

Natural Disaster Infrastructure Betterment in NSW



Vision 2022



Investing in the betterment of local and state infrastructure to help build community resilience to natural disasters

What is infrastructure betterment?

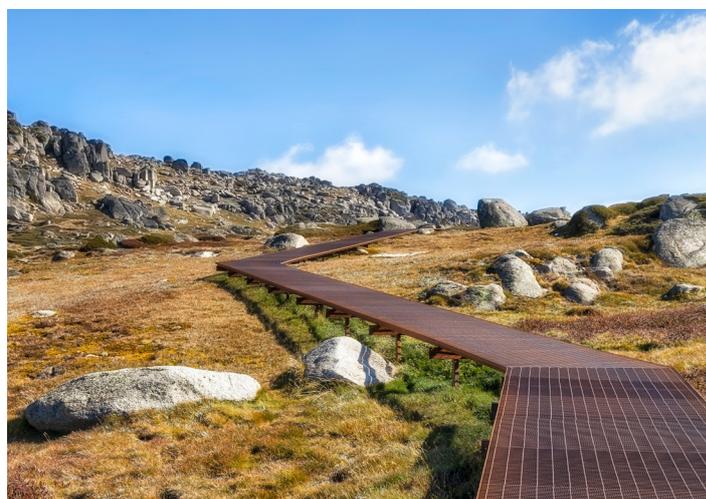
Infrastructure betterment is repairing or building-back an asset that can better withstand future natural disasters while delivering benefits associated with improved resilience and generating productivity, economic and social outcomes. Betterment is made up of the following core values:

1. **Resilience** – Reduce the risk of impact to an asset over its lifecycle to better withstand natural disasters, and improve the ability to respond, recover and adapt after asset disruption
2. **Productivity** – Maintain or improve the level of service and sustainable function that an asset provides
3. **Economic** – Achieve net benefits across the asset lifecycle based on the betterment value proposition and provide a return on investment
4. **Social** – Maintain or improve a community's ability to function during and after a disruption to an asset.

Why does investing in infrastructure betterment matter?

Betterment is a key factor in assisting communities to become more disaster resistant and resilient. Betterment promotes rebuilding infrastructure in a way that reduces vulnerability to future disasters, providing continuity in the function of the asset for users, as well as lowering the risk of economic impact and reducing repair costs for asset owners as a result of a natural disaster.

Resilience NSW leads the implementation of the Disaster Recovery Funding Arrangements (DRFA), with Transport for NSW supporting councils directly. DRFA Category B assistance provides funding to restore essential public assets directly damaged by a natural disaster to their pre-disaster condition, in line with current standards. As such, there is opportunity to enhance disaster recovery funding by embedding betterment design in the restoration and repair of these assets so they can better withstand the impacts of future natural disasters compared to their pre-disaster standard or function. Improved public assets will increase the reliability of services provided to NSW business and communities for years to come.





What benefits are generated from infrastructure betterment investment?

The complexity, intensity, and economic impact of natural disasters in NSW is increasing. In 2020-21, disasters cost the NSW economy \$5.1 billion. This cost is expected to rise to at least \$15.8 billion by 2061¹. Current disaster spending patterns are focused on recovery, with 97% of Australian disaster funding spent on recovery compared to 3% invested in risk mitigation and resilience building².

Greater investment in prevention, preparedness and capability development initiatives is needed to decrease recovery costs^{3,4}. Well-targeted and sustained investment in resilience will not only enable us to mitigate and adapt to future risks^{5,6}, but it will also save money. International disaster data research has found that for every \$1 invested in risk mitigation, up to \$10 is saved in recovery⁷.

Betterment also provides intangible benefits for communities and local economies that can be difficult to calculate into dollars. This can include social, economic, and environmental benefits such as more connected communities, continuity of essential services for individuals, continuity of business activity in impacted areas, and reduced environmental impact.

How is infrastructure betterment aligned with NSW Government strategies?

Betterment aligns with the NSW State Infrastructure Strategy 2022-2042: Staying Ahead⁸ and the NSW Critical Infrastructure Resilience Strategy 2018⁹. Both strategies recognise an all-hazards approach to managing infrastructure risks and emphasise that increasing the resilience of infrastructure strengthens its capacity to endure disruption and operate effectively in crises.

The principles in these strategies are echoed in the State's approach to betterment including the consideration of a whole-of-system approach to resilience, the application of evidence-based assessment, and the acknowledgement of the interdependency between investing in betterment and disaster resilience for both infrastructure and community resilience.

1. NSW Treasury. 2021. Intergenerational Report Treasury Technical Research Paper Series: An indicative assessment of four key areas of climate risk for the 2021 NSW Intergenerational Report
2. Productivity Commission, 2014. Natural Disaster Funding Arrangements. Inquiry Report 74, Canberra.
3. Department of Home Affairs, National Disaster Risk Reduction Framework. 2018, Department of Home Affairs, Commonwealth of Australia: Canberra, Australia.
4. Australian Institute of Disaster Resilience. 2021. Systemic Disaster Risk Handbook.
5. Department of Home Affairs, National Disaster Risk Reduction Framework. 2018, Department of Home Affairs, Commonwealth of Australia: Canberra, Australia.
6. Australian Institute of Disaster Resilience. 2021. Systemic Disaster Risk Handbook.
7. Stafford Smith M, O'Connell D, Hardisty P. Systematically addressing disaster resilience in Australia could save billions. Ecos. 2016.
8. NSW Department of Justice, Office of Emergency Management. 2018. NSW Critical Infrastructure Resilience Strategy: Partner, Prepare, Provide.
9. Infrastructure NSW. 2022. State Infrastructure Strategy 2022-2042: Staying Ahead.

Infrastructure betterment programs

Typically, the disaster declaration of a local government area (LGA) triggers funding for local councils and State agencies from the DRFA Category B for asset reconstruction to its pre-disaster condition.

In 2022, the NSW and Australian Governments jointly announced a \$512.5 million investment into two complementary betterment programs. This included the \$200 million Infrastructure Betterment Fund, administered by the Department of Regional NSW, and the \$312.5 million Regional Roads and Transport Recovery Package, administered by Transport for New South Wales.

These programs are a recognition from all levels of government that in some cases reconstruction to pre-disaster condition is not the best option. These programs will fund the betterment activities, separate to the asset reconstruction funding.

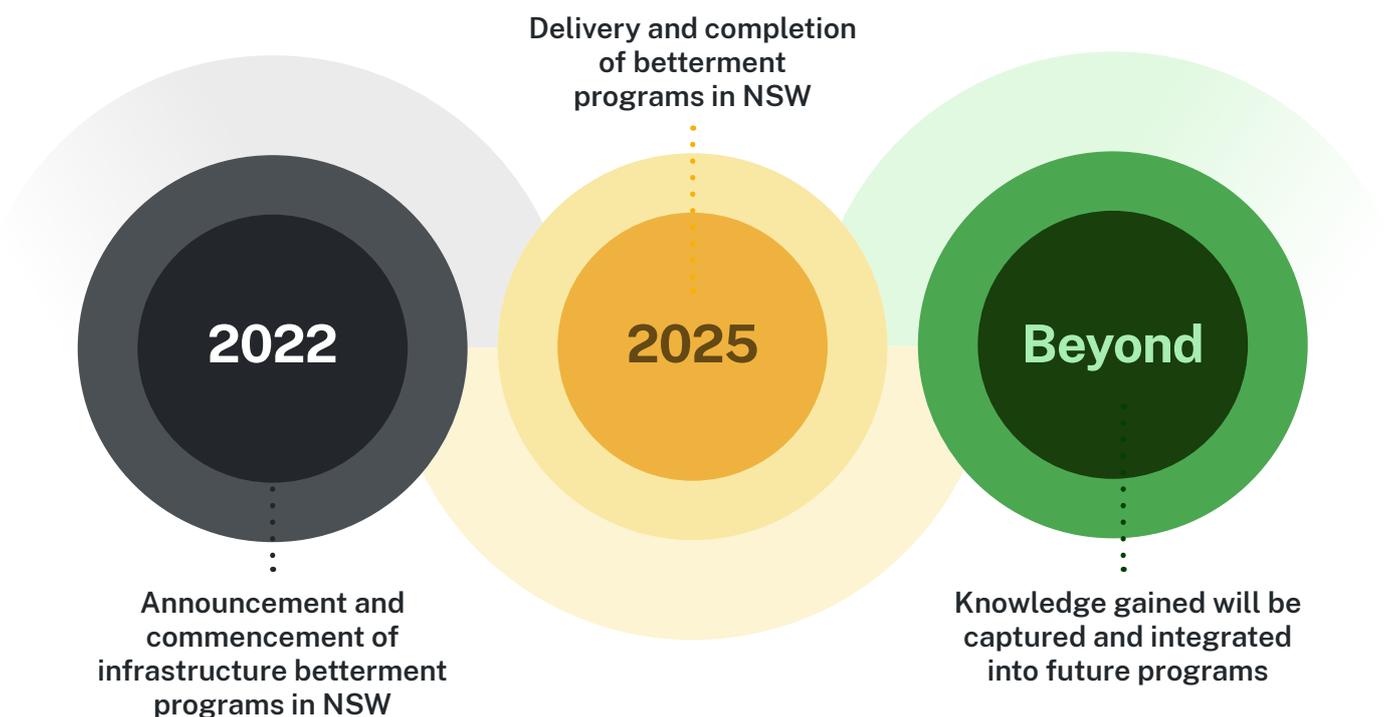
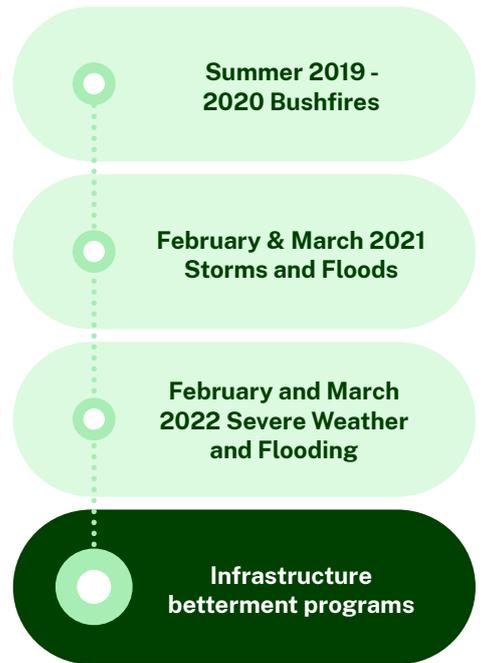
Making infrastructure more resilient

The NSW Government is committed to the betterment of local and state infrastructure to mitigate against the impact of natural disasters.

The Department of Regional NSW and Transport for New South Wales, in consultation with Resilience NSW, have led a multi-agency, collaborative process to design and deliver the first betterment programs in NSW. The collaborative approach has allowed NSW to embed the lessons learned from the well-established Queensland Betterment programs into the NSW programs.

These programs are the first of their kind in NSW, and have been designed to not only support best practice grants management principles, but also be robust and responsive to the complexities of bettering infrastructure.

It is anticipated that these programs will form the foundation for future betterment programs in the coming years. This adaptive management approach will help maximise the efficiency of betterment funding and support communities with increased future disaster resilience.



What constitutes betterment?

There are many activities that can constitute betterment and the table below provides some examples. This is for guidance only. Refer to the relevant betterment program guidelines to confirm all specific asset eligibility details.

Asset Type	Betterment Example
Transport e.g. roads and bridges	<ul style="list-style-type: none"> • An increase in the function and/or capacity of an asset for example: <ul style="list-style-type: none"> – addition of a lane or increase of a bridge span – changing the height of a road or bridge or adding pull-off areas/ stopping bays and/or an increase in drainage capacity – filtration devices and ground stabilisation such as debris traps in and scour protection near watercourses – realignment of a road or bridge to reduce asset exposure to risk • Improvements for user safety through upgrade or addition of safety items for example: <ul style="list-style-type: none"> – line marking, and Audible Tactile Line Marking – barrier systems, signage and other road furniture – accessibility improvements – hazard notification system installation – engineering re-design works to modify peak flows, drainage size and flow volume – increase in storage capacity and improved flow control for detention basins or weirs • Improvements to the resilience of a bridge, road surface and associated structures (i.e. drainage) for example: <ul style="list-style-type: none"> – changes in material type that something is constructed from – relocation of a critical or high-dependency asset beyond natural disaster high risk areas
Tourism e.g. signage, information assets, attractions, walking tracks	<ul style="list-style-type: none"> • Improvements to the resilience of a structure or facility for example: <ul style="list-style-type: none"> – changes in material type that something is constructed from – changes to a layout or improved way finding for improved evacuation – changes to protection devices such as increase water tank storage, sprinklers and hazard notification systems • Improvements to the resilience of a tourism user asset for example: <ul style="list-style-type: none"> – ground stabilisation, and drainage works for a recreational area – changes in material type that an amenity is made from – change in type or use of the attraction to better suit the natural disaster risk of the area – relocation of a critical or high-dependency asset beyond natural disaster high risk areas
Water and Sewerage e.g. stormwater management assets, wastewater management assets, water supply and reticulation assets	<ul style="list-style-type: none"> • An increase in the function and/or capacity of an asset for example: <ul style="list-style-type: none"> – engineering re-design works to modify peak flows, drainage size and flow volume – ground stabilisation such as scour protection in and around drainage lines, intakes and discharge locations – increase in storage capacity and improved flow control • Improvements to the resilience of an asset for example: <ul style="list-style-type: none"> – relocation of critical or high-dependency assets beyond natural disaster high risk areas • An enhancement to existing assets for example: <ul style="list-style-type: none"> – replacement of open collection/treatment ponds to tanked systems – installation of remote monitoring and control systems
Telecommunications e.g. radio towers, cabling, relay stations, electricity sub-stations that exclusively support telecommunications	<ul style="list-style-type: none"> • An increase in the function and/or capacity of an asset • Improvements to the resilience of the asset such as: <ul style="list-style-type: none"> – installation of protective shelters for equipment cabinets – relocation of a critical or high-dependency asset beyond natural disaster high risk areas • An enhancement to existing assets for example: <ul style="list-style-type: none"> – access improvements e.g. drainage, sealing, realignment – installation of remote monitoring systems
Other public service infrastructure e.g. schools, hospitals, justice and welfare infrastructure	<ul style="list-style-type: none"> • Improvements to the resilience of a structure/facility against future natural disasters • An enhancement to existing assets for example: <ul style="list-style-type: none"> – accessibility improvements – changes to a layout for improved evacuation – hazard notification system installation – relocation of a critical or high-dependency asset beyond natural disaster high risk areas

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