Australian Government
National Emergency Management Agency

# Disaster Recovery Funding Arrangements (DRFA) – National advisory

# How Category B and Category D can be used to deliver resilient infrastructure

*DRFA national advisories provide additional information to support state, territory and local government recovery practitioners to plan for and deliver specific types/forms of relief and recovery assistance to disaster-affected communities. Where appropriate they include advice on DRFA eligible activities and evidentiary requirements for audit, assurance and claiming purposes. National advisories may be updated from time to time.*

## Context and key points

We know that post disaster investment in resilient infrastructure during the disaster reconstruction process is an efficient and effective way to reduce the impacts of future events, help communities recover and make them more resilient, and save costs for all levels of government. Data from numerous DRFA infrastructure betterment programs demonstrates this.

Since 2018 only a limited number of requests have been made for Category D infrastructure betterment funding, although interest is growing. Further, the flexibility within Category B to support the reconstruction of more resilient infrastructure is not well understood. Consequently, there is a misconception that the DRFA only allows for damaged assets to be rebuilt to their pre-disaster standard (or 'like-for-like').

This national guidance explains how Category B and Category D (via infrastructure betterment) can be used to help generate greater investment in disaster resilient infrastructure. It draws on a range of DRFA policy and program advice provided to stakeholders to explain the opportunities that exist within the current DRFA to improve infrastructure resilience, including the new Category D 'standardised' Infrastructure Betterment program guidelines endorsed following the 19 September 2022 National Emergency Management Ministers' Meeting.

## Category B Essential Public Asset Restoration

Under Category B of the DRFA, assistance is available for the restoration of disaster damaged essential public assets, such as roads, bridges, stormwater infrastructure, public hospitals, public schools and public housing (clauses 4.3.2 b, c and d and Guideline 1 refer).

The restoration of an essential public asset may provide a cost-effective opportunity to improve its resilience to future disasters. Under current Category B arrangements, states, territories and local governments have autonomy to deliver practical reconstruction solutions that are best suited to the needs of local communities. This may include relocating an asset or adopting alternative disaster resilient design. The use of climate and risk information to inform the best solution is strongly encouraged. Complementary funding (from a source other than DRFA) can also be used to improve or enhance an asset's functionality—for example, widening a road to increase traffic volume.

Under Category B essential public asset reconstruction (clause 4.3.2 d) assistance enables a state or territory to claim the estimated cost (i.e. the Estimated Reconstruction Cost) of restoring a damaged essential public asset to its 'pre-disaster function', which is considered to be the condition of the asset and its level of functionality (or utility) prior to the disaster (clauses 6.2 and 6.3 refer).

Any specific building, design and construction standards, legislated by the Commonwealth, state or territory, including for safety and occupational health and safety purposes should be adhered to when establishing the claimable Estimated Reconstruction Cost. Costs relating to design, labour, materials, plant and equipment, project management, contingency and cost escalation can also be factored into the Estimated Reconstruction Cost (refer to clauses 6.4 to 6.6 for further information).

Once the Estimated Reconstruction Cost is established, in line with the DRFA requirements including pre-disaster function, this provides the state/territory DRFA administering agency with a 'budget' for the restoration works. Asset owners, in consultation with their state/territory DRFA administering agency, are then able determine the most appropriate restoration approach/solution within the established budget (i.e. an alternative solution), which may include adopting an alternative value-for-money solution that factors in resilience improvements—see examples below.

If a proposed alternative solution can be delivered within the established Estimated Reconstruction Cost this would be considered eligible expenditure under Category B. Where a proposed alternative solution cost is more than 50% lower than the Estimated Reconstruction Cost of the original scope or between $5 and $15 million this would require the state or territory to undertake an Independent Technical Review[1] (clause 8 and Schedule B refer). Expenditure in excess of the Estimated Reconstruction Cost cannot be claimed under Category B of the DRFA.

In effect, once the Estimated Reconstruction Cost is established, states and territories have flexibility to explore a range of alternative approaches and solutions for restoring a damaged asset. The new national guidance is intended to enhance awareness of the opportunities within the current scope of Category B. The intention is to ensure that DRFA is an enabler of resilient infrastructure investment.

## Examples of how Category B can be used to make a damaged asset more resilient?

Category B provides flexibility to adopt alternative approaches and solutions, within an eligible Estimated Reconstruction Cost, to restoring damaged assets, including to facilitate improvement in disaster resilience. This can be achieved through:

- the application of modern building, design and construction standards, including where legislated by the Commonwealth, state or territory;
- the use of contemporary (rather than obsolete or outdated) construction methodologies and building materials—e.g. new pavement technologies;
- the application of safety standards—e.g. the Safe System Principles agreed to by the Transport and Infrastructure Council;
- the adoption of a more appropriate type of asset rather than 'like-for-like' replacement—e.g. replacing a bridge with a culvert system;
- the relocation of a damaged asset to a more suitable site; and/or
- the use of complementary funding from other Commonwealth or state/territory programs—e.g. the Department of Infrastructure's Roads of Strategic Importance program.

[1] An Independent Technical Review must be conducted in a number of different circumstances—recovery practitioners should refer to clause 8 and Schedule B of the DRFA Determination 2018 for further information.

## Application of current building and engineering standards

Building and engineering standards vary across Australia, including to meet different climate and geographic conditions. Accordingly, the DRFA does not mandate specific building or engineering standards for restoring damaged assets. Building and engineering standards often cannot be applied prescriptively and require the judgement of a suitably qualified professional with an appropriate level of expertise and experience.

In determining the building or engineering standards that will apply, consideration is given to several factors, including the assets function, existing site conditions, construction method, building materials and safe work practices. For road restoration projects, each state and territory maintains an extensive suite of standards, specifications and practice notes, which should be considered to determine an appropriate reconstruction approach/solution. National guidance is also provided by Austroads.

Where specific building, design and construction standards are legislated by the Commonwealth or a state/territory, including for occupational health and safety purposes, they can be considered eligible costs for the purpose of establishing the claimable Estimated Reconstruction Cost under Category B. Manufacturers' specifications relating to proprietary products—such as safety barriers, road signage, geotechnical products, etc.—should also be adhered to when establishing the claimable Estimated Reconstruction Cost.

To satisfy DRFA audit, assurance and claiming requirements, states and territories are required to demonstrate the building and engineering standards that have been applied to an asset restoration project are appropriate as determined by a suitably qualified and experienced professional.

## Case study 1 – Bridge restoration – Establishing the claimable Estimated Reconstruction Cost under Category B and considering an alternative reconstruction solution

*[Note: The following scenario is hypothetical for case study example purposes only. States and territories are encouraged to engage early with the National Emergency Management Agency (NEMA) if the eligibility of certain asset reconstruction cost is unclear.]*

*Hypothetical scenario 1:*

- *'No Name Bridge' (an old timber bridge) was damaged by an eligible DRFA disaster (AGRN 123) and is considered non-repairable.*
- *Damage to 'Nearby Road' (the road connected to 'No Name Bridge') is relatively minor and being addressed through the immediate reconstruction and emergency works provisions.*
- *Instead of replacing 'No Name Bridge' in its pre-disaster location, the state/territory is proposing to realign/relocate 'Nearby Road' and replace 'No Name Bridge' with a culvert system in a different location.*
- *The cost of realigning 'Nearby Road' may be borne by the state/territory, depending on the final delivery cost of the adopted reconstruction solution.*
- *Carrying out the realignment project in conjunction with the culvert system option represents a value-for-money approach.*

- *The state/territory advises the relocation of 'Nearby Road' and the inclusion of the new culvert system will not change the level of pre-disaster functionality/utility of the transport asset.*

*Hypothetical costings 1:*

- *The costs to restore 'No Name Bridge' using obsolete/outdated reconstruction materials (e.g. timber) is $4m.*
- *The costs to restore 'No Name Bridge' using concrete contemporary reconstruction material (e.g. steel and concrete) is $3m.*
- *The costs to replace 'No Name Bridge' with a culvert system is $2m.*
- *The costs to realign/relocate 'Nearby Road' and construct the proposed culvert system in a new location is $5m.*

*Establishing the claimable Estimated Reconstruction Cost under Category B and considering alternative reconstruction solutions:*

*Consideration should be given to the following points to establish the claimable Estimated Reconstruction Cost:*

- *Pre-disaster condition and function: Under the DRFA, states/territories can claim the cost of restoring a damaged essential public asset to its pre-disaster condition and function. In the case of road assets, the pre-disaster function includes factors such as traffic and vehicle capacity, classification, road width and the number of carriageways. Where specific building, design and construction standards are legislated by states/territories (e.g. for safety purposes) they may be included in the claimable Estimated Reconstruction Costs.*
- *Use of contemporary reconstruction methods and materials: When undertaking an asset restoration project, states, territories and local governments can utilise contemporary (rather than obsolete or outdated) construction methodologies and building materials. In establishing the claimable Estimated Reconstruction Cost, the state/territory should cost the asset reconstruction project using contemporary reconstruction methods and materials. For example, if it costs $4m to restore 'No Name Bridge' using obsolete/outdated timber materials (assuming ability to maintain compliance with AS5100), but only $3m to restore the bridge using contemporary steel and concrete materials, the claimable Estimated Reconstruction Cost under DRFA would be $3m. Conversely, if it cost more to use contemporary materials, the higher cost can be used to calculate the claimable Estimated Reconstruction Cost.*
- *Alternative reconstruction approach and solution: The DRFA allows states/territories to adopt alternative solutions to restoring a damaged asset (e.g. replacing a bridge with a culvert system). In this situation, the maximum claimable Estimated Reconstruction Cost is equivalent to the cost that would have been incurred to restore the asset on a 'like-for-like' basis (e.g. replacing a bridge with a bridge), in accordance with current building and engineering standards. If the reconstruction cost of the adopted solution is less than the claimable Estimated Reconstruction Cost, an efficiency (saving) will be realised. This efficiency can be utilised in accordance with the Efficiencies Framework (clause 7).*

*In relation to the hypothetical case study above, the claimable Estimated Reconstruction Cost of replacing 'No Name Bridge', is $3m even though the actual costs to adopt a culvert system is $2m.*

- *Asset relocation: If states/territories determine a disaster damaged asset should be relocated, the DRFA does not prevent this from occurring. In this situation, the maximum claimable cost is equivalent to the cost that would have been incurred to restore the asset in its pre-disaster location. In relation to the hypothetical case study above, the eligible claimable cost under DRFA would remain at $3m and the state/territory would need to cover the additional $2m to realign 'Nearby Road' and replace the bridge with a culvert system in a new location.*
    - *Under a similar asset relocation scenario, had the total cost to realign 'Nearby Road and construct a culvert system across a narrower section of creek totalled $2.5m, the Estimated Reconstruction Cost of $3m would remain claimable and an efficiency of $0.5m realised.*

## Case study 2 – Unsealed road treatment - Establishing the claimable Estimated Reconstruction Cost under Category B and considering an alternative reconstruction solution

*[Note: The following scenario is hypothetical for case study example purposes only. States and territories are encouraged to engage early with NEMA if the eligibility of certain asset reconstruction cost is unclear.]*

*Hypothetical scenario:*

- *A council scopes work to repair an unsealed road by doing a gravel re-sheet up to 50mm.*
- *The state approves, through a suitably qualified professional, that the proposed scope for the purposes of establishing the Estimated Reconstruction Cost meets DRFA requirements in relation to repairing the asset to its pre-disaster function.*
- *The cost to restore the asset to its pre-disaster function (established Estimated Reconstruction Cost) is $300,000.*
- *The council then identifies a way to do the repair more cost effectively, therefore identifying a cost saving. The council requests to change the scope of the project and do a gravel re-sheet up to 60mm which is within the Estimated Reconstruction Cost (i.e. $300,000). The state approves the alternative solution.*
- *The council completes the works as per the alternative solution and reports the actual costs (re-sheet to 60mm) as $290,000.*
- *State would report, as part of their efficiencies reporting, the actual cost for the project as $290,000 meaning the project would derive $10,000 in efficiencies.*
- *The state should retain any records of where there has been agreement for a change of scope/alternative solution and this is identified when reporting actual costs, as per DRFA requirements, to the Commonwealth.*

## Category D infrastructure betterment

For the purposes of the DRFA, infrastructure betterment is the restoration or replacement of a damaged essential public asset to a more disaster resilient standard than its pre-disaster standard, where the cost of doing so exceeds the claimable Estimated Reconstruction Cost under Category B.

Examples of infrastructure betterment include raising the height of a bridge above the flood level, adding new or larger culverts (that didn't exist before the disaster occurred) to drainage systems to increase flow capacity, and upgrading vulnerable sections of unsealed roads to sealed assets (e.g. replacing gravel sections with bitumen seal). The use of climate and risk information to inform the best solution is strongly encouraged.

Other than the use of DRFA efficiencies, infrastructure betterment funding is currently only available through Category D of the DRFA, which provides for discretionary funding to be approved by the Prime Minister in exceptional circumstances following a request from a state Premier or territory Chief Minister. Category D infrastructure betterment packages are equally (50:50) cost-shared by the Commonwealth and the state/territory.

The first Category D infrastructure betterment package was approved for Queensland in 2013 in response to Severe Tropical Cyclone Oswald. Since then, significant Category D infrastructure betterment packages totalling over $650m has been approved in response to the severe weather and flooding events in NSW, Queensland, South Australia, Victoria and Western Australia.

Category D infrastructure betterment funding in Queensland is demonstrating that rebuilding damaged infrastructure to a more resilient standard improves the resilience of communities to future disasters and is more cost effective for all levels of government. The Queensland Reconstruction Authority estimates that an investment of $244m in infrastructure betterment has generated more than $988m in avoided costs (or savings), with 79% of re-impacted betterment projects suffering no damage or only minor or superficial damage.

There are also significant social, economic, and environmental benefits from infrastructure betterment, including more connected communities, continuity of essential services and trade, and reduced impacts on the environment. Information on Category D infrastructure betterment in Queensland, including case studies of betterment in action, is available at: www.qra.qld.gov.au/betterment.

## Calculating the Category D infrastructure betterment cost

The Category D betterment component of an infrastructure restoration project is calculated as the difference between the claimable Estimated Reconstruction Cost under Category B (i.e. to restore a damaged essential public asset to its pre-disaster function), and the cost to rebuild the asset to a more resilient standard.

- *For example, if the Estimated Reconstruction Costs under Category B is $8m, but it cost $10m to rebuild a more resilient asset, the infrastructure betterment component is calculated at $2m. In this example, the $8m would be claimed as normal Category B expenditure and $2m would come from an approved Category D infrastructure betterment package (or an alternative funding source).*

- *In the context of the hypothetical scenario 1 (above), if the cost to significantly raise the height of 'No Name Bridge' above predicted future record flood levels using concrete contemporary reconstruction materials (e.g. steel and concrete) is $5m, then $3m would be claimed as normal Category B expenditure and $2m would come from the approved Category D betterment package (or an alternative funding source).*

## Requesting Category D infrastructure betterment funding

States and territories can request funding for Category D infrastructure betterment using the Category C/D activation process. A program guideline for a 'standardised' Category D infrastructure betterment package was approved by the National Emergency Management Ministers' Meeting following the 19 September 2022 meeting.