



LOST MINUTE PARKING PROJECT PLAN FOR A REAL-TIME HGV PARKING MANAGEMENT MOBILE APP IN THE UK

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1. Executive summary

Lost Minute Parking is a mobile application project starting on 1 March 2026 to provide real-time booking and reservation of secure parking spaces for heavy goods vehicles (HGVs) across the UK.

The project responds to a severe shortage of safe lorry parking, which forces many drivers into insecure lay-bys and industrial estates and contributes to driver shortages, safety incidents and cargo theft.

The initial phase will integrate with existing surveillance and payment systems at established truck stops, then progressively expand to include compliant lay-bys and authorised industrial parking areas.

The project will deliver a centralised data platform, driver-facing and operator-facing mobile apps, integration with enforcement and traffic information, and a scalable operating model attractive to both public and private investors.

Key benefits include improved driver safety, regulatory compliance, asset protection and better utilisation of existing parking capacity.

The plan sets out the scope, objectives, deliverables, work breakdown structure, schedule, Gantt chart description, stakeholder analysis, resource needs and a risk management approach for delivery over approximately 12 months from March 2026.

2. Introduction

There is a well-documented shortage of safe, secure HGV parking across the UK, with industry estimates suggesting a deficit of around 11,000 dedicated spaces, leading to average utilisation above 80% and even above 90% in some regions.

As a result, many drivers are forced into lay-bys, industrial estates, or poorly lit areas without fencing, CCTV, or basic welfare facilities, which exposes them to theft, violence and vehicle damage, while also making it harder to comply with mandatory rest periods because time is wasted searching for a legitimate space (J T Few, 2025).

Impact on safety and compliance:

When drivers cannot find secure parking, they are more vulnerable to cargo theft and personal assaults, especially at night and in isolated locations.

Poorly maintained or informal stopping places often lack toilets, showers, lighting and supervision, contributing to fatigue, stress and poorer sleep, which in turn undermines road safety and increases the risk of accidents. The scramble to find a space before driving hours expire can push drivers to overrun their legal hours or park non-compliantly, threatening both operator compliance and drivers' licences (Pölös Zsófia, 2025).

The workforce crisis:

The UK haulage sector continues to face a significant HGV driver shortfall, frequently described in tens of thousands of drivers, with an ageing workforce and too few young entrants replacing retirees.

Poor working conditions, including the lack of reliable, decent rest facilities and secure overnight parking, are consistently cited as a major deterrent for new drivers and a key factor pushing existing drivers out of the profession.

For younger workers comparing career options, the prospect of spending nights in unsafe lay-bys without guaranteed access to showers, food, or security makes road haulage far less attractive despite competitive pay (Fagan & Whalley, 2025).

Lost Minute Parking App's role

In this context, a platform such as the Lost Minute Parking App can be positioned as a practical, technology-enabled solution that turns a fragmented, uncertain parking landscape into a managed network of secure options visible in real time.

By giving drivers clear visibility of secure, vetted HGV parking locations, showing available facilities and up-to-date capacity, and enabling guaranteed advance bookings, the app can help reduce last-minute detours, waiting, and the stress of not knowing where a compliant rest can be taken.

Similar truck-parking platforms already demonstrate that real-time search, digital payments and reservations can dramatically simplify finding and booking safe HGV spaces and can integrate with fleet tools to support planning and compliance.

Coordination benefits for the sector

Beyond individual drivers, an app-based parking marketplace can connect depot operators, truck-stop providers, and local authorities, exposing under-used secure yards and formal sites to national demand. Operators gain better utilisation of their parking assets and clearer demand patterns, while authorities gain data on where shortages are most acute, supporting targeted investment and policy decisions. For the workforce challenge, reliable, bookable, secure rest options are a tangible improvement to the job offer: they make shifts more predictable, nights safer, compliance easier, and the overall proposition of a driving career more appealing to the next generation (Sean, 2024).

3. Aim, Objectives and Scope

Aim

To design and implement “Lost Minute Parking”, a UK-wide mobile app and back-end platform enabling real-time booking and management of secure HGV parking spaces, improving driver safety and regulatory compliance while creating an investable infrastructure asset.

Objectives

- By Month 4: Complete requirements analysis and system architecture for the mobile app and central platform.
- By Month 8: Develop and test the minimum viable product (MVP) with at least three pilot truck parks integrated.
- By Month 10: Integrate real-time traffic and incident information to support proactive driver rerouting and parking guidance.
- By Month 12: Deploy the system into live operation with an initial network of secure sites and a defined roadmap for expansion to lay-bys and industrial areas where permitted.

Scope

In scope:

- a. Requirements analysis with drivers, transport companies, parking operators, law enforcement and potential investors.
- b. Design and development of:
 - Driver mobile app (Android/iOS).
 - Operator portal (web and app) for parking owners/operators.
 - Centralised back-end platform and database.
- c. Integration with:
 - Existing surveillance and payment systems at truck parks (where APIs or interfaces exist).
 - Mapping, GPS and traffic information sources.
 - Data model for HGV-suitable parking, including security attributes (fencing, CCTV, lighting, controlled access).
- d. Pilot deployment in a defined geographic corridor or cluster of sites.
- e. Core operational processes, support model and high-level commercial framework (pricing and revenue model).

Out of scope (for this first phase):

- a. Construction of new physical parking facilities
- b. International deployment beyond the UK
- c. Development of detailed national policy or regulatory changes (alignment with existing regulations is required)

4. Project outputs (deliverables)

List of tangible deliverables:

1. Approved business case and requirements specification.
2. System architecture and detailed design documentation.
3. Prototype / wireframes for driver and operator interfaces.
4. Developed and tested MVP of:
 - Driver app (booking, navigation to site, payment, alerts).
 - Operator portal (slot inventory management, pricing, reporting).
 - Central platform (booking engine, real-time availability, integration services).
5. Data integration interfaces with:
 - Selected parking operators' surveillance and payment systems.
 - Traffic and incident information feeds.
6. Security and privacy documentation (data protection impact assessment, access control model).
7. Pilot implementation:
 - Onboarded truck parks and other authorised parking location.
 - Training materials for operators and support staff.
 - User guides / quick-start guides for drivers.
8. Project management artefacts:
 - Work Breakdown Structure (WBS).
 - Schedule, Gantt chart, risk register, stakeholder register, communication plan.
9. Final project report and lessons-learned document.

5. Work Breakdown Structure (WBS)

Main activities, sub-activities, and tasks.

1. Project initiation and governance

- 1.1 Develop project charter
- 1.2 Appoint project team and governance structure
- 1.3 Kick-off meeting with key stakeholders

2. Requirements and analysis

- 2.1 Stakeholder interviews and workshops (drivers, operators, police, transport firms, investors)
- 2.2 Define functional and non-functional requirements
- 2.3 Define regulatory and compliance requirements (drivers' hours, data protection)
- 2.4 Prioritise requirements and agree MVP scope

3. System design

- 3.1 High-level architecture (app, platform, integrations)
- 3.2 Detailed technical design (APIs, databases, security)
- 3.3 UX/UI design for driver app and operator portal
- 3.4 Data model for parking locations and availability

4. Development

4.1 Set up development and test environments

4.2 Back-end platform development (booking engine, authentication, payment integration)

4.3 Driver app development (search, booking, navigation, notifications)

4.4 Operator portal development (capacity management, tariffs, reporting)

4.5 Integration development (surveillance/payment systems, traffic data)

5. Testing and quality assurance

5.1 Unit and integration testing

5.2 System testing

5.3 Security and performance testing

5.4 User acceptance testing with selected drivers and operators

6. Pilot deployment

6.1 Select and contract pilot sites

6.2 Configure site data and tariffs

6.3 Train operators and support team

6.4 Go-live for pilot and monitor performance

7. Evaluation and scale-up planning

7.1 Collect and analyse pilot data (usage, incidents, satisfaction)

7.2 Refine business model and investment case

7.3 Define national rollout roadmap (including lay-bys/industrial areas where permitted)

7.4 Handover to operations and Close Project

6. Project Schedule and Milestones

Visual timeline table

Project start: 01 March 2026.

Milestone ID	Milestone description	Planned completion
M1	Project charter approved and team mobilised (1.0)	31 Mar 2026
M2	Requirements sign-off and MVP scope agreed (2.0)	30 Apr 2026
M3	System design completed (3.0)	31 May 2026
M4	Core platform and apps development complete (4.0)	30 Sep 2026
M5	Integrations with pilot sites completed (5.0)	31 Oct 2026
M6	User acceptance testing sign-off (6.0)	30 Nov 2026
M7	Pilot go-live (7.0)	15 Dec 2026
M8	Pilot evaluation and scale-up plan approved (8.0)	28 Feb 2027

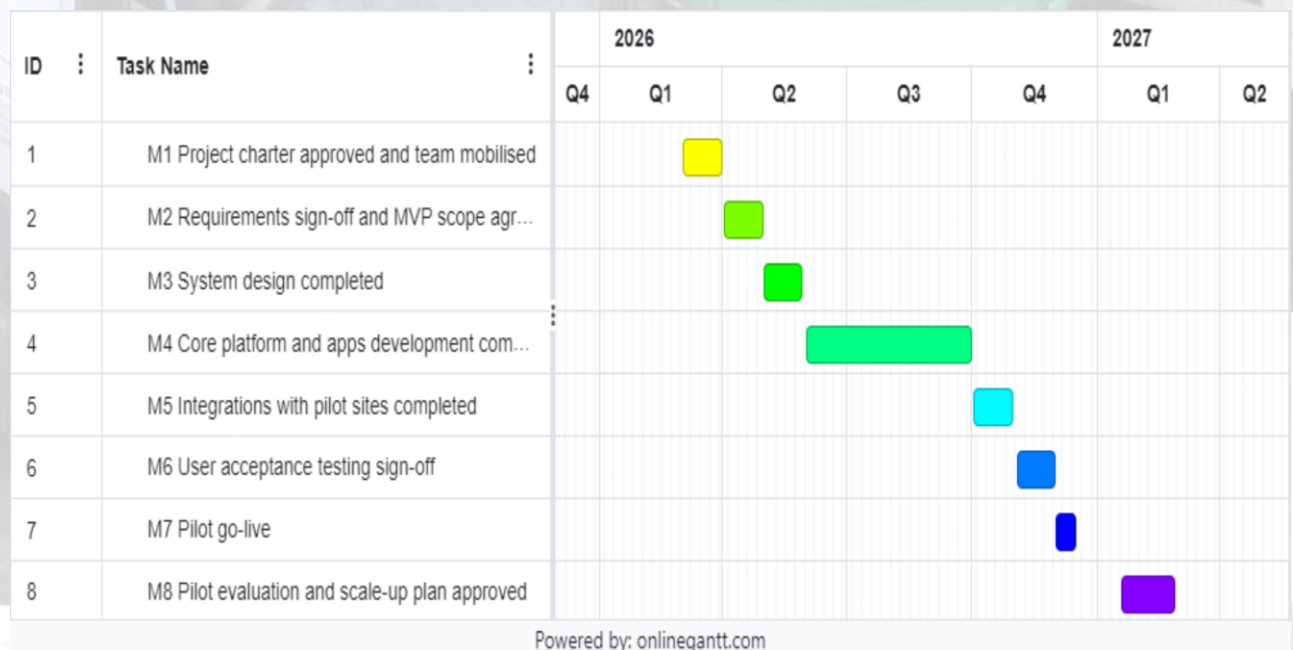


Figure 1: Project Gantt chart

(Online Gantt, 2025).

7. Stakeholder analysis

Key stakeholders:

1. HGV drivers
2. Transport / haulage companies
3. Parking operators / truck stop owners
4. Potential private investors in parking expansion and management
5. UK central government transport and safety departments
6. Local authorities (planning, highways)
7. Traffic police / enforcement agencies
8. Technology partners (app developers, payment providers, telematics providers)
9. Freight customers / shippers (senders of the goods)
10. Driver unions / professional associations

Stakeholder group	Interest in project	Influence level (H/M/L)
HGV drivers	Reliable secure parking, safety, compliance, ease of use	High
Transport companies	Reduced risk/cost, predictable operations, compliance	High
Parking operators	Higher utilisation, new revenue, operational efficiency	High
Government & enforcement	Improved safety, reduced illegal parking and crime	High
Private investors	Financial returns and asset growth	Medium
Technology partners	Successful implementation and ongoing contracts	Medium
Freight customers / shippers	Reduced delays, cargo safety	Medium
Local communities	Less nuisance parking, improved safety	Medium-Low
Driver unions / professional associations	Reduced risk, safety, compliance	Medium-Low

8. Resources and Budget Assumptions

A. Human resources:

- Project manager
- Business analyst
- Solution architect
- UX/UI designer
- Mobile developers (Android and iOS)
- Back-end developers / integration specialists
- QA/test analysts
- Security and data protection specialist
- Pilot site onboarding / training staff
- Support and operations staff for go-live

OBS: UX designers plan and improve how users interact with a product, so it is easy, efficient, and enjoyable to use. UI designers create the visual look and interactive elements of a product, such as layouts, colours, and buttons, so it is clear and attractive (Rivera, 2025).

B. Technical resources:

- Cloud hosting environment (servers, databases)
- Development and test tools (version control, issue tracking)
- Mobile devices for testing
- Secure connectivity with pilot parking operators' systems

C. Financial resources with budget allocations for:

- Staff / contractor time
- Software licences, hosting and third-party services
- Travel and workshops
- Marketing and driver engagement during pilot

Budget Table

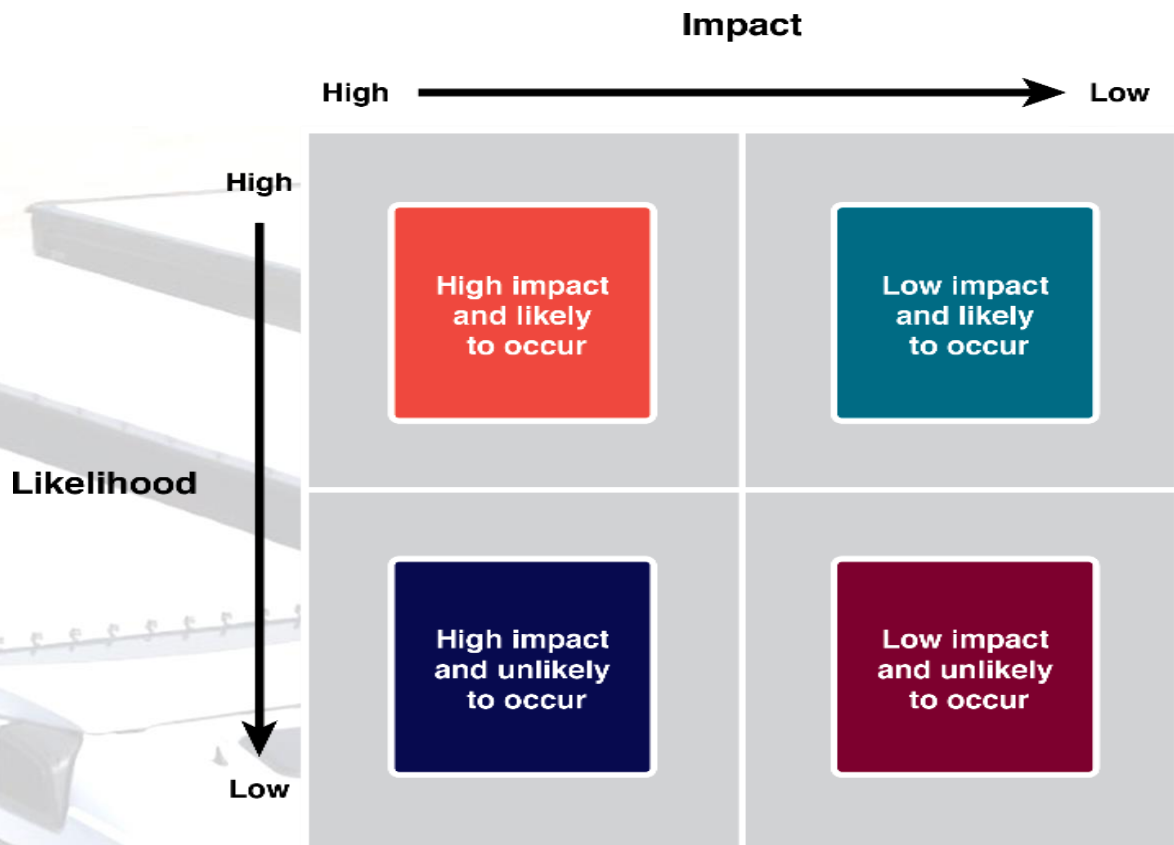
Phase	Effort (person-days, approx.)	Cost (approx.)
1. Discovery & Inception	44	£27,950
2. Experience & Service Design	43	£26,300
3. Architecture & Technical Design	36	£23,850
4. Backend & Admin Implementation	90	£56,500
5. Mobile App Implementation	95	£59,250
6. Integration, Security & UAT	59	£36,950
7. Launch & Initial Operations	23	£14,450
Subtotal (delivery)	390	£245,250
Contingency (~15%)	—	£36,800
Total Estimated Budget (ROM)	—	£282,000

9. Risk Management

Risk management is a structured way to deal with potential events that could affect objectives, moving through:

- identification,
- analysis,
- response planning,
- ongoing monitoring

- A. **Identification** is about spotting potential threats or opportunities that could affect objectives, such as schedule delays, cost overruns, or compliance issues. Common techniques include brainstorming, checklists, reviewing past projects, expert interviews, and building a risk register that lists each risk, its cause, and potential consequence (Belgodere, 2021).
- B. **Analysis** estimates how likely each identified risk is and how big its impact could be, often using qualitative scales (low/medium/high) and sometimes quantitative methods (numeric probabilities, cost or time impact). The outcome is typically a prioritized list or matrix so that the most significant risks receive attention and resources first (Puckett, n.d.).
- C. **Response planning** defines what actions will be taken for key risks, using strategies such as avoid, mitigate, transfer/share, or accept, and specifying who is responsible and when to act. These actions are documented in a risk response plan or mitigation plan, often linked directly to the risk register so that each major risk has a clear treatment strategy and contingency trigger.
- D. **Monitoring** involves regularly reviewing risks, tracking whether response actions are implemented and effective, and updating assessments as conditions change. This usually includes periodic risk reviews or meetings, updating the risk register, reporting to stakeholders, and adding new risks that emerge during the life of the project or operation (Auditboard.com, 2024).



(Patterson, 2022)

Project risks

RISK ID	DESCRIPTION	LIKELIHOOD	IMPACT	RESPONSE / MITIGATION SUMMARY
R1	Low driver adoption	Medium	High	Engagement, incentives, UX focus
R2	Low operator participation	Medium	High	Commercial incentives, simple onboarding
R3	Technical integration issues	Medium	Medium	Early assessment, prioritise modern partners
R4	Data/security breach	Low	High	Security-by-design, testing, monitoring
R5	Schedule overrun	Medium	Medium	Contingency, phased delivery, scope management
R6	Regulatory constraints	Medium	Medium	Early engagement with authorities
R7	Funding shortfall	Low–Med	High	Strong business case, phased funding

1. Low adoption by drivers

- Cause: Drivers reluctant to change habits or distrust digital booking.
- Impact: Limited safety benefits and weak business case.
- Mitigation: Early engagement with driver groups, simple UX, incentives during pilot, clear communication of safety benefits.

2. Insufficient participation from parking operators

- Cause: Operators unwilling to share real-time capacity or adjust processes.
- Impact: Limited coverage reduces usefulness of app.
- Mitigation: Commercial incentives, revenue-sharing models, simple onboarding tools, initial focus on motivated partners.

3. Integration failures with existing surveillance/payment systems

- Cause: Legacy systems, poor documentation, technical incompatibilities.
- Impact: Manual workarounds/reduced reliability.
- Mitigation: Early technical assessment, prioritisation of operators with modern systems, phased integration, dedicated integration specialists.

4. Data security and privacy breaches

- Cause: Weak access controls, inadequate encryption, misconfiguration.
- Impact: Regulatory penalties, reputational damage, loss of trust.
- Mitigation: Security-by-design approach, expert review, penetration testing, compliance with relevant data protection regulations, robust incident response plan.

5. Schedule slippage

- Cause: Underestimated development/integration complexity.
- Impact: Delay to pilot go-live and benefits realisation.
- Mitigation: Realistic planning with contingency, agile delivery with regular reviews, scope control, prioritisation of Minimum Viable Product.

6. Regulatory or policy constraints

- Cause: Restrictions on using lay-bys/industrial areas, local opposition.
- Impact: Slower expansion beyond existing truck parks.
- Mitigation: Early engagement with authorities, focus first on fully compliant sites, adapt roadmap as regulations evolve.

7. Funding shortfall

- Cause: Higher-than-expected costs or lower-than-expected interest from private investors.
- Impact: Reduced scope or delays.
- Mitigation: Phased funding approach, clear business case with quantified benefits, early investor engagement, exploration of public-private partnership models.

10. Conclusion

Problem: Safety and Workforce Crisis

The UK is missing around 11,000 safe and secure lorry spaces, forcing drivers into laybys and industrial estates where risks of theft, assault and cargo crime are higher and facilities are poor. This persistent insecurity, combined with pressure from driving-hours rules and unpredictable traffic, makes HGV driving unattractive and contributes to an ongoing driver shortage and reliance on migrant labour.

Lost Minute Parking directly tackles the shortage of safe HGV parking by turning fragmented, underused and informal spaces into a coordinated, bookable national network, which in turn helps ease the UK's HGV workforce crisis.

Solution Concept

Lost Minute Parking is a mobile app providing real-time, online booking and reservation of HGV parking slots, initially across the UK, using the existing surveillance and payment infrastructure at truck stops and service areas.

By guaranteeing a slot before a driver's legal hours expire, the app reduces last-minute, unsafe stopping and allows drivers and transport planners to integrate secure rest into route planning.

How the App Addresses the Parking Gap

The project centralises data from current secure truck parks, emerging smart-parking feeds (CCTV, sensors, payment systems) and compatible private yards into one live availability and booking platform. Over time, it can onboard compliant lay-bys and industrial locations where parking is allowed, expanding capacity far beyond what incremental government-funded spaces alone can deliver.

Economic Logic and Investment Case

Because a guaranteed, compliant and secure parking slot reduces risk of fines, theft and delays, both hauliers and drivers have a clear incentive to pay a premium (for example, 10%+) over standard parking rates for pre-booked spaces.

This predictable revenue stream makes the central platform attractive to private investors and gives government a lever to multiply the impact of its limited capital grants by co-funding digital infrastructure rather than only building new concrete bays.

Impact on Workforce Attractiveness

By shifting drivers from improvised, unsafe roadside stops to guaranteed, monitored, well-equipped facilities, Lost Minute Parking directly improves personal safety, rest quality and compliance with working-time rules. Better daily working conditions, greater predictability and visible government backing for driver safety help make HGV driving a more desirable, “protected” career, which supports recruitment and retention in a sector currently struggling to fill roles.

Word count 2817

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