

## “ The programme of works

Based on the above data and the problem definition, the WDC considers the following options for the sealed pavements:



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Option	Description	Benefits / Consequences
No Pavement Rehabilitations	Carry out no pavement rehabilitation. Carry out only reactive routine maintenance and reseals only. Maintenance costs will increase and reseal lives will decrease.	Cost Efficiency – will reduce pavement rehabilitation costs but will result in increased pavement maintenance and reseal costs.
Prioritised Maintenance	Enhanced assessment of maintenance repairs based on ONRC hierarchy and LOS.	Cost Efficiency – will target the right maintenance, on the right roads at the right time.
Investigatory Test Pits	Carry out test pits with subgrade scalar penetrometer testing on roads with a high amount of repair work required to determine the appropriate treatment before the contractor access the site. This will help eliminate situations where there is insufficient pavement to carry out the planned repair method (ie stabilised patches) which results in more expensive treatments being required such as dugout repairs. This should enable better decision making as to whether a repair or renewal response is required.	Cost Efficiency – will enable better decision making to be undertaken which will reduce the whole of life costs.
Large Chip or Single Coat Chip Seals	Use large chip or single coat chip seals for future reseals where possible and appropriate to improve waterproofing and extend seal life, particularly on rural Arterial and Collector roads and freight routes. Reduce use of small chip void fill seals by limiting use to low stress urban roads or rural Access and Low Volume roads.	Cost Efficiency – will extend the life of the chip seals.
High PSV Seals/Water Cutting	Introduce a programme of high PSV seals (SCRIM seals) and water cutting on the top 5% of High Risk Rural Roads targeting areas with wet road loss of control crashes. This could include the use of Glenbrook melted slag (GMA).	Safety – will reduce loss of control crashes in the wet.
Improved Pavement Drainage	Carry out a programme of high shoulder removal and watertable maintenance to reduce water ingress into pavements and softening of weak and sensitive subgrades. It will also remove water from the road edge which will reduce the risk of loss of control crashes due to hydroplaning.	Cost Efficiency – will extend the life of the pavements. Safety – will reduce the likelihood of loss of control crashes due to hydroplaning.
Reduced Chip Reseal Programme	In conjunction with the use of single coat chip seals, consider a reduced reseal programme to reflect progress made in removing the backlog of surfacing required.	Cost Efficiency – will reduce the amount of resurfacing work done.

Option	Description	Benefits / Consequences
Increased Thin AC Programme	Increase the thin asphaltic concrete (TAC) programme to address historic lack of renewal of these surfaces. This will help reduce the number of TAC sites in the urban area requiring expensive rehabilitation.	Cost Efficiency – will reduce the whole of life cost of the TAC surfacings.
Optimised Rehabilitation Programme	Optimise a sustainable level of pavement rehabilitation to minimise whole of life pavement costs and to control average and peak roughness on the network with a continued focus on urban arterials. This option would include a RAPT type assessment of the forward works programme to ensure robustness of programme.	Cost Efficiency – will reduce the whole of life costs of the pavement.  Amenity – will bring the overall average roughness of the network back in line with the peer group.
Service Lids	Relevel service lids in the urban area when carrying out renewal activity to minimise roughness. Consider using adjustable service lids where possible.	Amenity – will help address the high level of roughness in the urban area.

Source: Whangarei District Council Transportation AMP 2018-2048