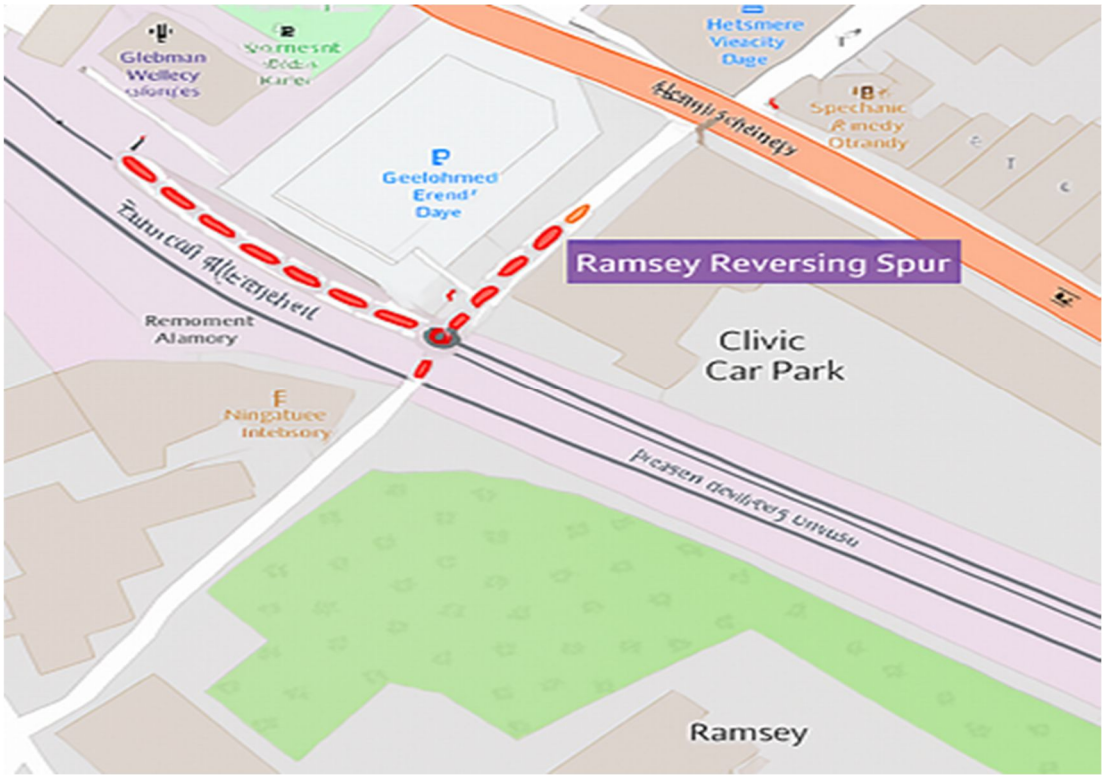
Light Rail (UK) Group

Auchenshuggle Junction, 8 Beechmore,
Moore, Warrington, Cheshire, England, U K.
Tel (+44) (0)1925 740675 (0) 07721378223

1 Reversing Spur at Ramsey



The strategic benefits and values of each infrastructure element:

A reversing spur allows single-ended VLR vehicles to change direction without needing a full turning loop. This is particularly valuable in constrained urban environments like Ramsey.

✅ Operational Benefits

- **Flexibility for single-ended vehicles**: Enables bidirectional service without requiring double-ended rolling stock.
- **Reduced land take**: Compared to a full loop, a spur can be tucked into existing rail corridors or side streets.
- **Simplified signaling**: A short spur with controlled access can be managed with basic interlocking, reducing cost.

🌍 Strategic Value

- **Preserves future expansion options**: Spur can be extended or converted into a loop if demand or land availability changes.
- **Supports modal shift**: Offers a clean, quiet terminus in Ramsey, encouraging uptake from car users.
- **Integrates with heritage rail**: Potential to interface with Manx Electric Railway or bus interchange, enhancing multimodal connectivity.

💰 Planning & Funding Advantages

- **Lower upfront cost**: Compared to a full loop, a spur is cheaper to construct and easier to justify in early-stage feasibility.

- Easier safeguarding: Less disruption to the existing urban fabric, improving chances of planning approval.
- 🟥 The spur track is highlighted in red dashed lines, extending southward from the Parliament Street sidings.
- 🧭 It connects to the existing rail infrastructure near Station Road, Ramsey Shed sidings, and the Civic Car Park.
- 🏞️ The surrounding landmarks—including the Centenary Through Station, Fryderykson Distillery, and green space—are preserved to show urban integration.

🔍 Key Features of the Ramsey Reversing Spur

- Single-ended VLR compatibility: Allows vehicles to reverse direction without needing a full loop.
- Compact footprint: Fits within existing sidings and urban layout near Parliament Street and Civic Car Park.
- Integration with existing infrastructure: Connects to Ramsey Shed sidings and Station sidings, minimising disruption.
- Preserves heritage context: Avoids major alteration to surrounding buildings and green space.

📊 Strategic Benefits

Benefit	Description
Operational Efficiency	Enables bidirectional service with minimal land take
Planning Flexibility	Can be extended or converted to a loop if future demand increases
Cost-Effective Deployment	Lower capital cost than full loop; easier to justify in early-stage rollout
Urban Compatibility	Fits within Ramsey's existing street and rail layout
Heritage Sensitivity	Avoids disruption to the historic station and surrounding landmarks

Light Rail (UK)

2 Part Street-Running Ronaldsway Airport Loop

A **single-track, signal-controlled loop**

VLR Trams operate clockwise and anti-clockwise, partially running on street infrastructure near the airport.

✅ Operational Benefits

- **Direct terminal access**: Street-running allows VLR vehicles to serve airport entrances and passenger zones without grade separation.
- **Dual-direction flexibility**: Signal-controlled bidirectional flow supports peak-hour surges and maintenance detours.
- **Efficient land use**: Street-running reduces the need for dedicated right-of-way, especially in built-up airport zones.

🌎 Strategic Value

- **Intermodal integration**: Seamless connection between air and rail modes supports sustainable travel and reduces taxi/car dependency.
- **Demonstrator visibility**: High footfall and tourist traffic at the airport make this loop a showcase for hydrogen VLR technology.
- **Supports inclusive mobility**: Street-level boarding and proximity to terminals benefit passengers with reduced mobility.

💰 Planning & Funding Advantages

- Lower capital cost: Street-running avoids deep excavation or elevated structures.
- Planning alignment: Fits within existing road layouts and airport masterplans, easing coordination with local authorities.
- Potential for Section 106 or airport partnership funding: Environmental benefits and modal shift may attract co-investment.

💸 Estimated Installation Costs

Rail (VLR) connection between Ramsey and Ronaldsway Airport, we need to weigh the installation costs against the economic, social, and environmental returns. While no direct study exists for the Isle of Man route, we have extrapolated from UK VLR demonstrator data and applied context-specific logic.

Based on comparable UK VLR schemes (e.g. Coventry and Dudley), installation costs typically range from:

- **£**10M–£15M per km for full infrastructure (track, vehicles, depot, signaling)
- Ramsey to Ronaldsway is approx. 40 km, so:
- Total cost estimate: £400M–£600M (assuming full build-out)
- Phased or partial deployment (e.g. Ramsey to Douglas, then Douglas to Airport): £150M–£250M

📈 Projected Value Uplift Over 5 Years

1. Economic Impact

- **Tourism boost**: Faster, scenic, low-emission travel could increase visitor spend in Ramsey and Castletown.
- Estimated uplift: £5M–£10M/year in local tourism revenue
- **Local business growth**: Improved access supports retail, hospitality, and logistics.
- Estimated uplift: £2M–£5M/year

2. Property & Land Value

- Studies show proximity to light rail can raise property values by **5–15%** within 500m of stations.
- Ramsey, Douglas, and Castletown could see **£50M–£100M** in cumulative uplift over 5 years
-

• 3. Environmental & Health Benefits

- Reduced car dependency and air pollution:
- Estimated savings: £1M–£3M/year in healthcare and environmental costs

4. Social Inclusion & Accessibility

- Enhanced mobility for non-drivers, the elderly, and disabled residents
- Harder to quantify, but contributes to long-term wellbeing and productivity

Light Rail (UK)

📊 Summary Table

Category	5-Year Uplift Estimate	Notes
Tourism & Visitor Spend	£25M–£50M	Linked to modal shift and airport access
Local Business Growth	£10M–£25M	Especially in Ramsey and Castletown
Property Value Increase	£50M–£100M	Based on proximity uplift
Environmental & Health Gains	£5M–£15M	Air quality, noise, active travel
Total Uplift	**£90M–£190M**	Conservative estimate

🧮 Cost vs. Value Ratio

- **Installation cost**: £150M–£250M (phased)
- **5-year uplift**: £90M–£190M
- **Ratio**: ~0.6 to 1.3 (i.e. partial return within 5 years, full return likely over 10–15 years)

🛠️ Estimated Installation Cost: Ramsey Spur Only

Based on UK Very Light Rail demonstrator benchmarks and the compact nature of the spur:

- **Trackwork, signalling, and integration**: £3M–£6M
- **Minimal land acquisition**: Likely negligible, given use of existing sidings
- **Urban interface and accessibility upgrades**: £1M–£2M
- **Total estimated cost**: **£4M–£8M**

📈 Projected Value Uplift Over 5 Years

1. Local Economic Activation

- **Increased footfall near Civic Car Park, Station Road, and Parliament Street**
- Boost to retail, hospitality, and services
- **Estimated uplift**: £2M–£4M

2. Property Value Enhancement

- Light rail proximity typically raises property values by **5–10%** within 500m
- Ramsey's town centre and adjacent residential zones could see:
- **£5M–£10M** cumulative uplift over 5 years

3. Social & Environmental Benefits

- Improved mobility for non-drivers, elderly, and disabled residents
- Modal shift from cars reduces congestion and emissions
- **Estimated value**: £1M–£2M in health and environmental savings

4. Strategic Leverage

- Spurs future corridor development toward Douglas and the airport
- Demonstrates early success for stakeholder buy-in and funding leverage
- **Intangible uplift**: Political capital, planning momentum, and public support

📊 Summary Table

Category	5-Year Uplift Estimate	Notes
Local Economic Activation	£2M–£4M	Retail, hospitality, services
Property Value Increase	£5M–£10M	Based on proximity uplift
Environmental & Health Gains	£1M–£2M	Air quality, mobility
Strategic Leverage	Intangible	Planning, funding, public support
Total Uplift	**£8M–£16M**	Conservative estimate

💡 Cost vs. Value Ratio

- **Installation cost**: £4M–£8M
- **5-year uplift**: £8M–£16M
- **Ratio**: **2:1** (i.e. full return within 5 years, with upside potential)

Light Rail (UK)

🛠️ Installation Cost Estimate (VLR Methodology Only)

Drawing from Coventry's VLR benchmarks and modular trackform data2:

- **Track installation (shallow prefabricated)**: £5M–£10M/km
- **Loop length**: ~1.5–2 km (based on your map and airport perimeter)
- **Signal-controlled bidirectional operation**: £1M–£2M
- **Minimal civil works**: No deep excavation, limited utility diversion

🔩 Total Estimated Cost: £8M–£15M

📈 Projected Value Uplift Over 5 Years

1. Airport Accessibility & Modal Shift

- VLR loop offers direct, zero-emission access to terminal
- Reduces taxi/car dependency, especially for short-haul and commuter traffic
- **Estimated uplift**: £3M–£6M in transport efficiency and reduced congestion

2. Tourism & Visibility

- High-profile demonstrator at gateway location
- Boosts Isle of Man's green transport credentials
- **Estimated uplift**: £5M–£10M in visitor spend and brand value

3. Property & Land Value

- Adjacent commercial zones (e.g. Balthane Industrial Estate) benefit from improved access
- **Estimated uplift**: £4M–£8M in land and asset appreciation

4. Environmental & Health Benefits

- Reduced emissions, noise, and particulate pollution
- **Estimated savings**: £1M–£2M in health and environmental costs

5. Strategic Demonstrator Value

- Positions Isle of Man as a testbed for hydrogen VLR
- Attracts innovation funding, academic partnerships, and media attention
- **Intangible uplift**: Political capital, planning leverage, and future investment

Light Rail (UK)

📊 Summary Table

Category	5-Year Uplift Estimate	Notes
Airport Access & Modal Shift	£3M–£6M	Reduced car use, improved flow
Tourism & Visibility	£5M–£10M	Green gateway demonstrator
Property Value Increase	£4M–£8M	Industrial estate uplift
Environmental & Health Gains	£1M–£2M	Air quality, noise
Strategic Leverage	Intangible	Planning, funding, and reputation
Total Uplift	**£13M–£26M**	Conservative estimate

💡 Cost vs. Value Ratio

- **Installation cost**: £8M–£15M
- **5-year uplift**: £13M–£26M
- **Ratio**: **~1.7 to 2.2** (strong return within 5 years, with upside potential)

Light Rail (UK)

Ronaldsway Airport Loop

Installation Cost £8M to £15M

Value Uplift (over five years)

- Airport Access & Modal Shift: £3M-6M
- Tourism & Visibility: £5M-10M
- Property Value Increase: £4M-8M
- Environmental & Health Gains: £1M-£2M
- Strategic Demonstrator Intangible

Total Investment	£8M–£15M
Value Uplift	Circa 2:1

- 💰 **Installation Cost**: £8M–£15M using modular, shallow VLR engineering
- 📈 **5-Year Value Uplift**: £13M–£26M from airport access, tourism, property uplift, and environmental gains
- 📊 **Cost-Benefit Ratio**: Circa 2:1

This positions Ronaldsway as a high-impact, low-footprint gateway demonstrator—ideal for stakeholder buy-in, innovation funding, and planning leverage.