
Rewiring Highland Park

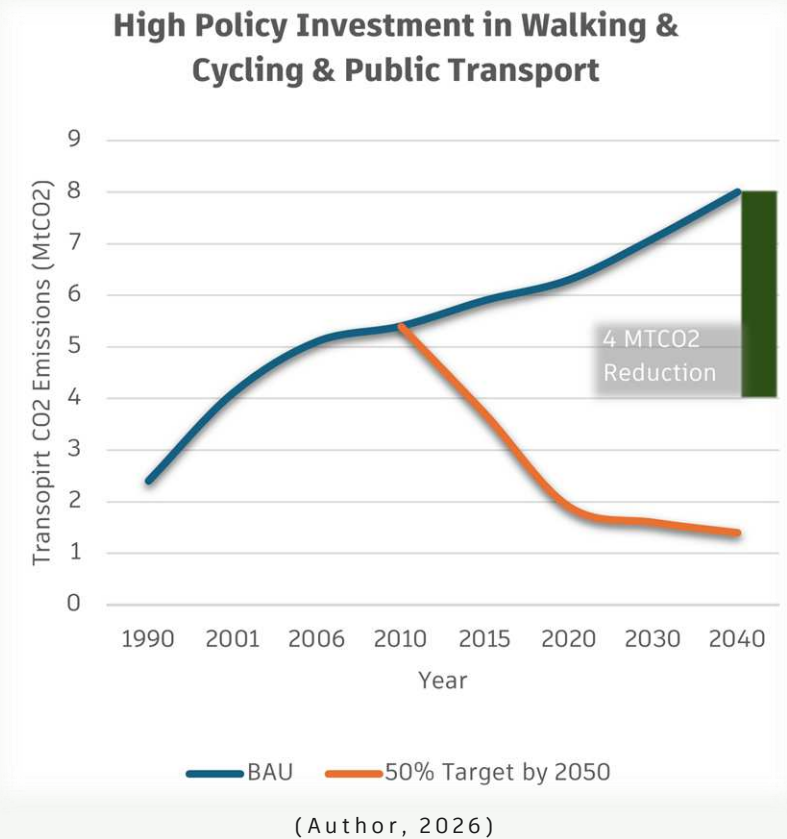
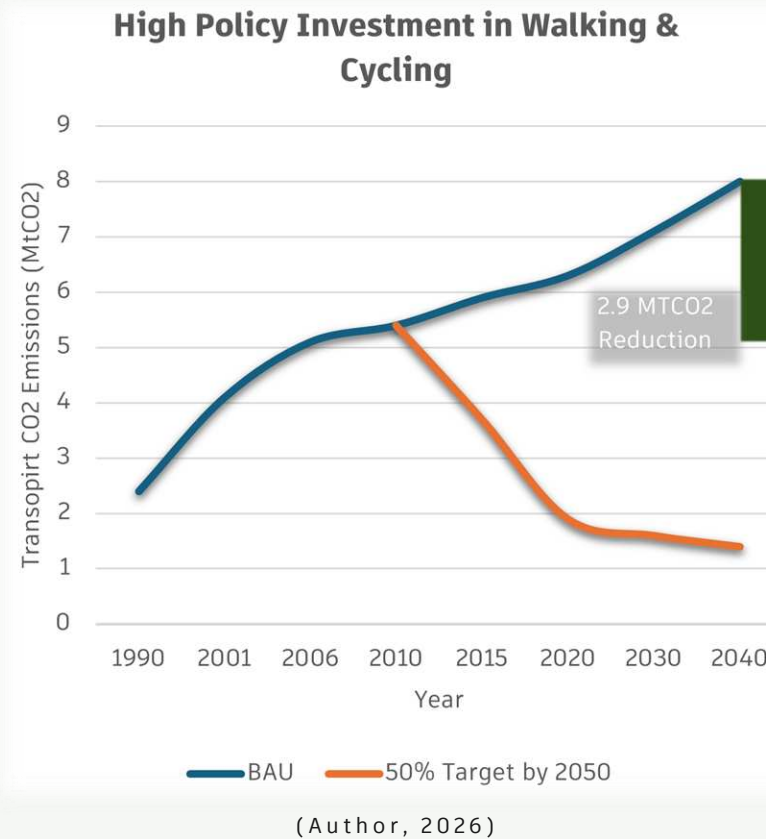
Arson Rashidmardani



The Walking & Cycling Pathway

- High investment in **walking and cycling** achieves a **2.9 MtCO₂** reduction by 2041 (Austin, 2026).
- Combined with high **public transport** investment, the policy package achieves a **4 MtCO₂ reduction** (Austin, 2026).
- Walking and Cycling on its own achieves nearly the entire quantum reduction required by TERP. Combined with public transport, net reductions exceed TERP's **3.15 MtCO₂ target** (Auckland Council, 2022).

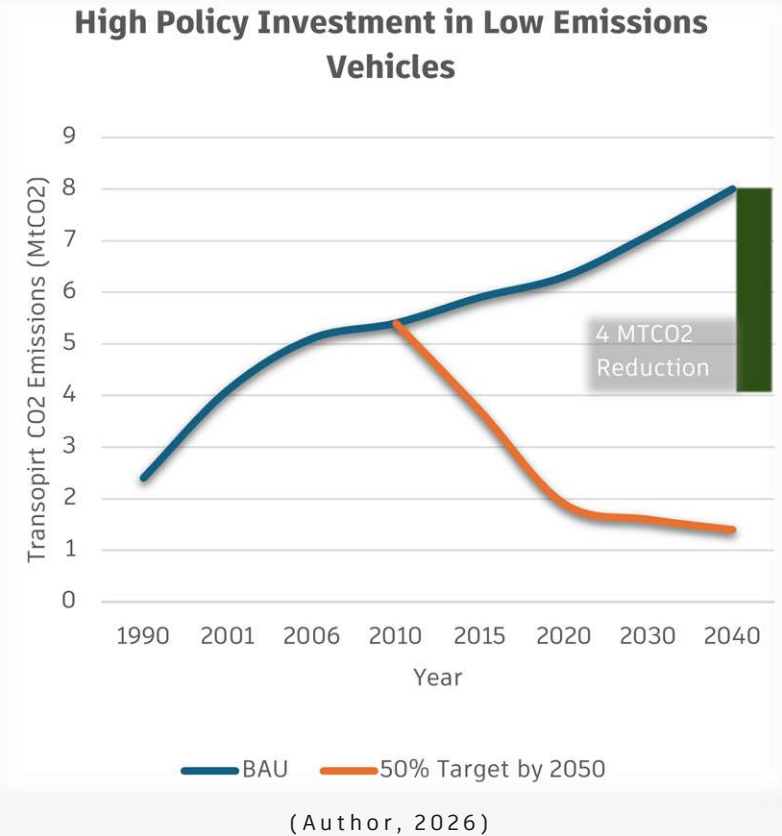
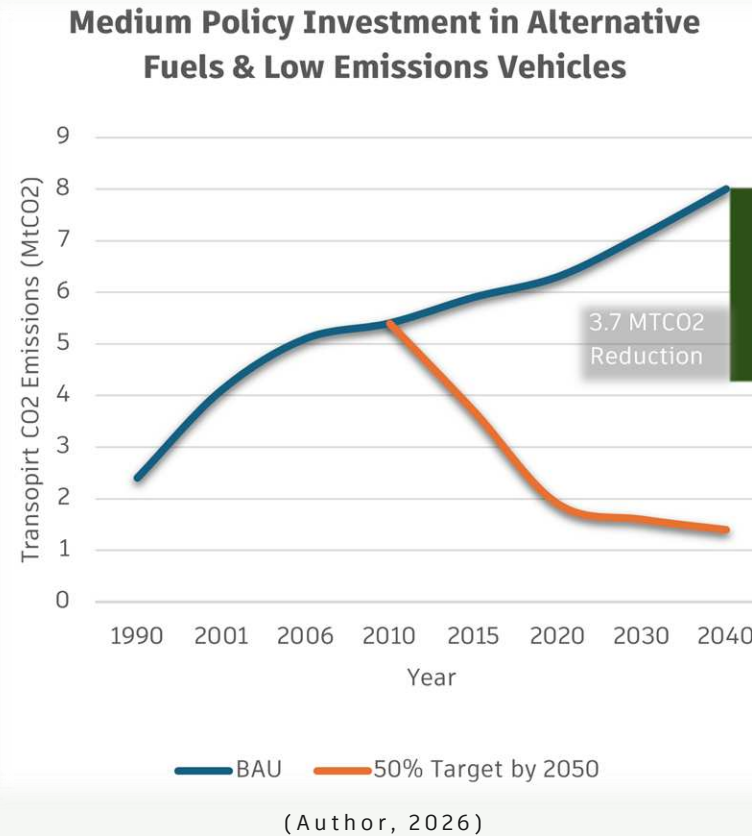
CO₂ REDUCTION SCENARIOS



The Technology Pathway

- High investment in **low emissions vehicles** achieves a **4 MtCO₂** reduction by 2041 (Austin, 2026).
- Combined **medium investment in low emissions vehicles and alternative fuels** achieves a **3.7 MtCO₂** reduction (Austin, 2026).
- **Delivery within TERP's 8-year window is highly uncertain** due to dependency on various factors.

CO₂ REDUCTION SCENARIOS



Forget the Tesla, Fix the Footpath

	Walking & Cycling	Technology Pathway
Public Cost	Low: publicly funded infrastructure	High: subsidy, grid & supply chain costs
Who Benefits	Low-income, children, elderly, disabled	Higher-income households with Evs
Public Acceptability	Contested: road space reallocation	Contested: mandates face resistance
Timeframe	Immediate to short-term	Long-term: slow fleet turnover
Infrastructure	High readiness: proven, ready to build	Low readiness: grid & charging gaps
Co-benefits	High: health, safety, congestion, place	Low: emissions only

The Human Cost of a Car-First Environment

- Green pathways and Moonys under bridge are avoided due to poor safety, despite providing a traffic-free route.
- Pakuranga Road's 6-lane carriageway generates extreme traffic volumes with insufficient mid-block crossings.
- Uncontrolled driveways from adjacent commercial uses create frequent conflict points, visibility is severely compromised by road width.
- High risk is compounded by proximity to Pakuranga College and William Green Domain: destinations generating significant demand from the most vulnerable road users.



(Author, 2026)

Preliminary Recommendation: Closing the Crossing Gap

- Recommendation:

- Install Raised Mid-Block Pedestrian Crossings at Two Locations:

- *Pakuranga Road*

- Desire line for bus passengers alighting at the Highland Park intersection and pedestrians crossing between the eastern commercial frontage and residential areas.

- *Bucklands Beach Road*

- Desire line between residential catchment and Highland Park commercial node and William Green Domain.

- Implementation:

- Raised, signal activated crossings.
 - Refuge island at Pakuranga location.
 - Kerb extensions to reduce crossing distance at Bucklands Beach location.
 - Improved lighting at both crossing points.
- Implementable immediately within existing road corridor. Low cost.



(Author, 2026)

Safety Audit Findings: The Spaces Between the Streets

- A green pathway runs alongside Botany Creek providing a shortcut for residential catchments and Pakuranga College.
- Moonys Bridge provides a traffic free environment to cross Pakuranga Road.
- The pathway has zero lights across its entire length.
- The lights under the bridge have not been maintained and do not turn on.
- The harsh angles of the bridge and the lack of lighting make the bridge an ideal entrapment spot.
- Almost everywhere else, passive surveillance is provided due to passing motor traffic along busy roads.



(Author, 2026)



(Author, 2026)



(Author, 2026)



(Author, 2026)

Preliminary Recommendation: Passive Surveillance Through Activation

- **Recommendation:**

- Transform Moonys under bridge into a destination, providing lighting and passive surveillance.

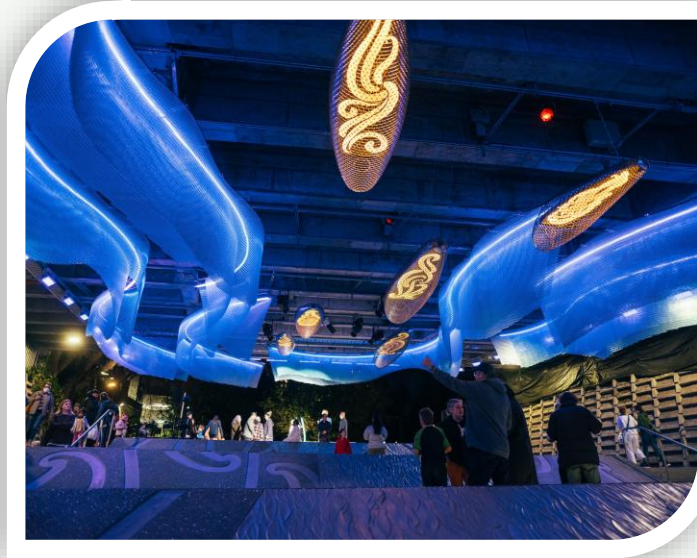
- **Crime Prevention Through Environmental Design Principles:**

- Territoriality through community ownership
- Natural surveillance through activation
- Activity support
- Maintenance

- **Precedent:**

- **Myers Park Underpass:**

- A hostile, unsafe and underused underpass transformed into a safe and attractive space through innovative lighting design.



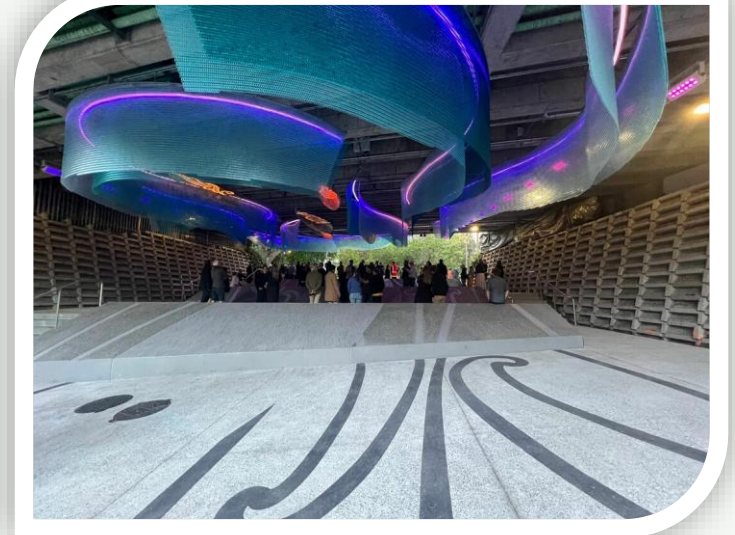
(Kaynemaile, n.d.)



(Shi, 2022)



(New Zealand Institute of Landscape Architects, n.d.)



Accessibility Audit Findings

Who Gets Left Behind

- Uneven surfaces along pathways
- Uncontrolled driveways with no tactile warnings for low-vision users
- Overgrown bushes encroaching on pathway
- Some curb cuts go to nowhere; other crossings are missing curb cuts.



Preliminary Recommendation: Raising the Standard & the Driveways

- Recommendation:
 - Create a **continuous and consistent** pedestrian pathway system:
 - Raise driveway crossing to the **pedestrian pathways level**, rather than pedestrian pathways dropping down to the carriageway.
 - **Tactile paving at crossing locations** to alert low vision users to potential dangers.
 - **Resurfacing** done the proper way, to ensure consistent and crack-free pathways.
 - **Maintenance** of nearby trees and bushes.



(NATCO, n.d.)

Where Cyclists Get Hurt: Highland Park's Missing Network

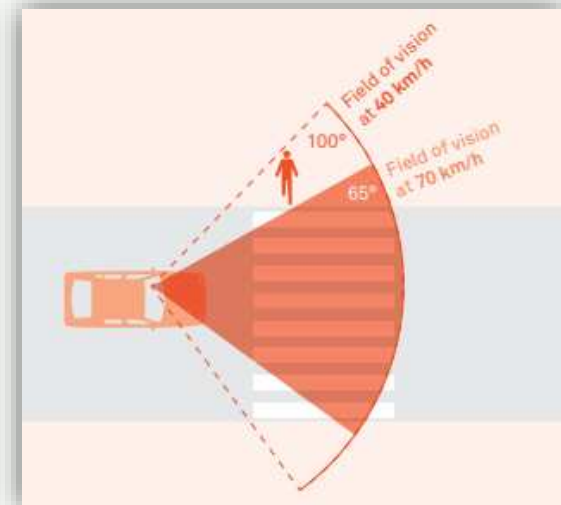
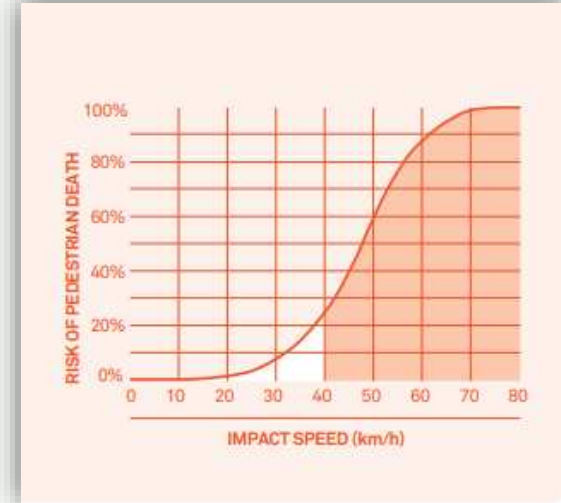
- There is effectively **zero cycling infrastructure** within the catchment.
- Cyclists are forced to take road; where **high volumes of high speed traffic** create conflict points.
- Cars turning in and out of driveways, cars turning from the median, and free flowing left hand turns **compound risk**.
- This is despite high volumes of cyclist due to proximity to Pakuranga College.



(Author, 2026)

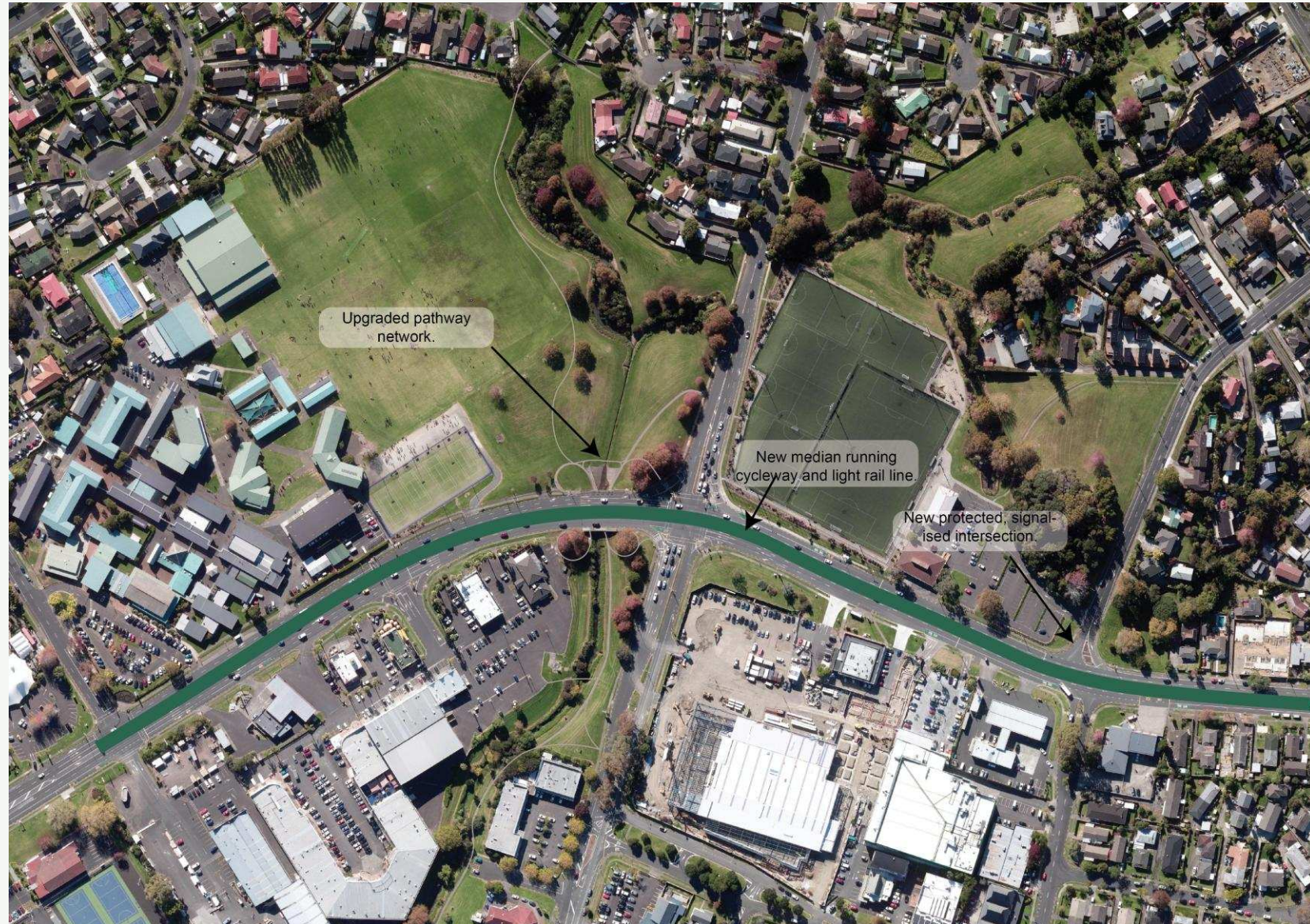
Preliminary Recommendation: 30km/h Average Speed Enforcement – Protecting Cyclists Where Infrastructure Cannot Yet

- Recommendation:
 - Install Average-Speed Speed Cameras:
 - Enforcing 30 km/h safer speeds **catchment wide**.
 - Install **shared bus-bike lanes** along the entire length of Pakuranga Road.
 - Combined with enforcement of safer speeds, shared lanes with buses create a safer environment for cyclists.
- Implementable short-term, utilising existing technologies and techniques. Cheap to implement.



The network wide vision

- **Light Rail Rapid Transit:**
 - Grass lined tramways
- **Cycling infrastructure**
 - Median running. 1.5 meter wide per lane, buffering median to allow for overtaking.
- **Green Pathways:**
 - Two new crossings of the botany creek, and new pathways allow for traffic-free crossing of the intersection through green areas.
 - Cloverleaff pattern provides access in all directions
- **Intersections:**
 - New intersection:
 - Along Pakuranga Road at intersection of Aberfeldy Avenue and Hutchinson Avenue.
 - Passive detection systems:
 - Radar technology detects incoming passengers, pedestrians, or light rail vehicles and preemptively changes signals to prioritise movement of active and transport modes.
 - Reduced turning radii and no more free flowing left-hand turns.
 - Combined with preliminary interventions, this created a safe, attractive, sustainable network where active and public transport modes are prioritised.



(Author, 2026)

The Pakuranga Road Corridor

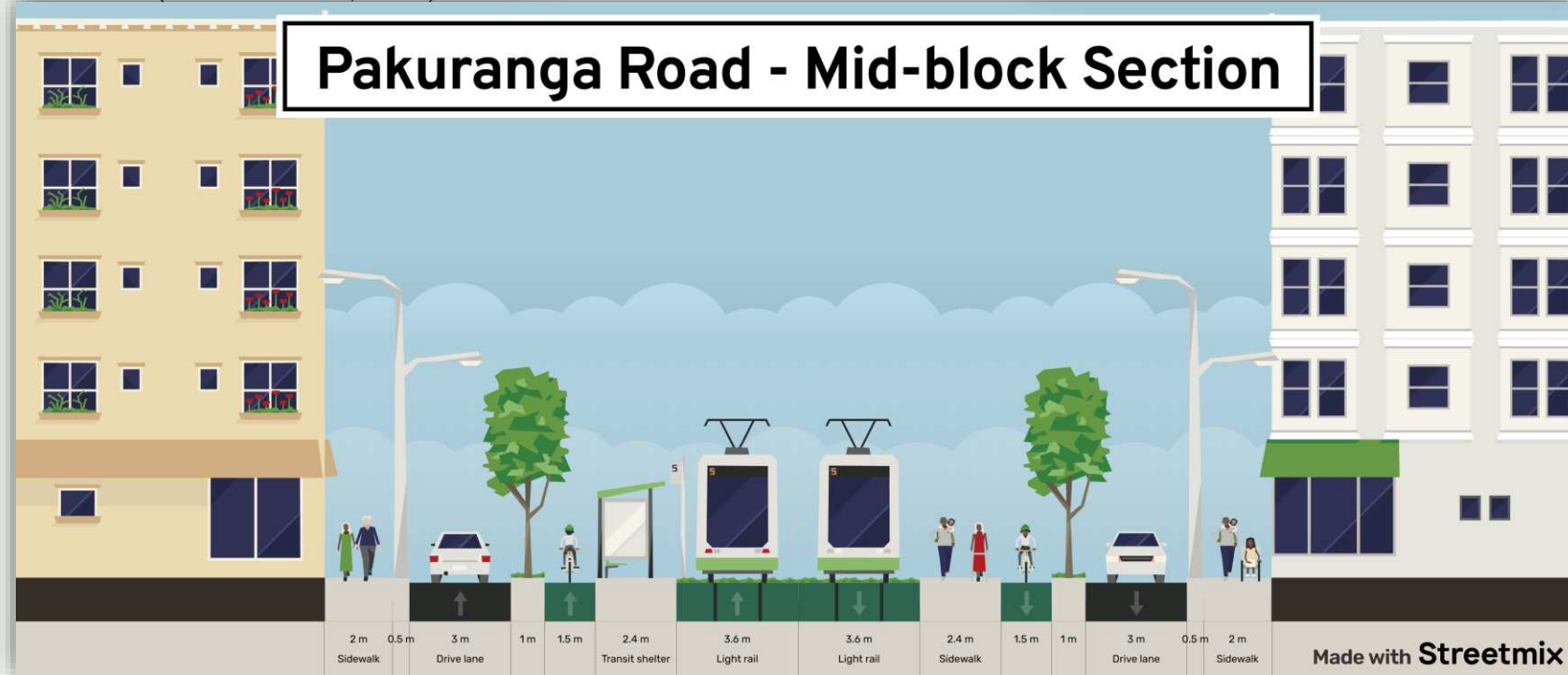
- Pakuranga Road is transformed from an arterial to a boulevard:
 - Radical road space reallocation gives way to:
 - Grass tramway medians integrating transit shelters
 - A continuous protected median cycleway runs the length of the corridor, separated from both general traffic and light rail through planting strips and footpaths.
- Footpaths are elevated to a continuous path that never drops to street level – driveways and side streets climb up to meet pedestrians, not the other way around.
- The combined effect shifts Pakuranga Road from Auckland's most hostile pedestrian environment to the active travel spine of a 30-year vision for Highland Park as a walkable, people-centred centre



(Bike Auckland, 2018)



(Appbeza, n.d.)



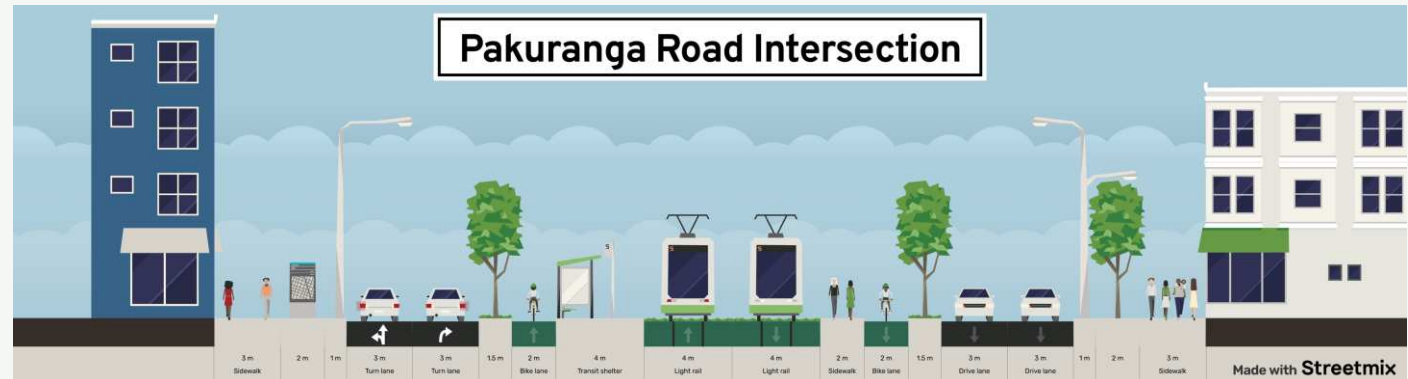
(Author, 2026)

The Intersection: Redesigned

- **Dutch-style protected intersection:**
 - Conflict eliminated through geometry, not signage
 - Free right turn pockets removed and converted to cyclist queue areas
 - Corner radii reduced, turning speeds physically constrained to survivable levels for pedestrians and cyclists
 - Intersection raised to footpath level, vehicles ascend, pedestrians never descend
 - Passive radar detection replaces push-button activation, the system recognises vulnerable users automatically
 - Simultaneous green phase halts all vehicle movements while pedestrians and cyclists clear
- **Composite result:**
 - A legible, predictable intersection safe for all users regardless of age or ability



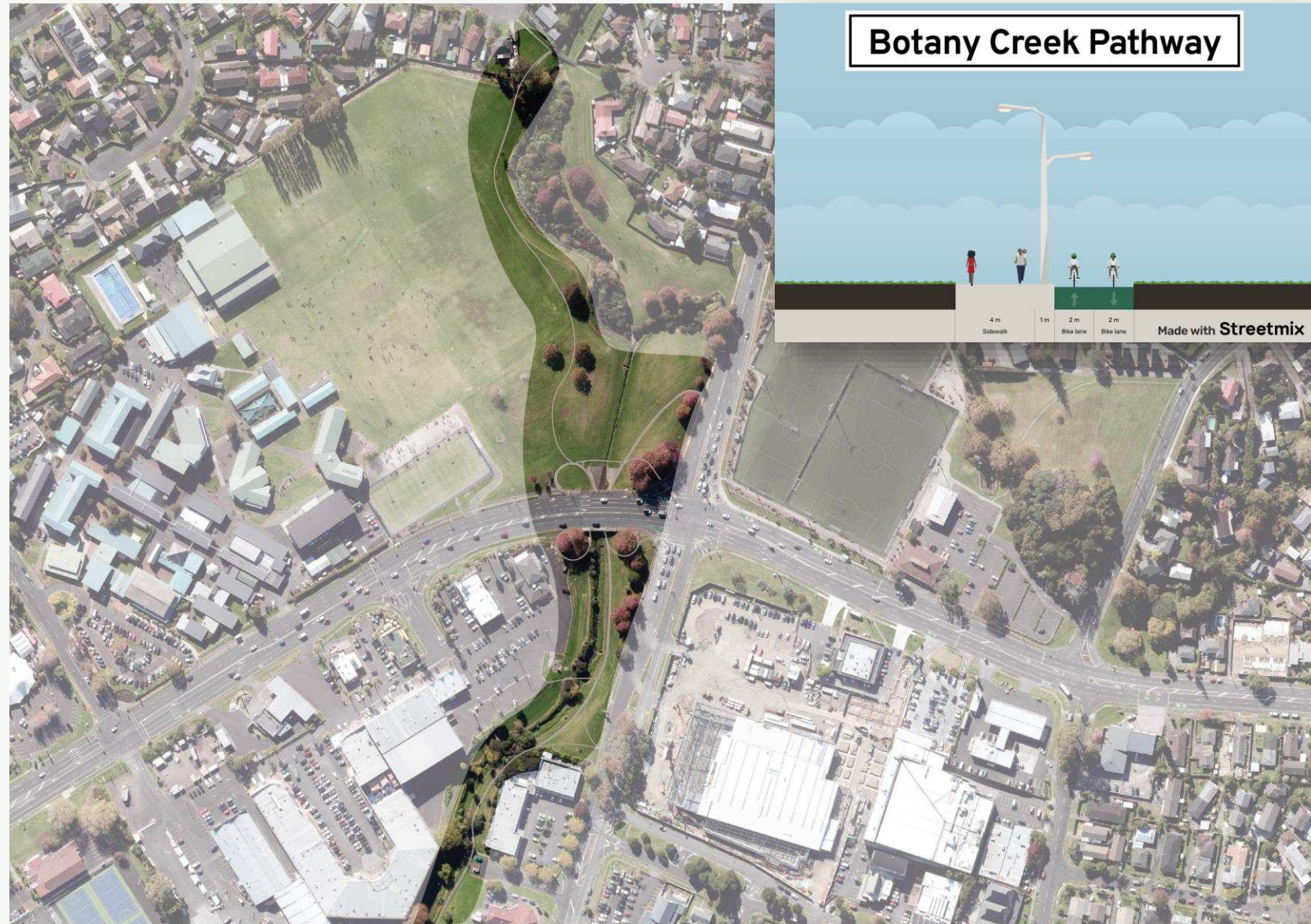
(Bicycle Dutch, 2016)



(Author, 2026)

The Green Connection

- Two new bridges:
 - Crossing the creek **allows access catchment wide** where access was previously severed.
- Moonys Bridge:
 - The **redesigned underpass** provides lighting and passive surveillance to ensure safety
- Cloverleaf Pattern
 - The **cloverleaf pathway configuration allows for multiple approach paths** eliminating single-entry entrapment conditions
- Pakuranga College, residential catchments, and transit stops **linked together**.
- In conjunction with new mid-block crossings on Pakuranga Road and Bucklands Beach Road, the pathway network is accessible from both sides of the road



Land Use: Looking into the Future

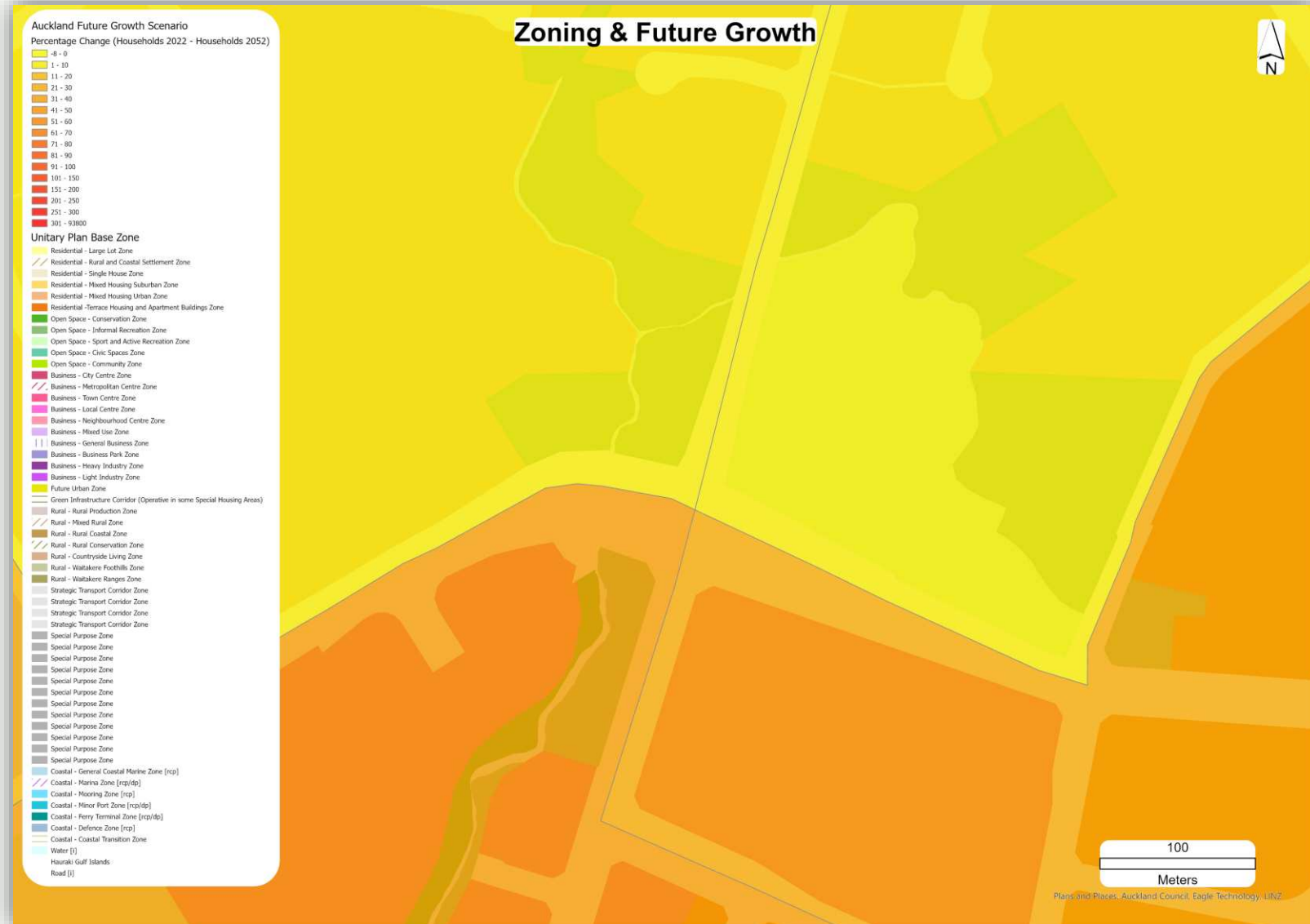
- **Zoning:**

- Town Centre
- Mixed Use
- Terrace and Apartment

- **Auckland Future Growth Scenario:**

- 10-30% household and employment growth within the catchment over 30 years

- **Without transformational active network investment, intensification compounds car dependency.**
- The Pakuranga Road transformation is **the prerequisite** for Highland Park to function as the town centre it is already zoned to become.
- Investing in the network ahead of intensification **maximises the return** on every subsequent development



Compiled by Author from (Auckland Council, 2026, 2024)

Implementation Phasing

Intervention	0–5 Years	5–15 Years	15–30 Years
Average speed cameras (30km/h)			
Mid-block crossings – Pakuranga Rd & Bucklands Beach Rd			
Driveway treatments – raised crossings			
Moonys Bridge lighting activation			
Footpath resurfacing and tree crown lifting			
Two new pedestrian and cyclist bridges over Botany Creek			
Dutch-style protected intersection redesign			
Cloverleaf underpass redesign of Moonys Bridge			
Pakuranga Road corridor transformation			
Median cycleway on Pakuranga Road spine			
Full pathway network completion			
Land use intensification along transformed corridor			
Highland Park as walkable, people-centred centre			

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