** |
| Average DRV÷RV for Hawke's Bay | 72.16% | 58.5% |
| **Net financial position after adjustment for differences in DRV÷RV values**  Central Hawke's Bay  Hastings  Napier  Wairoa | Positive $7.1 million  Positive $55 million  Negative $44.7 million  Negative $18.1 million | Positive $11.2 million  Negative $27.3 million  Positive $61.2 million  Positive $4.4 million |

*Table 4: Net Financial Positions when road Formation and other non-depreciable items are removed from the analysis*

The net financial position after adjustment for differences in DRV÷RV values calculated by AECOM are not the same as quoted on Table 4 because the AECOM calculations did not take the effect of the $133 million of non-depreciable items that have been included with the HBRC flood control assets.

AECOM has confirmed the methodology used by LGC is incorrect and formation and other non-depreciable items must be removed as it distorts the net financial position of each Council.