



Downs Light
Railway Trust

CENTENARY DEVELOPMENT PROGRAMME

To Heritage Railway Association Members

- | Practical Learning
- | Youth Engagement
- | Community Involvement

Patron: The Lord Faulkner of Worcester



Introducing
Railways and Young People

Our Vision

... is that people can access real-world practical learning from a young age, complementing their primary and secondary education and boosting their future employment opportunities.

Our Mission

... is to be a model example for delivering practical learning alongside formal education, to provide an inclusive community hub to foster positivity and well-being, and to support the national need to encourage more young people to embark on STEM-related careers.

Supported by



FRIENDS OF
THE DOWNS
MALVERN



ABOUT US

The Downs Light Railway is the world's oldest private light railway, with a rich educational heritage that celebrates its centenary in 2025. The science, technology, and engineering related activities provided by the Downs Light Railway are inspired by the tradition of steam railways, are no less relevant to today's generation of young people compared to those in the 1920s.

We know the United Kingdom is facing a growing nationwide skills shortage in science, technology and engineering sectors. This is a result of a highly skilled workforce that is approaching retirement and a reluctance from young people to study and enter careers in these areas. The corona-virus pandemic has exacerbated this problem and it will worsen.

This skills shortage is well documented by national associations and institutions representing industry and academia. We believe that it is important that young people are exposed to practical learning early in their schooling and are encouraged to develop technically minded interests. We also believe that our community centred activity can bring together both young people and adults, providing the foundations for a positive and proactive society.

The Downs Light Railway Trust has existed for over 40 years. During this time we have sustained our core activities through modest fundraising initiatives and community events. Our Centenary Development Programme aims to realise the huge benefits that can be gained from expanding our youth engagement, increasing our practical learning offering, and growing sustainable community involvement for the benefit of future generations.

Registered in England & Wales. Charity Number 513882

Registered with



FUNDRAISING
REGULATOR



NCVO
MEMBER



CORPORATE MEMBER



“

I want to see the railway provide bigger and better facilities, to engage more young people in railway engineering, and to join with other heritage railways to secure their future, and I commend these aims to everyone.

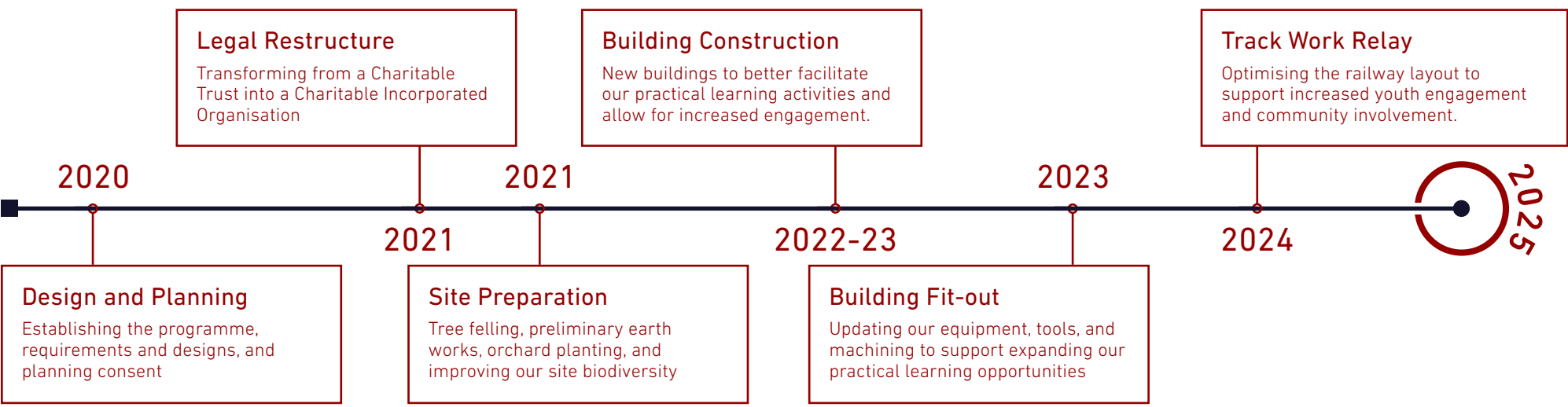
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The Lord Faulkner of Worcester
Patron of the Downs Light Railway Trust



CELEBRATING 100 YEARS BY WELCOMING A NEW ERA

Our Centenary Development Programme plans to fundraise £200,000 to increase Youth Engagement, Practical Learning, and Community Involvement on the Downs Light Railway.



WHAT WE WOULD LIKE FROM HRA MEMBERS

- **Letters of Support** to help us promote and strengthen our applications for fundraising grants. *We would appreciate letters from members who already have youth engagement programmes and would like to work with us, or from members who see the need for youth engagement to sustain the future of their railways.*
- **Fundraising Support** to help us secure the funding for our development programme. *Times are tough and many members will be also seeking grants for themselves. Fundraising support can go beyond donations. Linking project aims, promotion of our cause, or support from fundraising events after the pandemic eases would be very helpful.*
- **Technical Expertise & Advice** to help us realise our development programme and to focus on what we do best. *We would appreciate offers of technical expertise, whether related to our development programme or to help us sustain our activities going forwards. We would particularly value support with our track work turnouts and the maintenance of our steam boilers. Like with the larger variants, our boilers are required to be re-tubed at least every ten-years.*
- **Connecting with Us** to forge a partnership so that we can support your youth members and to open up opportunities for our members. *The Downs Light Railway offers members' youth groups an opportunity to have hands-on operation of a live railway, with potential options for residential courses. We would also like to arrange visits for our members to visit your railways in order to experience larger heritage railways.*

INCREASING YOUTH ENGAGEMENT

We wish to encourage more young people to get involved and find the inspiration to volunteer or take up careers in heritage railways, meaningful careers, or simply to find an interest that they can pursue in their leisure time. To do this we plan to make the Downs Light Railway more accessible by:

- Increasing our STEM learning support to schools and youth groups
- More out-of-school activities for the local community
- Providing courses (day or residential) to schools and youth groups

INCREASING OUR PRACTICAL LEARNING

We wish to create a learning environment that is conducive to expanding our practical learning activities for different age groups of young people. This will be achieved by improving the indoor and outdoor facilities to enable a wide range of maintenance and engineering project work, while improving our current railway layout will support greater operational exposure to running railways.

IMPROVING COMMUNITY INVOLVEMENT

We wish to work with other organisations and community groups to deliver this programme and to support youth engagement. We wish to the further exploit the educational benefits of running the Downs Light Railway to support other organisations and community groups with fundraising events, wellness events, and promoting the heritage railways in general.

Working with HRA member organisations is key to realising our aims and contributing at a national level to support the future of heritage railways in the UK, and the broader economy.

Photograph (right): A Perrygrove Railway staff member provides motivational encouragement to one of our students during an educational visit in March 2020.



PRACTICAL LOCOMOTIVE & RAILWAY OPERATION LEARNING

The Downs Light Railway specialises in offering practical learning for young people (from 7 years of age) to safely operate locomotives and perform train operations.

Our locomotive driving training package provides young people with a three stage course. Advancing through each course, they increase their skills, knowledge, experience, and responsibility. Each course records their training and when a standard is achieved they are awarded a qualification certificate and specifically coloured neckerchief.

We have four locomotives available for training. Our petrol-hydraulic provides a foundation to basic railway operation. Our three steam locomotives provide advance their driving and operating skills. We operate two narrow-gauge outlined steam locomotives, and one scaled steam locomotive. All steam locomotives operate at 110 PSI (maximum 120 PSI) and are coal fired.



“

I learned about the boiler and how the thickness is tested to ensure that it is safe.

”

Thomas (15 year-old student)



“

I loved oiling the wheels and driving the train. It was perfect, I want to do it again!

”

Amber (8 year-old student)

Education through practical learning is key to success in operating our railway. The educational benefits go beyond the immediate enjoyment of learning to drive and hone many soft skills needed in all walks of life.

Photograph (right-top): The children are given an in-depth theory lesson on boilers.

Photograph (right-bottom): Servicing is an essential part of learning to operate our locomotives.

Photograph (left): The children are shown how to service the locomotive by the elder children. Knowledge transfer between the children is one of our key educational elements.

COURSE STRUCTURE

- **Personal Safety** provides students with the foundations of an Engaged Safety Culture, use of correct PPE, safe working practices, and risk awareness.
- **Track Theory** provides students with the key terminology and understanding of how railways are constructed and operated.
- **Locomotive Theory** provides students with the key terminology for components and an understanding of how the systems on a locomotive work.
- **Locomotive Operation** provides students with the procedures and experience to operate locomotives and haul trains.
- **Locomotive Servicing** provides students with the skills and knowledge to service locomotives during operation, while providing the foundation for preventative and corrective maintenance best practices.
- **Rolling Stock Servicing** provides students with the skills and knowledge to service carriages during operation, while providing the foundation for preventative and corrective maintenance best practices.

PRACTICAL DESIGN & ENGINEERING LEARNING

The Downs Light Railway aims to encourage young people into design and engineering, through the routine maintenance of the railway and ongoing improvements.

We regard the Downs Light Railway as an outdoor classroom to enable young people to learn and develop practical skills. The activities range from maintaining our track work, locomotives, or embarking on project work to grow our operation.

We have approximately half a mile of track work that runs through a deep cutting and tunnel, around a picturesque meadow, and across several

junctions. Our railway is equipped with turntables, semaphore signals, passenger and ballast loading platforms.

Our limited workshop space provides the facility to teach the young people about design and workshop practice. We often find that the children are more interested in this area than actually driving trains around the railway!



“

Really appreciate the chance for my son to participate in Railway, it's a fantastic way to build problem-solving skills, communication and teamwork.

”

Parent of Henry (9 year-old student)



“

This really speaks to his love of engineering and all things mechanical. It's very hard to find activities that provide a practical education and real, usable skills for later in life for children that are mechanically minded and enjoy engineering.

”

Parent of Rupert (7 year-old student)

Giving children the opportunity to learn and develop key skills, while building up their technical knowledge, has a greater success when they are able to work on real world projects.

Photograph (right-top): The children are given the project of refurbishing a turnout.

Photograph (right-bottom): The children develop their workshop practice. Often it gives them inspiration and confidence to develop hobbies at home.

Photograph (left): Two children work on servicing the four stroke petrol engine. On this day the engine was removed, stripped down, cleaned, refitted, and tested in four hours.



We are a STEM Learning Club provider



We are an Autodesk Education licence provider



Photograph (above): The children learn key skills from maintaining the track work, including developing their leadership and team working.

Soft Skills

Our members gain key soft skills through participation on our light railway. Our railway offers the focus and challenges for personal development.

- Leadership
- Teamwork
- Risk awareness
- Responsibility
- Respect
- Confidence
- Communication
- Creative thinking
- Critical thinking
- Time management
- People management

Community Involvement

Our light railway provides a fantastic focal point for the community to rally together to bring positivity and support measurable changes to the community we are a part of.

- Volunteering within our charity
- Promoting our aims and vision
- Supporting fundraising events
- Supporting other causes
- Supporting community projects

Engineering & Workshop Practice

Our students gain an introduction to key knowledge and skills associated with engineering project work and safe workshop practices.

- Safety and hazard awareness
- Design
- Measurement and marking
- Welding
- Brazing
- Grinding
- Sanding
- Shaping
- Cutting
- Drilling
- Thread cutting
- Painting and finishing

Railway Operation & Maintenance

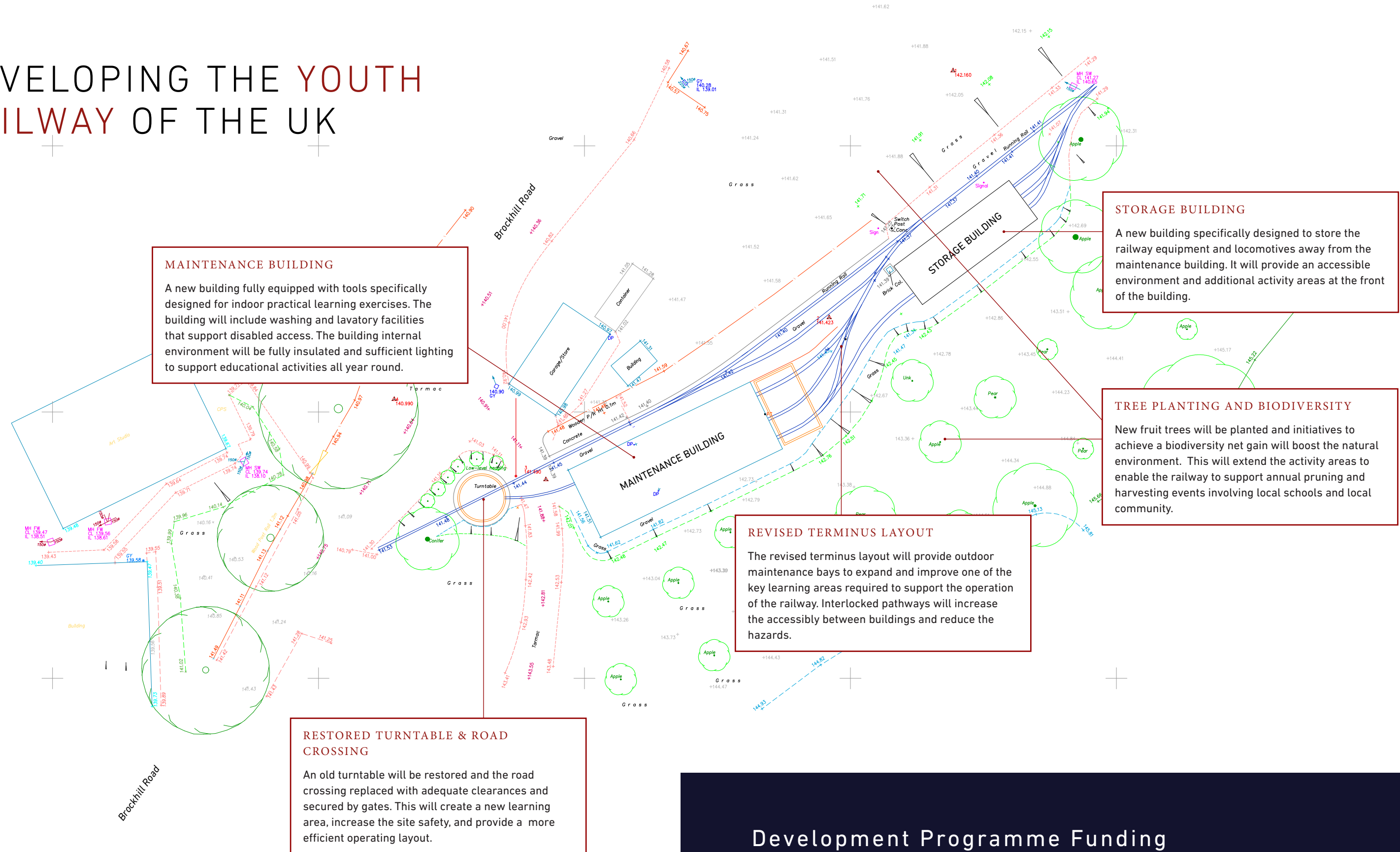
Our students learn about the key aspects of railways, their operation, and required maintenance practices.

- Risk awareness
- Engaged Safety Culture
- Functional purpose of track work components
- Wheel coning theory
- Steam locomotive theory
- Internal combustion engine theory
- Driving training
- Train hauling
- Guarding and people management
- Preventative maintenance
- Corrective maintenance



Photograph (below): Children from the local Scouts group join up with the children on the Downs Light Railway to raise money for both their organisations.

DEVELOPING THE YOUTH RAILWAY OF THE UK



It is in the building

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Development Programme Funding Current Allocation

- £160,000 to provide infrastructure improvements
- £15,000 to provide equipment for teaching
- £25,000 to support track work improvements

To learn more, go to

DLRTrust.co.uk/centenary



Downs Light Railway Trust

C/O The Downs Malvern
Brockhill Road
Colwall
Worcestershire.
WR13 6EY
United Kingdom

Email: info@DLRTrust.co.uk

Website: www.DLRTrust.co.uk

