

Flood Recovery Transport Corridor Project

Pellegrino Venturino | Student ID: 2336525 | Lecturer: Rexon Nting
Module: Project Management (LCM5003)

1. Introduction

Severe flooding has disrupted regional mobility, logistics efficiency and infrastructure reliability.

Objective: restore resilient transport corridors through phased infrastructure recovery.

2. Project Approach

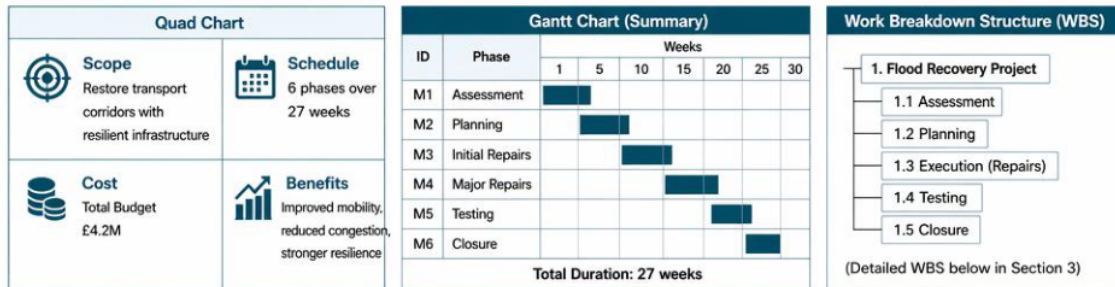
Work Breakdown Structure defines deliverables.

Quad chart aligns scope, cost, schedule and benefits.

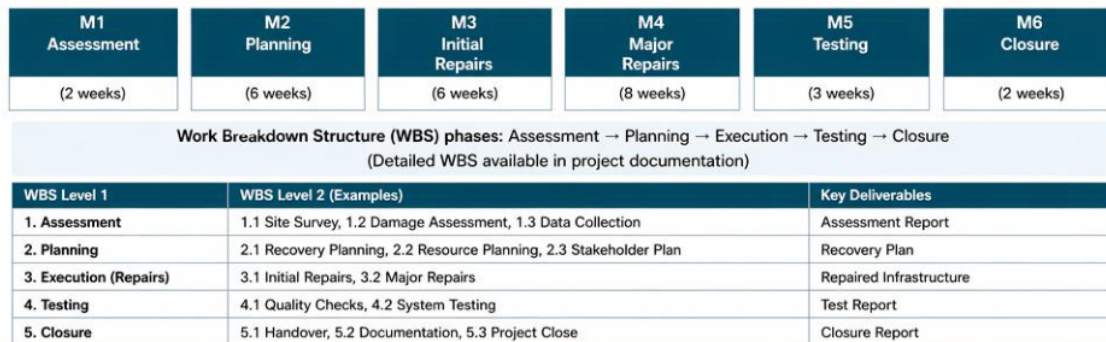
Gantt scheduling coordinates recovery phases.

Risk assessment mitigates operational uncertainty.

Cost control aligned with PMBOK governance.



3. Implementation Timeline



4. Risk Matrix & Risk Assessment

Risk ID	Risk Description	Probability	Impact	Risk Level	Mitigation Strategy
R1	Extreme weather delays	High	High	High	Phased scheduling, contingency buffers
R2	Supply disruption	Medium	High	High	Supplier diversification, early procurement
R3	Budget overruns	Medium	Medium	Medium	Cost monitoring, change control
R4	Workforce shortages	Low	Medium	Low	Skilled resource planning
R5	Logistics challenges	Medium	Low	Low	Route planning, coordination

Risk assessment register supports probability-impact analysis and control.

Cost Breakdown

Cost Category	Amount (£)
Engineering Labour	£1.5M
Materials	£1.2M
Logistics	£600K
Contingency	£500K
Administration	£400K
Total Project Budget	£4.2M

5. Expected Project Impact



Improved regional mobility by 25%



Reduced congestion during peak hours by 20%



Enhanced infrastructure resilience



Logistics recovery time reduced by 30%

Scan for Full Gantt, Quad Chart, WBS & Risk Register

References

- PMI (2021) PMBOK -7 Guide. <https://www.pmi.org/pmbok-guide-standards/foundational/pmbok>
- Kerzner (2019) Project Management. <https://www.wiley.com/en-gb/Project+Management%3A+A+Systems+Approach>
- UK Department for Transp. (2022) Infrastructure Resilience. <https://www.gov.uk/government/publications/infrastructure-resilience-guidance>
- ISO 31000 (2018) Risk Framework. <https://www.iso.org/standard/65694.html>

Contents

1. Part A: Project Proposal Poster
2. Part B: Reflection on Feedback
3. Part C: Project Management Plan
4. Introduction
5. Project Description
6. Project Scope
7. Work Breakdown Structure
8. Quad Chart
9. Gantt Chart
10. Stakeholder Involvement
11. Allocation of Resources
12. Risk Analysis
13. Conclusion
14. References

Part B: Reflection on Feedback

The poster presentation provided a useful starting point for the final project portfolio because it clarified the core purpose of the project and communicated the main recovery idea in a concise form. Feedback from the tutor and peers indicated that the project topic was relevant to the scenario and that the choice to focus on restoring a principal transport corridor was appropriate. The poster also communicated the broad timeline, headline risks, cost categories and expected impact clearly enough for an initial proposal. This confirmed that the project had a sound direction and that the overall objective was realistic.

At the same time, the feedback highlighted a number of areas that required improvement before the proposal could be developed into a full project management plan. The most significant point was that the poster was too high level. It presented the project in summary form, but it did not provide enough detail to show how the project would actually be delivered in practice. In particular, the project structure needed to be expanded through a clearer Work Breakdown Structure, a more developed schedule, and a stronger explanation of how tasks, resources and stakeholders would be managed. This feedback was important because a real project manager must move beyond headline ideas and demonstrate operational control.

A second area for improvement concerned stakeholder involvement. The initial poster referred to the need for coordination, but it did not analyse the interests, influence and communication needs of the main stakeholders in a structured way. In response, the final portfolio includes a stakeholder matrix with power, interest and engagement strategy. This makes the project more credible because flood recovery projects depend on cooperation between local authorities, contractors, affected residents, suppliers and emergency services.

The feedback also suggested that the risk section should be more analytical. The poster listed key risks, but it did not assess them systematically. The final plan therefore introduces a formal risk register with probability, impact, ownership and mitigation actions. This improves the quality of the project because it demonstrates proactive rather than reactive management.

Finally, it was suggested that the final written plan should show stronger links between project management theory and practice. To address this, the portfolio now uses recognised tools such as the WBS, quad chart, Gantt chart, stakeholder matrix, resource plan and risk register as integrated management instruments rather than isolated diagrams. Overall, the feedback was constructive and directly influenced the development of a more detailed, professional and evidence-based final submission.

Part C: Project Management Plan

1. Introduction

In July 2025, severe flooding across the West Midlands disrupted roads, logistics and community access after the River Severn breached its defences in several locations. The scale of the emergency exposed how quickly regional transport systems can fail when infrastructure resilience is weak. A disrupted transport corridor affects more than road access alone. It delays emergency response, interrupts supply chains, restricts workforce mobility and increases the economic cost of recovery.

The selected project is the restoration of a principal transport corridor serving Worcester, Shrewsbury and Kidderminster. The project objective is to reopen a resilient route for the movement of people, goods and emergency services while reducing vulnerability to future flood events. The project is managed as a temporary and structured intervention with defined scope, time, cost, quality and risk controls. Established project management techniques are used because infrastructure recovery requires coordination across multiple organisations, disciplines and public interests (PMI, 2021; Kerzner, 2022).

2. Project Description

The project covers the phased recovery of a flood-damaged corridor linking affected communities to essential regional networks. The work includes site assessment, emergency stabilisation, engineering design, road reconstruction, drainage upgrades, testing and handover. Although the immediate purpose is to restore access, the project is designed around resilience rather than simple replacement. This means that the repaired corridor should perform better under future weather pressure than the asset that previously existed.

The project adopts a controlled delivery model. During initiation, damage is surveyed and priorities are confirmed. During planning, the route is designed, resources are allocated and procurement decisions are made. During execution, road surfaces, embankments, culverts and drainage channels are rebuilt or strengthened. During monitoring and control, progress, risk, cost and quality are reviewed against baseline targets. During closure, the route is tested, signed off and handed into operations. This staged approach reflects the principle that project success depends on both technical delivery and disciplined management (Lock, 2020).

3. Project Scope

The scope defines what the project will and will not deliver. Clear scope control is essential because post-disaster projects are vulnerable to scope creep, especially when multiple stakeholders attempt to attach wider reconstruction demands to one funded intervention. Table 1 therefore distinguishes between in-scope and out-of-scope activities. The project is limited to the transport corridor and directly related supporting assets. It does not extend to wider housing recovery, compensation claims or unrelated municipal repairs.

A strict scope boundary supports realistic budgeting and protects delivery performance. It also improves accountability because every major activity can be linked back to the approved objective. Without that boundary, the project could become politically attractive but operationally unmanageable. Scope management therefore becomes a form of governance, not only an administrative exercise (Meredith, Shafer and Mantel, 2017).

Table 1. Project scope boundaries

Category	Scope Item
In Scope	Road reconstruction and resurfacing of the principal corridor
In Scope	Drainage and culvert replacement in damaged sections
In Scope	Embankment stabilisation and structural reinforcement
In Scope	Testing, safety inspection and route handover
Out of Scope	Residential rebuilding and household restoration
Out of Scope	Insurance, compensation and private claims processing
Out of Scope	Repairs to unrelated municipal assets outside the corridor

4. Work Breakdown Structure

The Work Breakdown Structure (WBS) in Table 2 decomposes the project into manageable work packages. This is important because flood recovery projects contain technical, regulatory and logistical interdependencies. A structured breakdown improves cost estimating, responsibility assignment and schedule control. It also allows progress to be tracked against tangible deliverables rather than vague activity statements.

The WBS has been organised into five main levels: assessment, planning, execution, testing and closure. Within these phases, the project is broken into sub-activities such as surveying, design, procurement, road works and handover. The benefit of this approach is that it translates a complex recovery objective into discrete tasks that can be sequenced, costed and monitored. It therefore supports both operational clarity and managerial oversight (Kerzner, 2022).

Table 2. Work Breakdown Structure

Level 1	Level 2	Level 3	Deliverable
---------	---------	---------	-------------

Level 1	Level 2	Level 3	Deliverable
1. Assessment	1.1 Condition survey	1.1.1 Site inspections and mapping	Damage assessment report
1. Assessment	1.2 Risk review	1.2.1 Hazard and vulnerability analysis	Initial risk map
2. Planning	2.1 Engineering design	2.1.1 Route, drainage and reinforcement design	Approved design package
2. Planning	2.2 Cost and procurement	2.2.1 Costing, supplier engagement and permits	Baseline budget and procurement plan
3. Execution	3.1 Emergency stabilisation	3.1.1 Debris clearance and temporary access control	Safe working corridor
3. Execution	3.2 Road reconstruction	3.2.1 Surface, base and embankment works	Reconstructed road sections
3. Execution	3.3 Drainage upgrade	3.3.1 Culverts, ditches and water run-off controls	Improved drainage system
4. Testing	4.1 Safety and quality checks	4.1.1 Inspection, snagging and correction	Compliance sign-off
5. Closure	5.1 Handover	5.1.1 Final review and operational transfer	Operational transport corridor

5. Quad Chart

A quad chart provides a concise management view of the project. It summarises the four elements that decision-makers usually want to see quickly: objective, schedule, cost and benefit. For public infrastructure work, this visual summary is particularly useful because it supports communication with stakeholders who may not require the full technical detail of the project plan.

Table 3 shows that the project has a defined purpose, a controlled 24-week timeline, an estimated budget of £4.2 million and measurable public benefits. These benefits include improved mobility, reduced congestion, faster logistics recovery and stronger infrastructure resilience. The chart supports executive understanding and makes the portfolio easier to review. However, it is not a substitute for detailed planning; its value lies in strategic summarisation (Maylor, 2010).

Table 3. Quad chart summary

Quadrant	Summary
Objective	Restore a resilient transport corridor for people, goods and emergency access
Timeline	24 weeks from assessment to handover
Cost	Estimated total budget of £4.2 million, including contingency
Benefits	+25% regional mobility, reduced congestion, faster logistics recovery and stronger flood resilience

6. Gantt Chart

The Gantt chart translates the project into a time-sequenced delivery plan. Table 4 shows the order and overlap of the principal tasks across the 24-week project period. This schedule supports coordination because different work packages cannot begin until key dependencies have been

completed. For example, final engineering design depends on assessment outputs, while testing depends on the completion of both civil and drainage works.

The schedule also helps the project manager identify control points. Milestones such as design approval, completion of major repairs and testing sign-off provide opportunities to review performance and intervene if slippage occurs. In practice, a Gantt chart is valuable because it turns planning into a visible control mechanism. It is particularly important in recovery projects where public expectations are high and delays can quickly become reputational as well as operational risks (Burke, 2013).

Table 4. Gantt schedule overview

Task	W1-2	W3-4	W5-6	W7-10	W11-18	W19-21	W22-24
Assessment	■ ■						
Planning and approvals		■ ■	■ ■				
Emergency stabilisation			■ ■				
Road reconstruction				■ ■	■ ■		
Drainage and reinforcement				■ ■	■ ■		
Testing and snagging						■ ■	
Closure and handover							■ ■

7. Stakeholder Involvement

Stakeholder management is central to the success of the project because transport recovery is not delivered by one organisation alone. Local authorities approve and sponsor work, contractors execute technical tasks, suppliers provide materials, residents are directly affected by disruption and central government or resilience bodies may scrutinise outcomes. Stakeholders therefore influence cost, legitimacy, decision speed and project acceptance.

Table 5 presents the main stakeholders with their level of power, interest and engagement strategy. The analysis indicates that high-power and high-interest actors such as the local council, transport authority and lead contractor must be managed closely. Residents and businesses require regular communication because they experience the impact of road closures and reconstruction activity directly. This reflects the wider view that stakeholder engagement is not only about communication; it is also about maintaining alignment, trust and support throughout the project life cycle (Freeman, 2010; Bourne, 2016).

Table 5. Stakeholder matrix

Stakeholder	Power	Interest	Primary concern	Engagement strategy
Local council	High	High	Public accountability, route reopening and budget control	Manage closely through weekly review meetings and formal reporting

Stakeholder	Power	Interest	Primary concern	Engagement strategy
Transport authority	High	High	Network continuity and safety compliance	Joint decision-making on schedule, standards and handover
Lead contractor	High	High	Access, sequencing, labour and commercial performance	Daily coordination and milestone control
Residents and businesses	Medium	High	Access disruption, safety and communication	Regular updates, signage and community notices
Suppliers	Medium	Medium	Delivery timing and stock availability	Contract monitoring and dual-source planning
Emergency services	High	Medium	Maintained access and response routes	Targeted coordination on closures and temporary diversions

8. Allocation of Resources

The project requires an integrated mix of labour, equipment, finance and specialist expertise. Resource planning is shown in Table 6. The project manager leads coordination and reporting, while civil and drainage engineers provide technical supervision. Construction teams carry out physical works and specialist contractors are used where structural reinforcement or flood-resilient drainage design is required. Plant, trucks, excavation equipment and safety systems are also required across the execution period.

Resource allocation matters because under-resourcing delays delivery while over-resourcing creates avoidable cost pressure. The proposed allocation therefore balances capability with control. Contingency is included in the financial plan because infrastructure projects in damaged environments face uncertainty in ground conditions, supply availability and weather exposure. Resource planning should remain dynamic, but the baseline allocation creates a realistic delivery model that can be adjusted through monitoring and control (Association for Project Management, 2019).

Table 6. Resource allocation plan

Resource type	Quantity / value	Purpose	Notes
Project manager	1	Overall coordination, reporting and control	Responsible for governance and performance tracking
Civil engineers	6	Design review, structural supervision and technical approvals	Lead road and embankment decisions
Drainage engineers	3	Hydraulic design and drainage commissioning	Focus on flood-resilience measures
Construction workforce	40	Site works, plant operation and reinstatement	Scaled across execution phase
Specialist contractors	As required	Culvert installation, structural reinforcement and testing	Used for high-risk specialist activities
Heavy equipment	10+ units	Excavation, hauling, compaction and lifting	Includes excavators, rollers and trucks
Budget	£4.2 million	Delivery funding baseline	Includes contingency allowance

9. Risk Analysis

Risk management is a critical part of this project because post-flood reconstruction takes place in an unstable operating environment. Table 7 sets out the principal risks, their probability, impact, ownership and mitigation actions. Extreme weather remains the most significant risk because further rainfall could delay works or damage partially completed assets. Supply disruption is also important because reconstruction projects often compete for materials and specialist labour after major emergencies.

The register shows that not every risk is equally severe. Some are high probability and high impact, while others are lower-level but still require monitoring. A formal register improves project quality because it assigns responsibility and encourages preventive action. For example, supplier risk can be reduced by framework agreements and dual sourcing, while budget overrun can be controlled through regular variance reviews and staged approvals. Risk management should therefore be treated as an ongoing control process rather than a one-off planning document (Hillson, 2017; ISO, 2018).

Table 7. Risk register

Risk	Probability	Impact	Owner	Mitigation
Further extreme weather during construction	High	High	Project manager	Flexible sequencing, weather monitoring and temporary protections
Supply delay for materials or plant	Medium	High	Procurement lead	Dual sourcing, framework suppliers and early ordering
Budget overrun due to hidden damage	Medium	Medium	Project manager / sponsor	Contingency control, staged approvals and cost reviews
Labour shortage or contractor underperformance	Low-Medium	Medium	Lead contractor	Escalation routes, performance meetings and replacement options
Community dissatisfaction due to closures	Medium	Medium	Stakeholder lead	Clear communication, diversion planning and notice periods
Safety incident on site	Low	High	Site manager	Method statements, inductions, supervision and compliance checks

10. Conclusion

The Flood Recovery Transport Corridor Project provides a practical response to a real-world infrastructure emergency. It addresses the immediate need to restore mobility while also improving resilience against future flood events. The plan demonstrates how project management methods can convert a broad recovery objective into a structured intervention with defined scope, schedule, responsibilities, resources and controls.

The portfolio shows that successful recovery depends on more than technical repair. It requires disciplined planning, clear work packages, stakeholder alignment, realistic resource use and active risk management. By applying these principles, the project becomes not only deliverable but

governable. This is the core contribution of project management in a complex public recovery setting: it provides the structure needed to move from disruption to controlled restoration.

References

- Association for Project Management (2019) *APM Body of Knowledge*. 7th edn. Princes Risborough: APM. Available at: <https://www.apm.org.uk/book-shop/apm-body-of-knowledge-7th-edition/>
- Bourne, L. (2016) *Stakeholder Relationship Management: A Maturity Model for Organisational Implementation*. 2nd edn. London: Routledge. Available at: <https://www.routledge.com/Stakeholder-Relationship-Management-A-Maturity-Model-for-Organisational-Implementation/Bourne/p/book/9781472454116>
- Burke, R. (2013) *Project Management: Planning and Control Techniques*. 5th edn. Chichester: Wiley. Available at: <https://www.wiley.com/>
- Freeman, R.E. (2010) *Strategic Management: A Stakeholder Approach*. Cambridge: Cambridge University Press. Available at: <https://www.cambridge.org/core/books/strategic-management/31D251010607579E360C2C805DCC2E72>
- Hillson, D. (2017) *The Risk Management Handbook*. London: Kogan Page. Available at: <https://www.koganpage.com/product/the-risk-management-handbook-9780749478827>
- International Organization for Standardization (2018) *ISO 31000:2018 Risk Management - Guidelines*. Geneva: ISO. Available at: <https://www.iso.org/iso-31000-risk-management.html>
- Kerzner, H. (2022) *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. 13th edn. Hoboken, NJ: Wiley. Available at: <https://www.wiley.com/en-gb/Project-Management-A-Systems-Approach-to-Planning-Scheduling-and-Controlling-13th-Edition>
- Lock, D. (2020) *Project Management*. 11th edn. London: Routledge. Available at: <https://www.routledge.com/Project-Management/Lock/p/book/9780367277344>
- Maylor, H. (2010) *Project Management*. 4th edn. Harlow: Pearson. Available at: <https://www.pearson.com/en-gb/subject-catalog/p/project-management/P200000003436>
- Meredith, J.R., Shafer, S.M. and Mantel, S.J. (2017) *Project Management: A Strategic Managerial Approach*. 10th edn. Hoboken, NJ: Wiley. Available at: <https://www.wiley.com/>
- Project Management Institute (2021) *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*. 7th edn. Newtown Square, PA: PMI. Available at: <https://www.pmi.org/pmbok-guide-standards/foundational/pmbok>
- Too, E.G. and Weaver, P. (2014) 'The management of project management: A conceptual framework for project governance', *International Journal of Project Management*, 32(8), pp. 1382-1394. Available at: <https://doi.org/10.1016/j.ijproman.2013.07.006>