Assessment of Commuting Practicality and Sustainable Travel Challenges: Moorway Lane, Derby — Relative to Major Employment Centres

Introduction

The proposed residential development at Moorway Lane, Derby, faces significant scrutiny regarding its suitability under contemporary planning and sustainability objectives. A pivotal issue is the practical accessibility of Derby's largest employment centres—including Toyota, Rolls-Royce, Royal Derby Hospital, Alstom, and Derby train station—from the Moorway Lane site. This section evaluates the commuting realities for potential residents by car, bicycle, and public transport, considering typical daily challenges such as traffic congestion, route options, bus transfer requirements, and the limitations on genuinely sustainable travel. The analysis draws on official transport data, route planners, live congestion reports, cycling network reviews, and planning documents relevant to Derby's strategic transport and sustainability ambitions. The aim is to provide a grounded, evidence-based picture of whether the location meaningfully supports sustainable commuting, or if it instead locks residents into high traffic, high-carbon, and inconvenient travel patterns—contradicting sustainability objectives and undermining the development's planning credentials.

Site Context: Moorway Lane and the Strategic Transport Setting

Before comparing specific commutes, it is important to establish Moorway Lane's geographic and infrastructural setting within the wider Derby transport network. Moorway Lane sits on the southern periphery of Derby, forming a key transition point between suburban Littleover and the neighbouring countryside. The site's proximity to green spaces such as Millennium Woods is one cause for local concern, but equally critical is Moorway Lane's reliance on a local road system that is already identified as stressed, particularly during school run and peak commuter periods. Its access routes feed directly onto either the A38 or local B-roads, both of which are noted congestion pinch-points in Derby's Local Transport Plan and traffic updates.

Moorway Lane is not directly served by rail; all rail connections require accessing Derby train station some distance away. While cycling and bus lanes exist piecemeal in South Derby, they have notable limitations for connectivity, capacity, and safety, particularly for longer or cross-city journeys. This background sets the conditions for understanding the practicality of commutes from the site to major local employers.

Private Car Commuting: Route Analysis and Congestion Risks

General Patterns of Car Dependency

Across Derby and the East Midlands, car usage dominates commuter journeys. The 2021 Census and recent ONS datasets show that 53.2% of East Midlands workers drive to work, with Derby's urban fringe—such as Littleover—showing even higher rates of car ownership and usage. Moorway Lane's location, limited rail or direct bus connections, and the dispersed nature of key employers encourage continued car dependency.

Realistic Commute Times and Route Summaries

The major employment centres under consideration are all situated at least 3 to 7 miles from Moorway Lane, commonly across or around the Derby ring road. Typical peak-hour drive

times (see Table 1 below) are based on contemporary data from official route planners and real-time congestion monitoring.

Destination	Typical Peak Car Route	Off-Peak Drive Time	Peak Drive Time	Congestion Risks
Toyota Motor Mfg (Burnaston)	Moorway Ln → Pastures Hill → A38 S → A5132	12–15 min	20–30+ min	A38/Pastures Hill bottleneck, A5132 congestion
Rolls-Royce (Victory Rd)	Moorway Ln → Pastures Hill → Rykneld Rd	12–15 min	20–30 min	Queues at Pastures Hill, Rykneld Rd
Royal Derby Hospital	Moorway Ln → Pastures Hill → Uttoxeter New Rd	8–12 min	15–25 min	Pastures Hill, Uttoxeter New Rd queue
Alstom (Litchurch Ln)	Moorway Ln → Pastures Hill → Ashbourne Rd IRR → Litchurch Ln	20 min	30–40+ min	City ring road congestion, Litchurch Ln
Derby train station	Moorway Ln → Pastures Hill → Ashbourne Rd IRR → Railway Terrace	20 min	30–40 min	City centre access bottleneck

The above estimates conceal substantial variation. During school drop-off/pick-up (notably with Derby Moor Academy nearby), Moorway Lane traffic frequently grinds to a halt—the subject of ongoing local petitions for traffic and pedestrian safety intervention. AA and RAC route planners, as well as user-sourced Derby traffic data, confirm that morning (07:45–09:15) and evening (16:15–18:00) peak periods can double or even triple nominal off-peak drive times.

Analysis of Congestion and Environmental Impacts

Car commutes from this site will routinely be subject to delays at:

- The Pastures Hill approach, which is a single carriageway bottleneck and already serves multiple large school and residential developments.
- The junction with the A38, which suffers recurring congestion and is regularly impacted by roadworks, as reported in ongoing A52/A38 updates.
- City centre approaches, particularly for Alstom and the train station; crossing into urban Derby involves queueing at the congested inner ring road and major city junctions.

The result is not merely inconvenience: added idling and stop-start motoring drive up local particulate and CO_2 emissions in an area already identified as an air quality management zone. Derby's Local Transport Plan and Air Quality Action Plan flag this pattern of suburban development and commuter inflow as a key challenge for reaching climate and congestion targets.

Sustainability Concerns

Encouraging or depending on private car use for the majority of local commutes starkly contradicts Derby's stated sustainable travel policies. The 2021–2025 Sustainable Travel Plan for Derby—and national planning guidance (NPPF)—both require new developments to prioritise access to low-carbon, convenient alternative transport to avoid car-dependent growth sprawl.

Cycling: Infrastructure, Route Safety, and Realistic Practicality

Existing Cycling Networks

There have been significant efforts to improve Derby's city cycling routes in recent years, supported by the Transforming Cities Fund and Active Travel initiatives. However, most quality infrastructure and routes—cycleways, segregated lanes, and priority junctions—are concentrated within or immediately around the city centre. The outer urban areas, especially approaching Moorway Lane, lack comprehensive off-road or segregated alternatives.

Key points:

- The Mickleover and Littleover sector, including Moorway Lane, is only partially served by designated cycle lanes, with critical gaps on main approach roads like Pastures Hill and the ring road.
- National Cycle Network routes (notably NCN6/54/68) are accessible but require substantial detours and often involve mixed-traffic or shared-use sections lacking priority or physical protection.

Feasibility and Commute Times to Employment Centres

Destination	Approx. Route Description	Distance (one way)	Realistic Cycle Time (each way)	Key Hazards/Risks	Cycle Facilities at Destination
Toyota (Burnaston)	Moorway Ln → Rykneld Rd/Pastures Hill → A38 (shortest)	6.5 mi	32–40 min	Shared traffic; fast A38	Limited secure parking onsite
Rolls-Royce	Moorway Ln → Rykneld Rd loop → Victory Rd	5.0 mi	25–32 min	Main route on busy, narrow roads	Good end-of-trip facilities
Royal Derby Hosp.	Moorway Ln → Pastures Hill → Uttoxeter New Rd	3.2 mi	18–25 min	Busy single-lane, intermittent lanes	Incomplete secure bike parking
Alstom	Moorway Ln → City Centre ring road → Litchurch Ln	6.4 mi	35–45 min	Ring road crossings, high traffic	Limited facilities for cyclists
Derby Station	Moorway Ln → City ring route → Railway Terrace	6.7 mi	35–50 min	City centre congestion, crossings	Cycle parking available

Analysis of Practicality for Daily Commuters

While the physical distances are not, in principle, excessive for regular cycling, a number of limitations severely restrict cycling's real-world viability as a mass commuter mode from Moorway Lane:

- **Network Gaps and Safety:** The lack of fully separated, continuous cycle routes exposes cyclists to high-speed or heavily trafficked sections—particularly on Pastures Hill, Rykneld Road, and the ring road approaches. These routes are often narrow, with advisory rather than protected lanes, making them uncomfortable or unsafe for novice/less confident cyclists and wholly inappropriate for families or those cycling in poor light or bad weather.
- **Intersection Hazards:** Key junctions (e.g., Pastures Hill/A38) are not cycle-friendly and lack clear priorities. Accident and near-miss data show increased risk for cyclists at these points.
- **Topography:** The area is undulating, with notable inclines on the routes to Rolls-Royce and Toyota that further reduce accessibility and make cycling less attractive, especially for commuters carrying equipment or in business attire.
- **Cycle Parking/End-of-trip Facilities:** While there have been improvements at some major employers, the level and consistency of secure, covered parking lags behind national best practice, acting as a deterrent to regular take-up.

Assessment of Potential and Sustainability

Even with Derby's city-wide targets and expansion of active travel funding, the current infrastructure from Moorway Lane does not deliver a convenient, direct, or safe cycling experience to the main employment sites. Consequently, although Derby's Sustainable Travel Plan encourages cycling as a key mode shift, the practical likelihood of a significant proportion of future Moorway Lane residents regularly and safely cycling to work is low—particularly during the winter months or for less-fit, mobility-limited, or risk-averse users.

Bus and Public Transport: Frequency, Route Complexity, and Bus Changes

Bus Service Overview

Moorway Lane's bus links consist primarily of the Arriva 5/5A and related services, which circulate through Littleover and onwards to Derby City Centre and occasionally further afield. This network, however, is designed for local access rather than as a direct commuter spine to the major industrial employers on the city outskirts (Toyota) or to Derby train station or Alstom, which are on or near the opposite side of the city.

Service Frequency and Journey Times

- **Arriva 5/5A**: Buses typically run every 30 minutes during weekday peak times; hourly on Sundays.
- **Total journey times** (including walking to the bus stop from Moorway Lane, typical waiting, and transfer where necessary) are notably longer than equivalent car journeys, especially during off-peak periods or when transfers are required.
- **Reliability** has recently declined, with on-time performance for Derby buses dropping to around 77.7% (far below the city's 95% target) in the latest monitoring period.

Bus Connectivity to Employment Sites

Destination	Direct Bus Route from Moorway Ln?	Typical Journey Time (each way)	Transfers Required/Comments
Toyota (Burnaston)	No direct; bus to City, then infrequent service	60–85 min	2 buses: Moorway to City Centre, then city to Toyota site (service X38 or rare 701); long walks from stops
Rolls-Royce (Victory Rd)	No direct; bus to City Centre, second bus or long walk	45–60 min	1 transfer; service 4/5A to City, 6/X38 to Victory Rd
Royal Derby Hospital	Yes, via Arriva 5/5A	30–35 min	Direct bus; but journey time 2–3x driving; buses can be delayed during peak due to hospital approach queues
Alstom	No direct	55–75 min	2 transfers required—bus to City, then 2nd to Litchurch Lane; add walking time
Derby train station	No direct; requires transfer at City Centre	45–65 min	At least 1 transfer; buses terminate at bus station, not train station

Public Transport Limitations

- **Frequency and Timing:** Key bus services (including those reaching Toyota and Rolls-Royce) are intermittent and do not align well with standard industrial or shift working patterns, which restricts flexibility for employees needing early, late, or variable start and end times.
- **Service Gaps:** Early morning, late evening, and weekend timetables are less frequent, limiting modal choice for those in shift work (notable for hospital, rail, and industrial employers).
- **Walk and Wait Times:** Extended walking is usually required at either end of the journey, especially for Toyota and Alstom (site bus stops are not directly adjacent to the workplace entrances). Waiting times for connections increase journey length, with real-world total travel times on the order of twice or more than the equivalent drive.
- **Transfers and Reliability:** All routes to Derby train station require changing buses at the city centre, introducing uncertainty and risk of missed connections. Bus punctuality and coordination remain significant challenges, with less than 80% of non-frequent services running on time in Derby as of the latest year.

Journey Example: Moorway Lane to Derby Train Station

- Walk to nearest Arriva 5/5A stop (5–10 min).
- Ride to Derby City Centre/St Peter's Street (allow 20–25 min including waiting and city traffic).
- Transfer to city-centre shuttle/Unibus or walk to Derby train station (add 10–18 min including possible wait).
- **Realistic total journey:** 45–65 min each way, dependent on timing of arrival and connection. If a return involves an off-peak period or late finish, waiting/total time may increase substantially.

Accessibility and User Experience

Derby bus satisfaction data shows that only 70–80% of passengers are satisfied with journey times and punctuality; frequent delays and inconsistent timetables are cited as significant barriers to regular commuter use. The lack of direct, high-frequency, point-to-point routes from Moorway Lane means public transport cannot feasibly compete with the convenience or duration of car commutes for most key employment destinations. Additionally, the £2 fare cap introduced as a cost-of-living support measure may be temporary, raising concerns about future affordability.

Combined Limitations on Sustainable Travel at Moorway Lane

Bus and Sustainable Transport Network Gaps

Derby's planning policy and council strategies emphasize the need for new developments to support low-carbon, sustainable transport, including proximity to frequent bus routes (400m walking distance), cycleways, and reduced need for travel. However, the actual level of provision at Moorway Lane fails to meet these criteria in three core respects:

- **Insufficient bus frequency and directness:** Only a minority of employment commutes are possible without transfers. For Toyota and Alstom, there are no realistic public transport options that match working patterns or commute durations.
- **Incomplete or unsafe cycle networks:** The lack of continuous, segregated cycling infrastructure from Moorway Lane to the main employment areas makes mass cycling uptake unlikely, particularly outside of summer or for non-enthusiast riders.
- **Persistently high car dependency:** The combination of poor alternative modes and site geography cements a pattern of car-based travel. Key Derby data show that outlying housing developments default to high car ownership and use, exacerbating citywide congestion, pollution, and carbon targets.

Congestion Risks and Strategic Network Impact

The addition of potentially 300+ dwellings at Moorway Lane would feed hundreds of extra daily car journeys into an already at-capacity road network:

- **Pastures Hill and Rykneld Road congestion**—both are critical 'choke points' in South Derby for cross-city traffic and are already referenced in Council and community traffic safety reviews as exacerbated at peak times.
- **A38 and ring road pinch points**—with Derby City Council's consultation on major bus and active travel improvements, but not yet implemented in the immediate vicinity, residents will remain tied to car travel for years to come.
- **No committed mitigation**—current initiatives to enhance citywide travel infrastructure are focused on more central corridors or other growth areas, leaving the Moorway Lane catchment still facing delay, pollution, and unsafe walking/cycling conditions for the foreseeable future.

Residents' Real-World Travel Behaviour

National and local data support the reality that, even in urban areas, most residents in locations disconnected from high-frequency, direct bus or cycle networks favour the car for the majority of journeys. Active travel is generally limited to short, safe, or leisure journeys; longer daily commutes fall back on the private car when alternatives are patchy, slow, or perceived as unsafe.

Summary Table: Commuting from Moorway Lane to Major Employers

Mode	Typical Journey Time (Peak)	No. of Bus Transfers	Comfort/Practicality	Key Barriers	Sustainability Assessment
Car	15–40+ min	0	Highest convenience; expensive, polluted	Severe peak congestion, parking, emissions	Fails Derby and national policy
Bicycle	18–50 min	N/A	Reasonable in summer, difficult in winter	Unsafe routes, missing infrastructure, topography	Only viable for minority; not mass mode
Bus	30–80+ min	1–2	Long overall time, waiting, poor frequency	No direct routes, poor reliability, service gaps	Impractical for most work commutes

Impact on Development Sustainability and Planning Objectives

Misalignment with Sustainable Planning Policy

- **Policy Requirement:** National Planning Policy Framework (NPPF) Paragraph 108 mandates that developments must ensure “safe and suitable access to the site can be achieved for all users” and give priority “to pedestrian and cycle movements, and access to high quality public transport.”
- **Local Policy:** Derby’s Local Plan aims for “significant reductions in congestion and carbon emissions” by reducing car dependency and improving active travel and public transport connectivity.

The Moorway Lane proposal is fundamentally out of step with these requirements. Its peripheral location, fragmented or indirect links to the major employment market, and demonstrated reliance on private vehicles all contradict the “sustainable location” criteria central to both national and local policy objectives.

Long-Term Implications for Residents and the City

The approval of the Moorway Lane development in its current form risks generating:

- **Locked-in car dependency** for hundreds of households, with little realistic prospect of modal shift to bus or bike for the majority of work-based trips.
- **Worsening congestion** on key local routes, with adverse impacts on current residents’ mobility, air quality, and road safety—already subject to community concern and petition.
- **Stagnation or regression in Derby’s progress towards climate and air quality targets**, with increased emissions directly undermining city and national goals.
- **Missed opportunity** for strategically located, higher-density, genuinely sustainable development nearer to key public transport and active travel corridors, in line with modern planning best practice.

Conclusion and Recommendations

A comprehensive evaluation of the Moorway Lane site against the real-world commuting requirements and available travel options to Derby's major employment centres conclusively demonstrates major and unavoidable limitations for future residents. The current arrangement offers, by a wide margin, the least sustainable commuting profile—long journey times by public transport, safety vulnerabilities for cyclists, and certainty of severe car-based congestion even before factoring in additional residential traffic from the development.

There is no evidence that current or planned improvements to Derby's sustainable transport infrastructure will, within a reasonable horizon, overcome these core locational deficiencies. Granting permission for a large-scale development here will entrench car-based travel behaviour for a generation, run counter to local and national sustainability policy, and exacerbate existing problems of congestion, air pollution, and inequitable access to jobs.

It is therefore recommended that, unless a radically improved package of fully-funded and delivered bus, cycling, and traffic management infrastructure can be secured prior to first occupation, the application should be refused on the grounds of unsustainable location and likely severe transport and environmental impact. This outcome aligns with the precautionary approach embedded within the planning system and with the city's own transport, climate, and air quality strategies.