

Belfast Electric Vehicle Strategy

Climate & City Resilience Committee
9th March 2023

Gary McRae,

Head of Electric Mobility, Urban Foresight

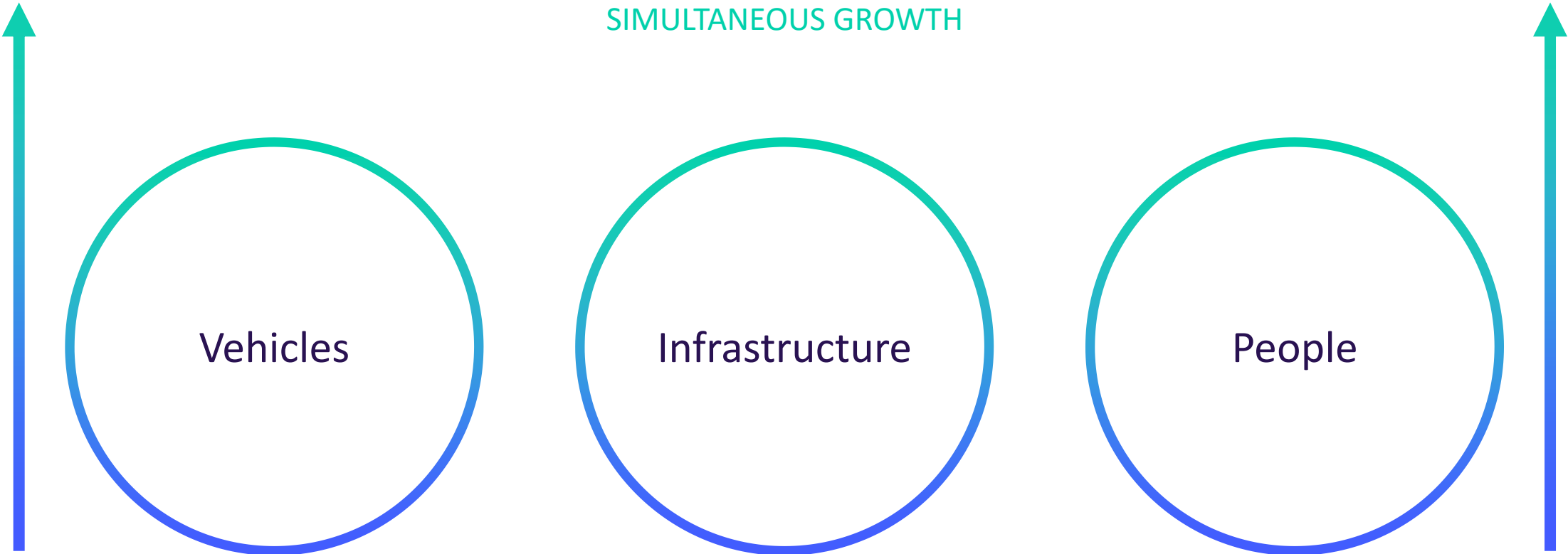


Urban
Foresight

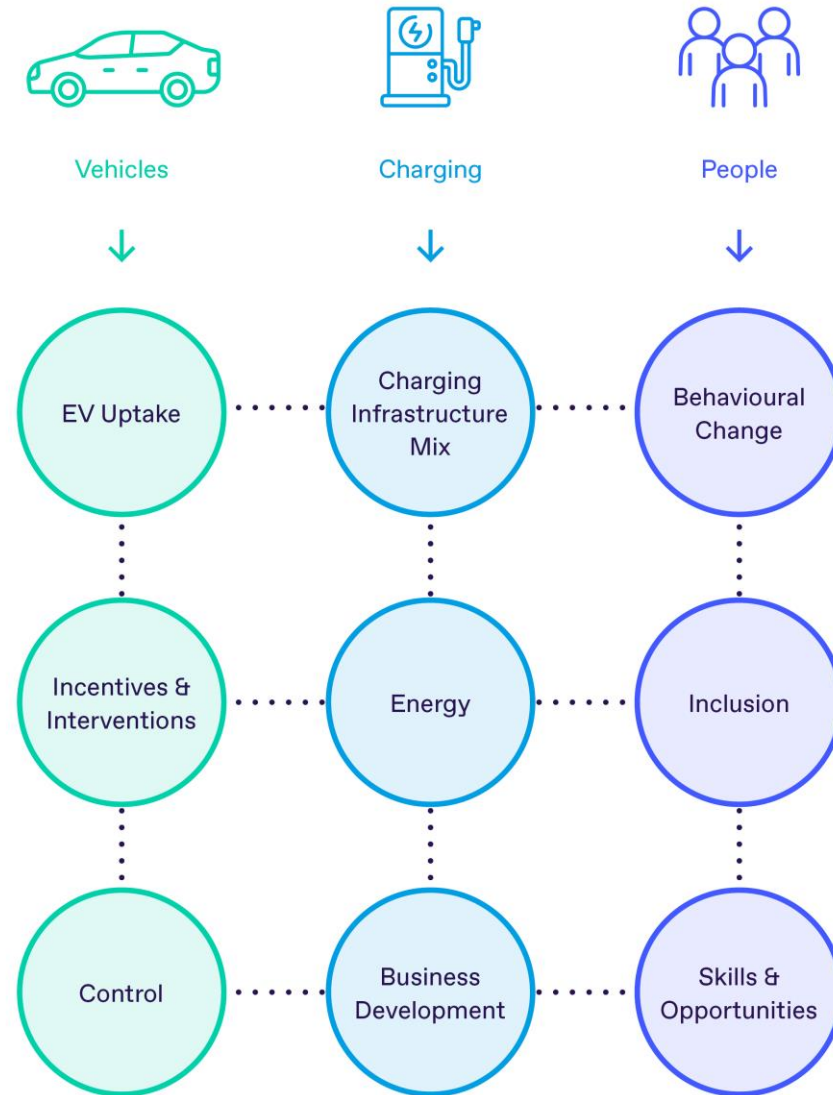
Agenda

- 1/ Intro to Urban Foresight
- 2/ Vehicles / Infrastructure / People
- 3/ Our Approach
- 4/ AST Model
- 5/ Challenges
- 6/ Opportunities

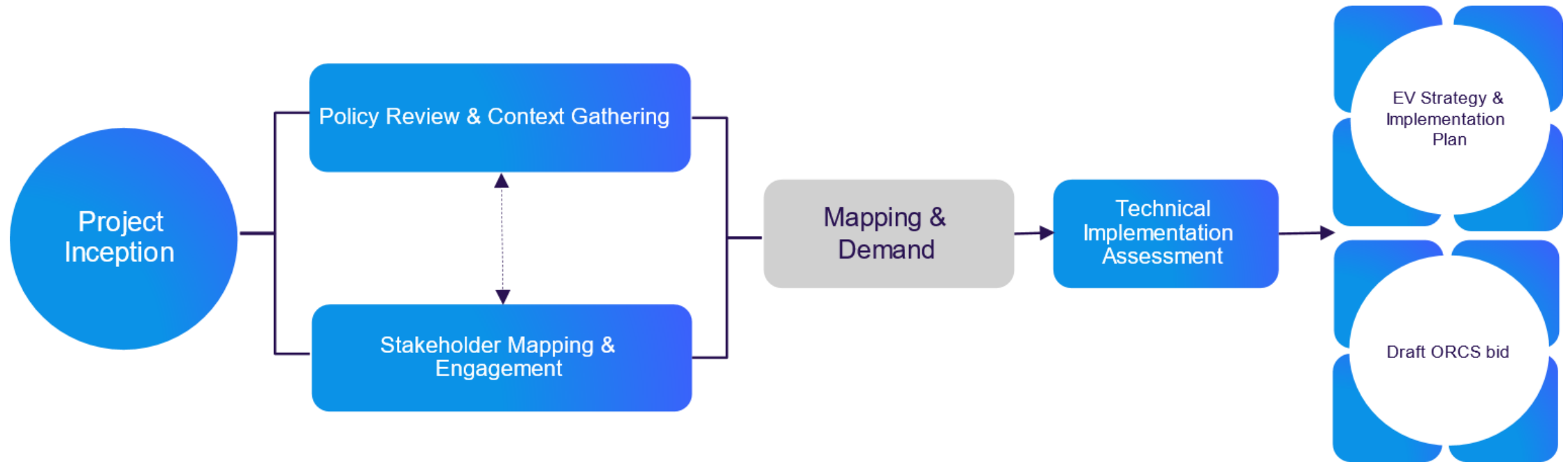
Key Areas for Transition



Belfast City Council Framework



Our Approach to the Strategy & Implementation Plan



Policy and Engagement

Internal

Off Street Parking, City and Neighbourhood Services

Physical Programmes

Place and Economy

Legal Services

Resilience and Sustainability Board

Finance and Resources Department

City Innovation Team

Climate Unit

City and Neighbourhood Services

City Regeneration and Development

External

Department for Infrastructure

Department for the Economy

City Region Local Authorities

ESB Energy

NIE Networks

weev

EVANI

Belfast Resilience & Sustainability Board

EV Task Force

Vehicles Included

Local Authority Fleet



Taxi



Electric Car Clubs



Working Drivers



Residents



Not Included:

- Buses
- Trucks
- E-bikes
- Micro Mobility

Mapping and Demand

Assess charging infrastructure required by 2030 and up to 2045

📍 5-year Incremental Forecasts

Urban Foresight analysis presenting 5-year incremental charge point forecasts. Provides an indication of the number and type of charge points locations that may be required to 2045.

2030	Total Chargers Needed			
	Solution	Total Locations Needed	RAPID	FAST
	Rapid Hubs	2	12	8
	Mixed Hubs	19	37	37
	On-Street Residential	0	0	0
	Off-Street Car Park	13	0	75
	Destination	56	0	113

2040	Total Chargers Needed			
	Solution	Total Locations Needed	RAPID	FAST
	Rapid Hubs	5	30	20
	Mixed Hubs	37	73	73
	On-Street Residential	0	0	0
	Off-Street Car Park	27	0	160
	Destination	120	0	239

2035	Total Chargers Needed			
	Solution	Total Locations Needed	RAPID	FAST
	Rapid Hubs	4	24	16
	Mixed Hubs	29	57	57
	On-Street Residential	0	0	0
	Off-Street Car Park	21	0	127
	Destination	95	0	190

2045	Total Chargers Needed			
	Solution	Total Locations Needed	RAPID	FAST
	Rapid Hubs	6	36	24
	Mixed Hubs	38	76	76
	On-Street Residential	0	0	0
	Off-Street Car Park	29	0	176
	Destination	132	0	263

Today

👤 Population¹ 85,320 🚗 Cars & Vans² 52,906 🚗 Electric Vehicles³ 508 (1,913)

⚡ No. of each other type of chargers⁴
Total Rapid Posts 31 Total Fast Posts 76 Total Home Chargers 215



2045

👤 Population⁶ 72,543 🚗 Cars & Vans⁷ 52,906 🚗 Electric Vehicles⁷ 52,906

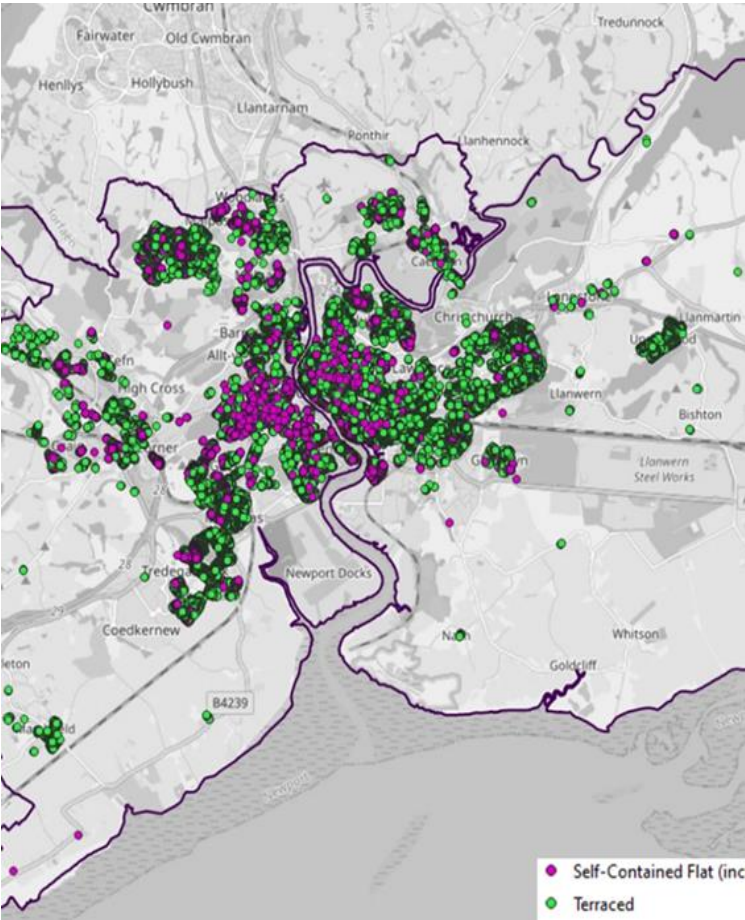
⚡ No. of each other type of chargers⁸
Total Rapid Posts 176 Total Fast Posts 846 Total Home Chargers 26,330



Example forecasting exercise created for , which shows EV uptake and infrastructure implementation according to different levels of strategic ambition and/or targets.

AST Model (Area Site Technology)

Area



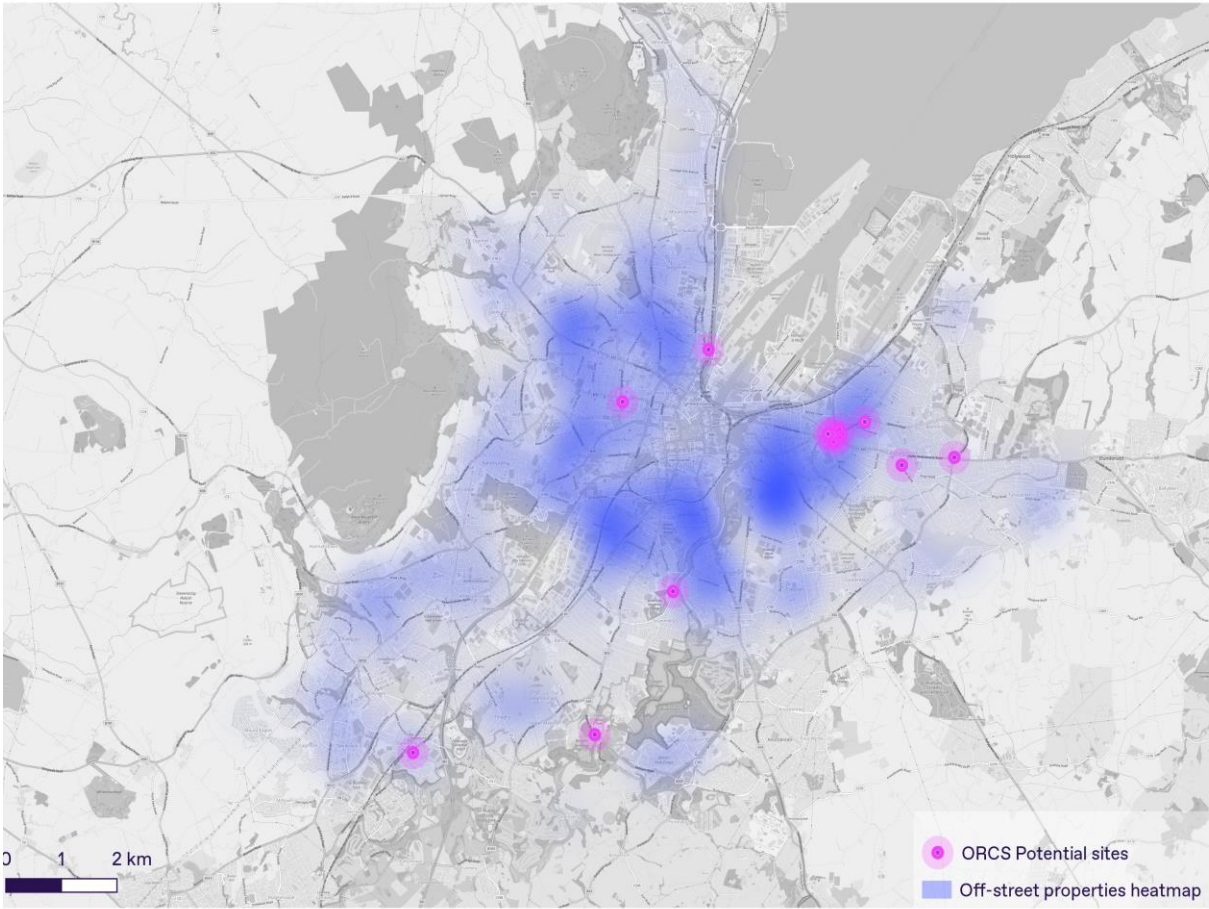
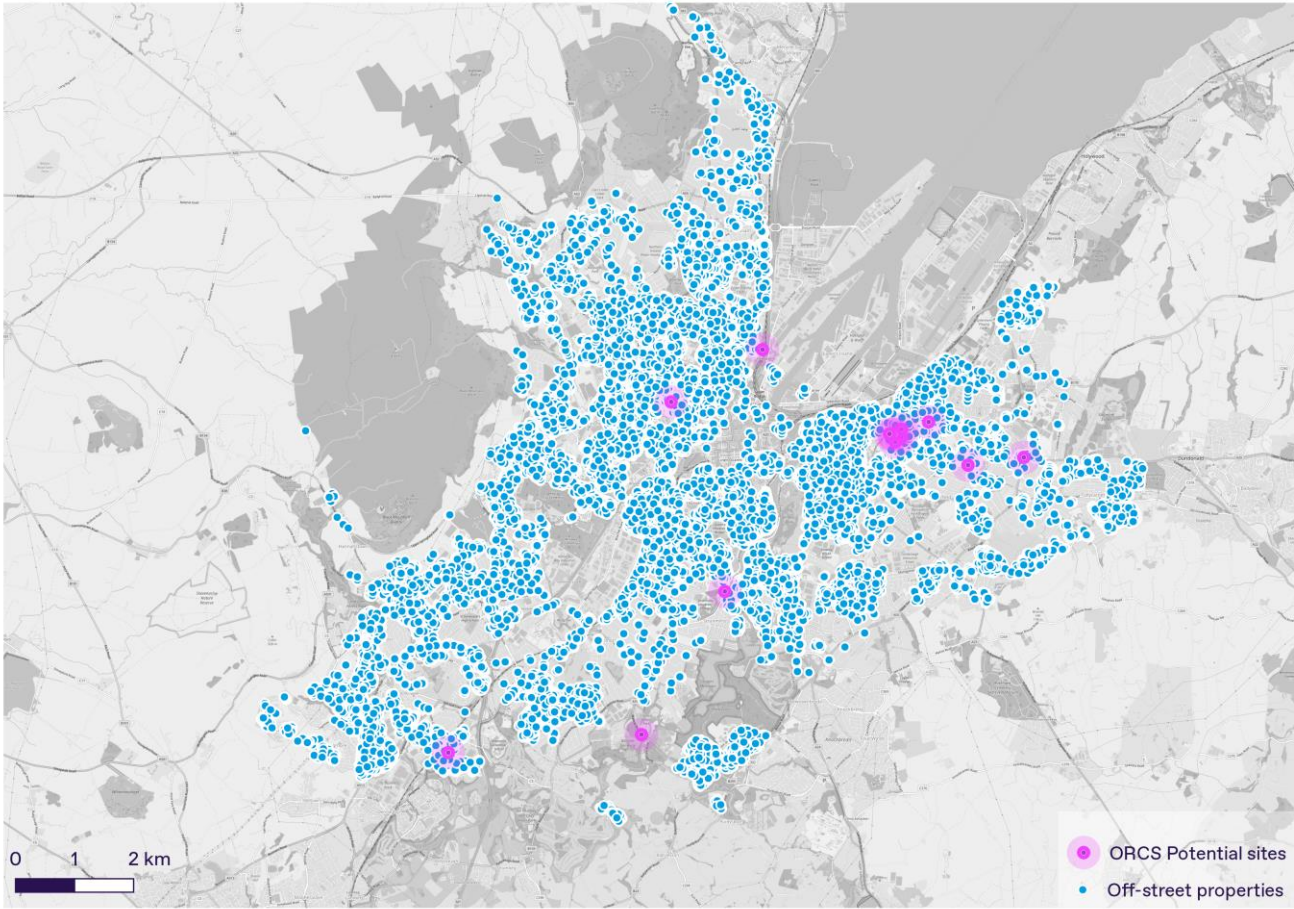
Site



Technology



Belfast City Heat Maps



On-Street Charge Point Technology

Freestanding Posts



Street Furniture



Flat & Flush



Off-street Hub



Alternative Technology

Ox Gule



Charge Fairy



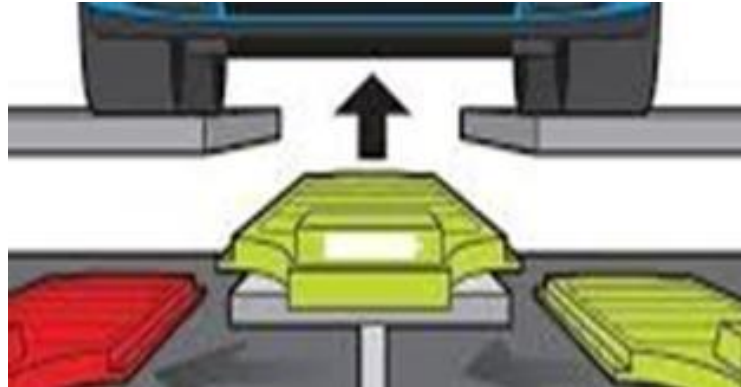
Overhead Solutions



Charging Robot



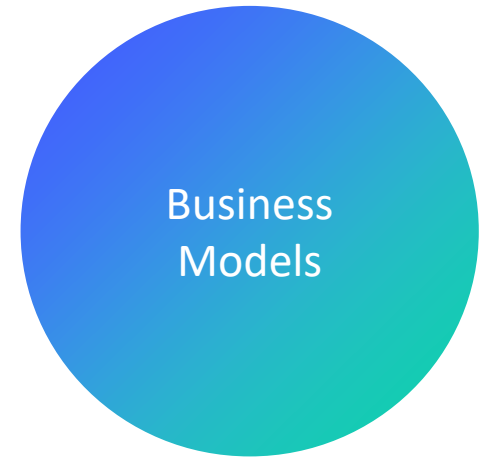
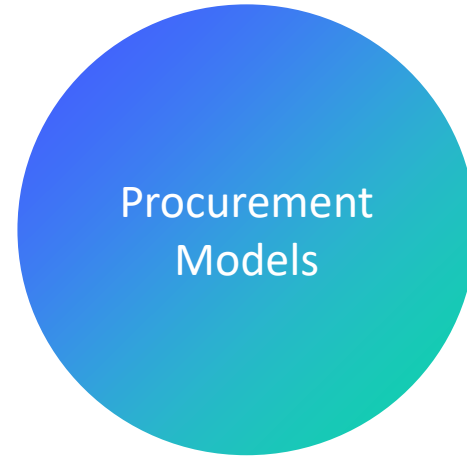
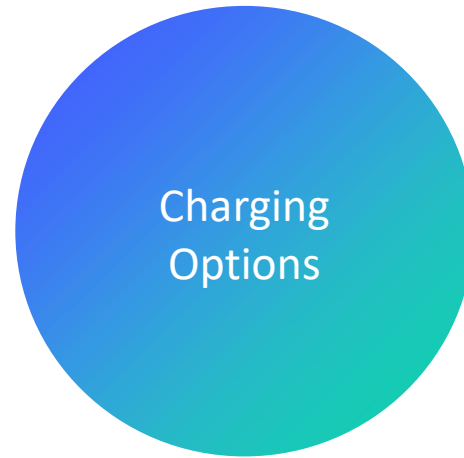
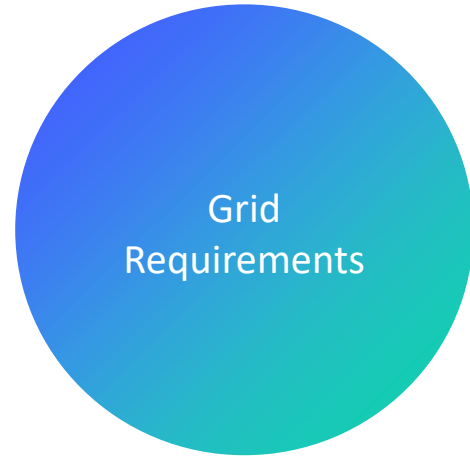
Battery Swapping



Wireless Charging



Technical Implementation Assessment



Challenges

Strategy Delivery

- Asset management – areas for prioritisation, existing contracts
- Understanding public vs. private development
- Status of City's current infrastructure - scale of physical transformation needed
- Investment

Active Travel Integration

- New infrastructure – new cycle routes
- Links to wider schemes
- Long-term vision for transport in Belfast

Accessibility and Equity

- User profiling
- Barriers to entry



Opportunities

Provide an accessible, convenient mobility infrastructure network for all users

Align with regional & national targets and agendas for decarbonization / Net Zero

Link to other sustainable travel options

Encourage modal shift through uptake of EVs

Generate a return

Enhance environmental sustainability and resilience



Thank you!

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