Launch plan for a student focused bike rental service in Brighton using RCYL bikes

Summary:

This report outlines the design, feasibility, and launch strategy for a sustainable, student-focused bike rental scheme in Brighton, using bikes made from locally recycled plastics. The scheme leverages Brighton’s large university population, strong sustainability commitments, and existing cycling infrastructure to provide an affordable and eco-friendly alternative to buses and cars.

**Service Model:** A docked system is recommended to ensure council support, reduce street clutter, and create a reliable, organised service aligned with Brighton’s existing cycling policies.

**Service Area:** The network focuses on the Lewes Road corridor, University of Sussex and Brighton campuses, and major student housing areas, with expansion into leisure and transport hubs in later phases.

**User Journey:** Students sign up via app with student ID verification, unlock bikes at docks, and ride with full GPS tracking and safety compliance.

**Pricing & Fleet:** A tiered structure balances affordability and flexibility (pay-per-ride, day passes, and semester passes priced below bus equivalents). Fleet sizing is based on adoption scenarios, with ~66 bikes across 12 docking bays in the base case, scaled for commuter-heavy usage.

**Stakeholders & Risks:** Engagement with universities, employers, the NHS, and the council ensures buy-in. Risks (theft, vandalism, low adoption, regulatory delays) are mitigated through strong stakeholder partnerships, robust design, and proactive marketing.

**Partnerships:** Local recycling firms (e.g., Weez & Merl), eco-innovation groups (Waste House, Earthship Brighton), and circular brands (Lucy & Yak, Infinity Foods) offer credibility, sponsorship, and outreach opportunities.

**Marketing & Launch Plan:** Positioning emphasises sustainability, affordability, and student identity, with emotional marketing hooks that highlight the transformation of waste plastics into visible, daily-use bikes. A 90-day calendar combines pre-launch teasers, launch events, referral campaigns, and commuter incentives to build rapid adoption.

**Conclusion:**

The scheme is feasible, aligned with city policy, and highly attractive to students. By combining sustainability credentials with strong pricing, targeted marketing, and robust operational planning, the service can achieve significant uptake and long-term impact while complementing Brighton’s existing mobility ecosystem.

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**1.** Introduction

**Purpose of the Student Bike Scheme**

This project sets out a proposal for a student-focused bike rental scheme in Brighton, designed to provide affordable, sustainable, and accessible transport for university students while tackling the dual global challenges of plastic waste and urban mobility.

By using bikes manufactured from recycled plastics, the scheme directly addresses two interconnected problems:

1. Plastic waste mismanagement – over 450 million tonnes of plastic are produced annually, with less than 10% recycled effectively. The rest accumulates in landfills, oceans, or is burned, releasing toxins and greenhouse gases. The environmental burden is stark: plastics persist for centuries, choke waterways, and contribute significantly to climate change.
2. Urban transport inefficiencies – congestion, air pollution, and costly public transport disproportionately impact vulnerable communities. In cities worldwide, inefficient transport systems cause wasted time, lost productivity, and over 4 million premature deaths annually due to air pollution.

Brighton provides a highly relevant pilot setting. With two universities, strong cycling culture, and political leadership committed to sustainability, the city is primed for an initiative that integrates student demand for low-cost mobility with a visible sustainability impact.

**Sustainability & Circular Economy Context**

The proposed scheme is anchored in the principles of the circular economy—keeping materials in use, designing out waste, and regenerating natural systems. Instead of virgin metals or plastics, bikes will be produced from recycled plastic waste in collaboration with local partners. Each bike becomes a visible symbol of transformation: what was once pollution is repurposed into reliable, low-cost transport.

The initiative contributes directly to the United Nations Sustainable Development Goals (SDGs), particularly:

* SDG 11 – Sustainable Cities & Communities, by providing equitable, low-carbon urban mobility.
* SDG 13 – Climate Action, by reducing transport emissions and cutting reliance on virgin materials.

This approach differentiates the scheme from existing bike-share models (e.g., Lime, Beryl) by embedding sustainability into every stage of the value chain: material sourcing, decentralised manufacturing, and accessible rental pricing.

The student population is a natural first market: they are price-sensitive, environmentally conscious, and concentrated around transport corridors. By targeting this group, the scheme builds early adoption and visibility, while establishing a scalable model that could extend across the city and beyond.

1. Service model and operations

1. Service Model Decision: Docked vs Dockless

Option 1: Dockless (free-floating with geofenced zones)

Advantages: high user convenience (pick up/leave anywhere within service zone), lower upfront infrastructure cost, faster to scale.

Disadvantages: risk of “street clutter” (bikes left in inappropriate places), higher chance of theft and vandalism, increased council pushback, more reliance on GPS/app accuracy, frequent complaints in other cities (e.g., Lime in London, Manchester).

Option 2: Docked / Hub-and-Spoke (designated parking bays or physical docking points)

Advantages: clearer organisation, stronger likelihood of council support (reduced street clutter), easier to enforce parking compliance, less overcharging/tech glitch risk, improved public perception, easier maintenance and rebalancing.

Disadvantages: higher upfront infrastructure costs (stations or designated bays), slightly less convenience for users compared to free-floating.

Recommendation: **Docked Model**

**For Brighton, a docked/hub model is the most appropriate. The City Council has previously supported structured, dock-based systems (e.g., Beryl BTN Bikes), and evidence from Lime’s dockless schemes elsewhere shows significant community frustration around bikes being left in unsuitable places. Docked stations reduce operational friction (e.g., overcharging due to bikes not locking properly), align with council objectives of reducing street clutter, and create a cleaner, more reliable experience for students. While less flexible than a pure dockless model, the docked approach improves stakeholder buy-in and lowers reputational risk, both critical for a successful student-focused launch.**

2. Service Area & Operating Hours

Service area: Brighton & Hove boundary with a focus on Lewes Road corridor, University of Brighton (Moulsecoomb, City/Grand Parade, Falmer), University of Sussex campus, and major student halls.

Operating hours: 24/7 operation recommended. If a lot of there is a lot of reports of dangerous or drunk riding, a “quiet hours” policy (e.g., discourage rides between 2–5 a.m. in nightlife-heavy zones) for safety.

3. User Flow (End-to-End Student Journey)

Signup: Download app → register with student email/ID verification.

Payment setup: Link card or digital wallet.

Unlock bike: Scan QR code or tap NFC at dock.

Ride: GPS tracks trip, in-app timer shows cost.

End ride: Return to dock, lock bike, upload parking compliance photo (optional).

Support: In-app help for lost bikes, billing errors, or safety incidents.

4. Safety Features

In-app onboarding on safe riding (road rules, helmets, night visibility).

Bikes with integrated lights, reflectors, and sturdy brakes.

Insurance and liability info clearly stated.

1. Docking bay Locations

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Location / Area** | **Priority** | **Category** | **Rationale** | **Notes / Permissions** | **Street View Ref** |
| **Bevendean** | High | Student Residences Corridor | Primarily student area; long commute needing 2 buses; bikes offer faster, more convenient alternative | Council + University Estates | [Link to Bevendean hub](https://www.google.com/maps/@50.8417899,-0.1076146,3a,75y,188.81h,72.76t/data=!3m7!1e1!3m5!1sxPisXxh7VzIXLdD5ou-nuQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D17.235324927313144%26panoid%3DxPisXxh7VzIXLdD5ou-nuQ%26yaw%3D188.81239802179388!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Coldean** | High | Student Residences Corridor | Large student housing hub; ideal cycling distance; currently underserviced | Council + University Estates | [Coldean Lane / housing cluster](https://www.google.com/maps/place/Coldean,+Brighton+and+Hove,+Brighton+BN1+9AW/@50.8637423,-0.1098926,3a,75y,68.23h,78.9t/data=!3m7!1e1!3m5!1s1Y9YJBCC3mZVsp2RTbkCkQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D11.099575882707768%26panoid%3D1Y9YJBCC3mZVsp2RTbkCkQ%26yaw%3D68.22830544622114!7i13312!8i6656!4m6!3m5!1s0x48758f412776b4c1:0x260eae2ecb828fa1!8m2!3d50.860066!4d-0.110343!16zL20vMGN3ems1?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Lewes Rd & London Rd** | High | Student Corridor | Main student commuting/housing spine; almost certainly highest demand | Multiple council permissions (public highway) | [Lewes Rd](https://www.google.com/maps/place/Lewes+Rd,+Brighton/@50.8373275,-0.1252284,3a,75y,241.58h,86.33t/data=!3m7!1e1!3m5!1sdIUaGvnOP9-CRmWj0KnJtQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D3.668880969795751%26panoid%3DdIUaGvnOP9-CRmWj0KnJtQ%26yaw%3D241.58137073256006!7i16384!8i8192!4m6!3m5!1s0x48758f5ef20516cf:0xa217537712569d1a!8m2!3d50.8486368!4d-0.1118818!16s%2Fg%2F1tc_klt3?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D)/  [Moulsecoomb campus](https://www.google.com/maps/place/Moulsecoomb,+Brighton+and+Hove,+Brighton+BN2+4TF/@50.8450462,-0.1173415,3a,75y,288.92h,83.37t/data=!3m7!1e1!3m5!1sUVLiv9_QZ7k8G5HOmW8kqQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D6.633206041187464%26panoid%3DUVLiv9_QZ7k8G5HOmW8kqQ%26yaw%3D288.9245926796074!7i16384!8i8192!4m6!3m5!1s0x48758f60750d10fb:0x260eae2ecb828f41!8m2!3d50.846208!4d-0.111278!16zL20vMGN3eXRz?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D)/  [london road](https://www.google.com/maps/@50.83017,-0.1359473,3a,75y,327.51h,76.54t/data=!3m7!1e1!3m5!1sffCBEUe4VZMvPoE0m1anig!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D13.460356512094961%26panoid%3DffCBEUe4VZMvPoE0m1anig%26yaw%3D327.5059024948549!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Hollingbury/Coldean (Asda site)** | High | Mixed-use Node | High-traffic hub with supermarket/gym; strategic midpoint between student areas | Council/highways approval | [Asda site](https://www.google.com/maps/@50.8675029,-0.1244875,3a,75y,23.75h,64.1t/data=!3m7!1e1!3m5!1sxLQRLakBMpmWWE-e4u2INA!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D25.900686025551238%26panoid%3DxLQRLakBMpmWWE-e4u2INA%26yaw%3D23.750024975450657!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Elm Grove** | Medium | Residential Corridor | Steep uphill; buses infrequent; e-bikes solve gradient issue | Council | [Elm Grove near main bus stop](https://www.google.com/maps/place/Elm+Grove,+Brighton,+Brighton+and+Hove,+Brighton/@50.8315416,-0.1170342,3a,75y,266.06h,87.17t/data=!3m7!1e1!3m5!1sltCHeZ1p-lALtNju4_RDGg!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D2.826830556134283%26panoid%3DltCHeZ1p-lALtNju4_RDGg%26yaw%3D266.06211037612184!7i16384!8i8192!4m6!3m5!1s0x487585920e94979b:0x5a50f0c0da143408!8m2!3d50.8340353!4d-0.120266!16s%2Fm%2F010hq7nl?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Kemp Town** | Medium | Student Residential Hub | Popular student area; good cycle links; relieves congestion near The Level | Council | [St James’s Street](https://www.google.com/maps/place/CH+barbers+-+Professional+barber+shop+In+Brighton+-+Kemptown/@50.8204132,-0.1314535,3a,75y,244.63h,52.45t/data=!3m7!1e1!3m5!1sAGNGRrPNBvQASsn-vvx9hg!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D37.552161105582854%26panoid%3DAGNGRrPNBvQASsn-vvx9hg%26yaw%3D244.6251788398739!7i16384!8i8192!4m15!1m8!3m7!1s0x487585a13f5fb4fb:0xb02b38a8bc52b939!2sSt+James's+St,+Brighton+and+Hove,+Brighton!3b1!8m2!3d50.8207059!4d-0.1331516!16s%2Fg%2F1thxq314!3m5!1s0x4875858f932e5d21:0xce579b7e98c56264!8m2!3d50.8206406!4d-0.1333364!16s%2Fg%2F11fpqs8b1c?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Stanmer Village / South Downs access** | Medium | Leisure / Student Recreation | Popular weekend trip destination; strong appeal for students & tourists | Requires landowner/council approval | [Stanmer Park car park entrance](https://www.google.com/maps/@50.8620012,-0.0937408,3a,75y,64.96h,72.98t/data=!3m7!1e1!3m5!1sqDRm-OXJRMI80FjBts7TMg!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D17.023981217986815%26panoid%3DqDRm-OXJRMI80FjBts7TMg%26yaw%3D64.95754621745554!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Old Steine (nightlife hub)** | Low | Nightlife Corridor | Potential late-night trips; but liability/safety risks (drink-riding) | Needs council/campus police input | [Old Steine bus stops](https://www.google.com/maps/place/Old+Steine,+Brighton+and+Hove,+Brighton/@50.8211057,-0.1376965,3a,75y,84.27h,72.63t/data=!3m7!1e1!3m5!1sMFfXBavuLTddJ5_h2ip5fw!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D17.366373767053943%26panoid%3DMFfXBavuLTddJ5_h2ip5fw%26yaw%3D84.27192590780231!7i16384!8i8192!4m6!3m5!1s0x487585a08296a739:0xbc1a964fc239616a!8m2!3d50.821409!4d-0.1374357!16s%2Fm%2F0h65vmp?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Brighton Marina** | Low | Residential / Leisure | Currently under-served (only 1 bay); some potential long-term demand | Council + Marina estate approval | [Marina Square](https://www.google.com/maps/@50.8127495,-0.1027289,3a,75y,146.06h,84.77t/data=!3m7!1e1!3m5!1snQkykJ6hassZZRHspJUmqw!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D5.225423959677272%26panoid%3DnQkykJ6hassZZRHspJUmqw%26yaw%3D146.06444965428784!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Brighton Station** | Low | Transport Hub | High-traffic, but heavily serviced by Beryl already | Very competitive | [Station taxi rank/bike racks](https://www.google.com/maps/@50.8303382,-0.1400663,3a,75y,233.83h,92.37t/data=!3m7!1e1!3m5!1sWRkpxreM0QMewq1DdNNceA!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D-2.3671211978188467%26panoid%3DWRkpxreM0QMewq1DdNNceA%26yaw%3D233.83235406692637!7i16384!8i8192?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |
| **Hove** | Low | Residential / Transport | Existing strong Beryl coverage; less cost-effective | Not recommended early stage | [Hove Station entrance](https://www.google.com/maps/place/Hove/@50.8349758,-0.1710238,3a,75y,111.85h,82.48t/data=!3m7!1e1!3m5!1s5qkDVYmjoEXs1RKJq9nGxQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D7.516249897856994%26panoid%3D5qkDVYmjoEXs1RKJq9nGxQ%26yaw%3D111.85039448972303!7i16384!8i8192!4m10!1m2!2m1!1shove+station!3m6!1s0x4875855ab56f3acf:0xa987a9190813c854!8m2!3d50.8350914!4d-0.1710406!15sCgxob3ZlIHN0YXRpb26SAQ90cmFuc2l0X3N0YXRpb26qATUQATIfEAEiG4cfU6afNTjmbnhuUtQeKf3N_A2KDfNspJrFozIQEAIiDGhvdmUgc3RhdGlvbuABAA!16zL20vMDdkMTMx?entry=ttu&g_ep=EgoyMDI1MDkwMy4wIKXMDSoASAFQAw%3D%3D) |

1. Pricing and Fleet Sizing

Benchmarking Student Transport & Bike Schemes

To design an appropriate pricing structure for the Brighton student bike scheme, existing transport and shared mobility options provide useful benchmarks. Brighton students currently pay approximately £198 for a 90-day bus pass, covering the duration of a semester, indicating willingness to invest in reliable, term-long transport. Comparable university bike hire schemes offer flexible, tiered pricing: Swansea University’s student membership provides the first 30 minutes free and charges £0.50 per 20 minutes thereafter, capped at £5/day, while Belfast Bikes offer an annual subscription of £25 with unlimited short trips, making cycling affordable and predictable for regular users. On a broader UK scale, Santander Cycles (London) charges £1.65 per 30 minutes for casual users, with day passes (£3.50) and monthly memberships (£20) for frequent riders, demonstrating the value of tiered access and time-capped rides. These benchmarks suggest that a competitive Brighton student offer should include both pay-per-ride and semester/term-long memberships, ideally priced slightly below bus passes for comparable value, while incentivizing frequent usage through caps and referral schemes.

Proposed Tiered Pricing for Brighton Student Bikes

|  |  |  |
| --- | --- | --- |
| **Tier** | **Price** | **Details & Rationale** |
| **Pay-per-ride** | £1 unlock + £0.06/min – £0.08/min | For occasional users or short hops between campus, halls, and city centre. Matches the affordability of Beryl users for casual riders. £0.06 for weekdays, £0.08 for weekends. |
| **Day Pass** | £6/day | Useful for students visiting multiple campuses, attending events, or weekend leisure. Slightly cheaper than casual multi-ride bus fares for flexibility. |
| **Semester Pass (90 days)** | £180–£190 | Directly aligns with student bus passes (£198), offering unlimited rides within the term. Incentivises consistent use and locks in a core user base. Includes in-app safety guidance and helmet promotion. |

The tiered structure caters to occasional, medium, and frequent users, providing both flexibility and predictability. Pricing slightly below the 90-day bus pass ensures bikes are attractive for regular students while pay-per-ride keeps the service accessible. Beryl also lack a student pass so would be the key differentiation between the two services in terms of price. Launch promotions reduce barriers to first use and leverage student social networks to encourage referrals. Together, this strategy should drive strong initial adoption and retention.

**Launch Promotion Ideas**

1. **First Ride Free** – Every new user gets their first ride free to reduce adoption friction.
2. **Referral Credits** – Students get £2 credit for each friend who signs up using their code.
3. **Early Subscriber Bonus** – First 100 semester passes could include free helmet rental or a branded poncho to encourage all weather cycling.
4. **Orientation Week Push** – Promote during Fresher’s Week and campus events to capture a critical mass of students early.

Fleet sizing framework

**1. Student Population**  
Brighton hosts a total of **37,700 students** across its universities: 17,835 at the University of Brighton and 19,865 at the University of Sussex. This represents the core user base for the student-focused bike scheme. Not all students reside within the city, but assuming full-time residency provides a conservative estimate of potential adoption.

**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Student Population** | **Rationale** |
| Conservative | 35,000 | Allows for lower participation due to students commuting from outside the city or opting out. |
| Base / Most Likely | 37,700 | Combined total of both universities, current enrollment figures. |
| Optimistic | 40,000 | Includes potential short-term housing, partnership expansion, or higher visibility schemes. |

**2. Adoption Rate**  
Adoption rate refers to the proportion of students expected to use the service regularly. UK student bike share schemes typically see **3–12% adoption** depending on pricing, infrastructure, and promotion. For Brighton, the base assumption is **6% daily adoption**, with conservative and optimistic ranges reflecting weaker or stronger uptake.

**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Adoption Rate (daily)** | **Rationale** |
| Conservative | 3% | Low adoption if pricing, convenience, or promotion are limited. |
| Base / Most Likely | 6% | Moderate uptake with good marketing, pricing, and station coverage. |
| Optimistic | 10% | High adoption with strong promotion, excellent infrastructure, and high visibility. |

**3. Trips per Student per Week**  
Trips per week represent the frequency of use by regular student users. CoMoUK data shows UK student bike share users average **3–4 trips per week**. Brighton’s existing Beryl scheme suggests ~2 trips/week for general users. For the student launch, **3 trips/week** is used as a base assumption.

**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Trips per Student per Week** | **Rationale** |
| Conservative | 2 | Minimal use, mostly short social or campus trips. |
| Base / Most Likely | 3 | Balanced estimate based on commuting and errands. |
| Optimistic | 4 | High engagement, frequent commuting and social/leisure rides. |

**4. Average Ride Duration**  
Data from Brighton’s Beryl scheme shows weekday trips average **~23 minutes**. Considering student travel patterns between campus, residences, and social areas, a **base assumption of 20 minutes per ride** is reasonable.

**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Avg Ride Duration (min)** | **Rationale** |
| Conservative | 15 | Short, frequent trips between halls and lectures. |
| Base / Most Likely | 20 | Mix of commuting, errands, and social rides. |
| Optimistic | 25 | Longer leisure or inter-campus trips. |

**5. Operable Minutes per Bike per Day**  
Each bike could theoretically provide **1,440 minutes/day (24 hours)**. Downtime for maintenance, charging, or rebalancing reduces this. Benchmarks suggest 80–90% availability (Beryl ~80–85%, Santander Cycles ~90%). For the Brighton student scheme, a **base 85% availability** is assumed.

**Sensitivity Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scenario** | **Availability** | **Operable Minutes/Bike** | **Rationale** |
| Conservative | 80% | 1,152 | Higher downtime due to maintenance or redistribution. |
| Base / Most Likely | 85% | 1,224 | Balanced operational expectation. |
| Optimistic | 90% | 1,296 | Strong operations, minimal downtime. |

**6. Buffer (Extra Bikes for Spare Capacity)**  
A buffer ensures bikes are available during **peak periods** and accounts for maintenance or redistribution. A **10–20% buffer** is applied in addition to peak demand calculations.

**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Buffer** | **Rationale** |
| Conservative | 10% | Minimal extra bikes to cover maintenance or minor peaks. |
| Base / Most Likely | 15% | Standard operational buffer for peak coverage. |
| Optimistic | 20% | Additional capacity to handle high peaks, promotional events, or maintenance issues. |

**7. Peak Demand (Daily Peak Trips)**  
Student trips are **concentrated during peak commuting hours** (e.g., 8–10 a.m. and 5–7 p.m.). Average daily trips are not evenly distributed; therefore, the fleet is sized based on **peak demand over a 3-hour window**, using 45% of daily trips occurring in this window.

**Sensitivity Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scenario** | **Peak % of Daily Trips** | **Peak Window (hours)** | **Rationale** |
| Conservative | 35% | 4 | Lower adoption and shorter trips spread over the day. |
| Base / Most Likely | 45% | 4 | Typical student commute and leisure peaks. |
| Optimistic | 55% | 4 | Heavy commuting and social/leisure usage. |

**8. Number of Docking Bays**  
Initial deployment includes **10–15 docking bays** to cover key student areas (campuses, halls, corridors). This ensures convenience, avoids overcrowding, and allows practical fleet distribution.

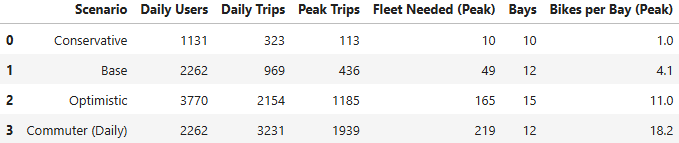
**Sensitivity Table:**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Number of Docking Bays** | **Rationale** |
| Conservative | 10 | Minimum viable network covering main campuses and halls. |
| Base / Most Likely | 12 | Balanced coverage of high-demand areas. |
| Optimistic | 15 | Comprehensive network including secondary student areas and leisure hubs. |

**9. Outcome / Fleet per Bay**  
Using the **peak-demand model**, the fleet required is calculated based on simultaneous trips during the 3-hour peak window. The Python script accounts for:

* Peak trips fraction (45% of daily trips)
* Average ride duration
* Bike availability percentage
* Buffer for maintenance/spare

Resulting distribution per docking bay gives a realistic **number of bikes to meet peak demand**, avoiding under-provisioning (e.g., only 1 bike per bay in conservative scenarios).

**Output Table:**

The current trip estimates are based on observed usage patterns from other UK student bike share schemes and Brighton’s existing Beryl service, where regular users average 2–4 trips per week. This reflects occasional use for campus errands, social activities, or short leisure trips.

However, if students were to adopt the scheme as their primary means of commuting to and from university, trip frequency would increase substantially. For example, a student commuting five days per week, making a return journey each day, would generate approximately 10 trips per week. This scenario highlights how fleet size, peak demand, and bikes per docking bay would need to scale to accommodate consistent daily usage.

The Commuter (Daily) case models this higher-frequency behaviour as a stress-test: assuming all other parameters remain at base level, with 60% of trips concentrated during commuting hours across two, two-hour peak windows (morning and evening). This provides insight into the upper bound of system demand if the scheme is positioned as a commuting service for students, particularly if supported by measures such as semester passes or targeted marketing.

References

1. CoMoUK. (2023). *Bike Share Annual Report UK 2023.* [https://www.como.org.uk/documents/bike-share-annual-report-uk-2023](https://www.como.org.uk/documents/bike-share-annual-report-uk-2023?utm_source=chatgpt.com)
2. Brighton & Hove City Council. (2023). *Joint Strategic Needs Assessment: Students.* [https://www.brighton-hove.gov.uk/joint-strategic-needs-assessment-jsna/population-and-population-groups/students-brighton-hove](https://www.brighton-hove.gov.uk/joint-strategic-needs-assessment-jsna/population-and-population-groups/students-brighton-hove?utm_source=chatgpt.com)
3. Beryl Bikes. (2023). *User Guidelines and Typical Trip Data.*
4. Santander Cycles. (2023). *Operational Data.*
5. Stakeholders, Permissions & Risks

**1. Stakeholder Mapping**

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholder Category** | **Stakeholders** | **Role / Interest** | **Engagement Approach** |
| Universities & Colleges | University of Sussex, University of Brighton | Large student populations; potential primary users; sustainability partners | Meetings with estates/sustainability teams; offer discounted or subsidised passes |
| Corporate / Employers | American Express, Brighton & Hove City Council, Brighton General Hospital / NHS Sussex | Staff commuting, CSR / sustainability initiatives | Corporate packages, staff incentives, presentations, pilot schemes |
| Local Government & Public Bodies | Brighton & Hove City Council | Regulatory approvals, infrastructure support, climate strategy alignment | Early engagement, planning submissions, sustainability alignment |
| Tourism & Hospitality | VisitBrighton, hotels, attractions | Tourist users; promote eco-friendly city travel | Partnerships for discounted packages, placement of bikes near hotels and attractions |
| Health, Community & Charity | Sustrans, NHS, local eco-charities | Active travel promotion, health & inclusion | Joint campaigns, advice, co-hosted events |

**2. Regulatory & Compliance Considerations**

|  |  |
| --- | --- |
| **Category** | **Key Brighton-Specific Requirements** |
| Operational Compliance | Align hubs with Public Realm Strategy and LCWIP; integrate following planning standards |
| Bike Safety & Standards | Comply with UK lighting laws, EAPC e-bike regulations, and maintain roadworthiness |
| Public Realm Integration | Only cycle in designated cycle lanes on seafront; bikes must not block public space |
| Infrastructure & Storage | Coordinate with cycle hangar rollout; site hubs based on spatial and theft data |
| Logistics & Topography | Consider hilly terrain for redistribution and peak fleet allocation |

**Notes:**

* A second scheme in Brighton is unlikely due to Beryl’s integrated service; a complementary scheme or partnership would be more feasible.
* Compliance with Dockless Cycle Codes, council guidance, and safety legislation is mandatory.

**3. Risk Assessment**

**Scoring System:**

* Likelihood / Impact: 1 = low, 5 = high
* Priority = Likelihood × Impact

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk** | **Category** | **Description** | **Likelihood** | **Impact** | **Priority** | **Mitigation** |
| Reputation Damage | Reputation | Negative incidents or tech issues spreading online | 3.5 | 4.5 | 15.75 | Proactive service, rapid issue resolution, sustainability promotion |
| Theft | Operational | Targeted theft, high-value fleet | 3.5 | 4.5 | 15.75 | GPS tracking, tamper-resistant parts, rapid response |
| Maintenance Issues | Operational | Wear & tear, seasonal peaks | 4 | 3.5 | 14 | Proactive maintenance, spare parts inventory |
| Vandalism & Misuse | Operational | Bikes misused, abandoned, or damaged | 3.5 | 3.5 | 12.25 | Robust design, dock incentives, community engagement |
| Regulatory Barriers | Regulatory | Council approvals, permits, planning | 3 | 4 | 12 | Early engagement, compliance with strategy |
| Health & Safety | Operational | Accidents, liability claims | 3 | 4 | 12 | Safety guidance, helmets, regular inspections, insurance |
| Weather & Seasonal Demand | Market | Coastal climate, seasonality affects usage | 4 | 3 | 12 | Flexible pricing, commuter incentives, seasonal promotions |
| Overcharging & Tech Failures | Operational | App/docking errors, customer frustration | 3 | 3.5 | 10.5 | Reliable systems, refunds, support |
| Competition Pressure | Market | Existing (Beryl) and potential new entrants | 3 | 3.5 | 10.5 | Differentiation, branding, local partnerships |
| Supply Chain / Material Risk | Operational | Recycled plastic sourcing, component delays | 3 | 3.5 | 10.5 | Diversified suppliers, quality checks, contingency stock |

**Justifications & Context:**

* **Vandalism & Misuse:** High student population + nightlife increases likelihood; mitigated by robust design and dock incentives.
* **Theft:** GPS, tamper-resistant bikes lower likelihood; replacement cost remains high.
* **Maintenance:** Seasonal peaks and high turnover create operational stress.
* **Weather:** Summer peaks vs. winter drops require flexible demand management.
* **Regulatory:** Council coordination needed for bay placement and planning compliance.

**4. Sponsorship & Partnership Opportunities**

|  |  |  |
| --- | --- | --- |
| **Partner Type** | **Examples** | **Role / Benefit** |
| Plastic Collection & Recycling | Weez & Merl, Magpie Recycling Co-op, Express Polymers | Provide recycled feedstock, advise on environmental messaging, strengthen sustainability credentials |
| Waste Management / Materials Recovery | KSD Environmental, Recorra, Veolia Hollingdean | Operational support, lifecycle data, cross-promotion |
| Community & Eco-Innovation | Waste House, Earthship Brighton, The Big Lemon | Co-host sustainability events, pilot community outreach programs |
| Retail & Circular Economy Brands | Lucy & Yak, Infinity Foods, The Source Bulk Foods | Co-branding, sponsorships, promotional campaigns |

**Notes:**

* Partnerships enhance credibility, reduce operational risk, and provide material sourcing.
* Sponsorships can subsidize passes, bikes, or stations.
* Local collaborations build community engagement and support council objectives.

**5.Engagement & Outreach Strategy**

* **Universities & Colleges:** Meetings with estates/sustainability teams, offer discounted passes, integrate with campus sustainability initiatives.
* **Employers & NHS:** Staff bike schemes, CSR partnerships, wellbeing initiatives.
* **Council & Regulators:** Align with LCWIP, Public Realm Strategy, and sustainability policies.
* **Tourism Sector:** Promote eco-friendly travel options, position bikes at key attractions.
* **Community Groups & Charities:** Engage in active travel campaigns, co-host events, advisory roles.

**Decision Gates:**

1. Council approvals for bay locations and public realm integration
2. Stakeholder agreements with universities, employers, and community partners
3. Operational readiness, safety compliance, and fleet procurement
4. Marketing Strategy & Launch Plan

**Positioning**

* **Student-first:** Affordable, convenient, and visible around campuses.
* **Sustainability & Circular Economy:** Bikes made from locally recycled plastics, preventing waste and environmental harm.
* **Lifestyle & Identity:** Riding the bike demonstrates eco-conscious behaviour, aligns with student values, and supports community initiatives.

**Emotional Marketing Hooks**

|  |  |  |
| --- | --- | --- |
| **Hook** | **Description** | **Channel/Activation** |
| **Plastic Waste Persistence** | Bikes made from plastics that would otherwise end up in landfill or pollute the environment. | On-bike branding, social media stories, infographics at docking stations |
| **Toxicity & Environmental Harm** | Prevents leaching of harmful chemicals into soil/water; promotes eco-conscious commuting. | Posters, campus newsletters, website features |
| **Empowering the Community** | Local recycling partners involved; tangible impact for Brighton residents. | PR features, joint events with Weez & Merl / Magpie Recycling |
| **Visible, Tangible Impact** | Bikes are a daily, observable proof of sustainable action. | Photo campaigns, “Ride & Share” social media challenges |
| **Lifestyle & Identity** | Riding aligns with sustainability values, promotes pride and agency. | Influencer partnerships, student ambassador programs, launch videos |

**Marketing Channels & Tactics**

|  |  |  |
| --- | --- | --- |
| **Channel** | **Tactics** | **KPIs / Measurement** |
| **On-campus** | Pop-up docking stations, trial rides, info booths, discounted semester memberships. | # of rides booked, student sign-ups |
| **Digital & Social** | Instagram/TikTok campaigns with emotional hooks, app notifications, storytelling posts | Engagement rate, app downloads, hashtag usage |
| **Partnerships** | Collaborations with universities, NHS, Amex, sustainability orgs | Number of joint campaigns, pass uptake via partner channels |
| **PR & Media** | Press releases, local news stories, event coverage of launch | Media mentions, impressions, sentiment |
| **Events & Launch Week** | Bike tours, competitions, sustainability workshops | Attendance, rides initiated, social media shares |

**90-Day Launch Calendar**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Timing** | **Activities** | **KPIs** |
| **Pre-Launch** | Weeks -4 to 0 | Build awareness via posters, social media teasers, partner emails | Pre-registrations, social engagement |
| **Launch Week** | Week 1 | Trial rides, social media posts, press coverage | Rides/day, app downloads, media mentions |
| **Weeks 2–4** | Week 2–4 | Campus activations, community workshops, PR follow-ups | Ride frequency, sign-ups, partner engagement |
| **Weeks 5–8** | Week 5–8 | Social media challenges, commuter incentives, referral program | Retention rate, social shares, commuter adoption |
| **Weeks 9–12** | Week 9–12 | Feedback collection, event round-ups, seasonal campaigns | Satisfaction surveys, repeat rides, conversion from trials |