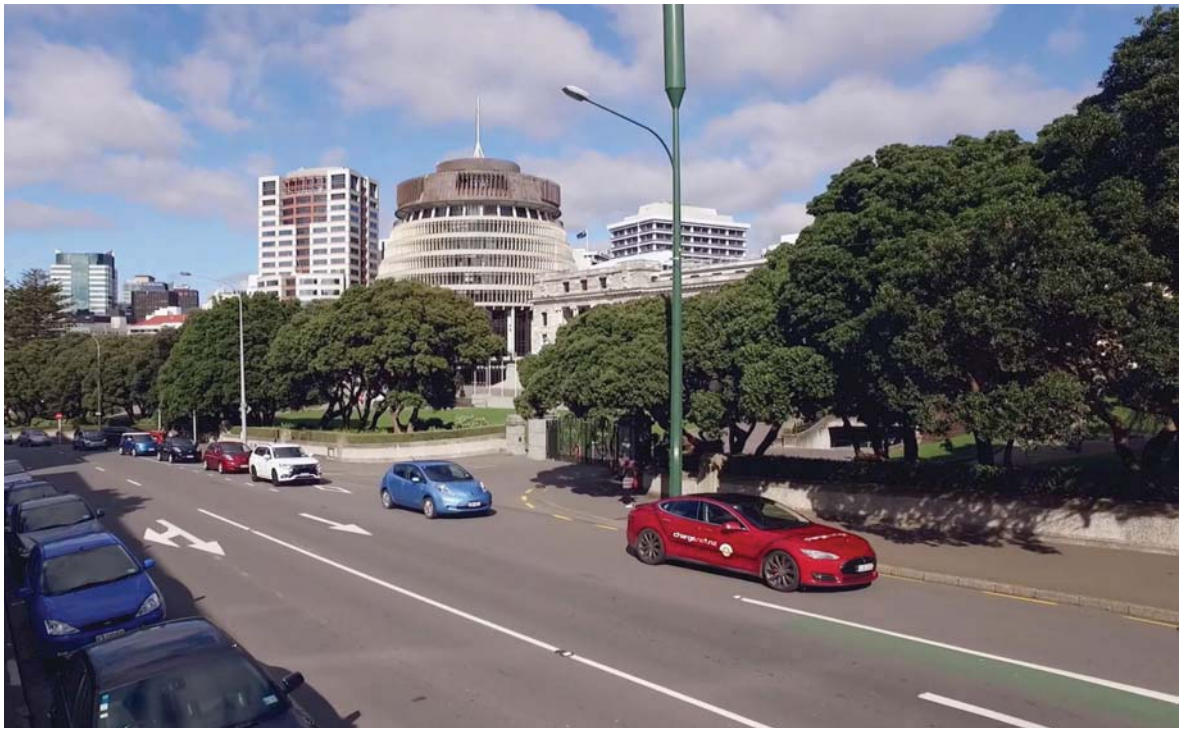
ATTACHMENT 1

Wellington Region Electric Vehicle Working Group

Building awareness, accelerating adoption and coordinating the development of charging infrastructure throughout the Greater Wellington Region

Coordination Update 01: Dec 2016



The Wellington Region Electric Vehicle Working Group (REVWG) is comprised of officers from councils across the region. The group operates as a coordinating mechanism for the promotion of electric vehicles (EV) generally, and in relation to the development of charging infrastructure.

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REVWG Coordination Update 01: Nov 2016

The Wellington Region Electric Vehicle Working Group (REVWG) is comprised of officers from councils across the region and is convened by the Greater Wellington Regional Council.[1]
The group operates as a coordinating mechanism for the promotion of electric vehicles (EV) generally, and in relation to the development of charging infrastructure.

REVWG produces a coordination update every six months which summarises the current state of play and short term outlook for EVs in the region enabling further planning to evolve from a coordinated base.

The updates cover:

Elements within the scope of REVWGs influence (e.g. charging infrastructure at council operated locations, transition of Council fleets, and public promotion)

and activity relevant to electric vehicle adoption overall (e.g. the development of charging infrastructure by the private sector for private or public use, central gov. led promotion)

while acknowledging there are barriers and opportunities outside REVWGs scope (e.g. purchase cost and range of EVs available, development of a national charging network).

REVWG meets quarterly and meetings include a public forum which is open to sector stakeholders and interested parties from throughout NZ.
To join the group please email sustainable@gw.govt.nz

Image: Council boundaries within the Wellington region[2]

[1] The group is convened by the Greater Wellington Regional Council and includes officers from Wellington, Hutt, Upper Hutt and Porirua City Councils; Kapiti Coast, South Wairarapa, Carterton and Masterton District Councils. Councils north of the region also collaborate as appropriate. REVG coordination updates do not constitute council policy or reflect the statutory plans of any council represented.

[2] Wellington Electricity serves Wellington City, north to Pukerua Bay and Upper Hutt; PowerCo serves the Wairarapa; and Electra serves Paekakariki and north along Kapiti coast. These electricity lines companies participate in REVWG.

REVWG Coordination Update 01: Nov 2016

Contents

1. Current state of play

Table 1: Charging Infrastructure and electric vehicles in the Wellington region		
	New Zealand	**Wellington Region**
Charging Stations - Fast Start of 2016 Now (Nov 2016) End of 2017 forecast	 4 20 100+	 0 4 6+
Charging Stations - Standard Start of 2016 Now (Oct 2016) End of 2017 forecast	 ~ 10 (plus 200+ campgrounds) ~ 50 (plus 200+ campgrounds) No figures.	 2 (plus ~10 campgrounds) 5 (plus ~10 campgrounds) No figures.
Electric Vehicles Start of 2016 Now (Oct 2016) End of 2017 (MoT target)	 1000 2000 > 4000	 < 100 200 No target.
Target/s *Set by Minister of Transport*	64,000 electric vehicles on road by 2021	No target. Note that 6,400 vehicles by 2021 represents a Wellington Region per-capita share of the NZ target. International data demonstrates that areas with higher per capita incomes experience greater uptake (relevant as Wellington city highest per capita income in NZ).
Total light vehicles on road	3 million	250,000
CO_2e offset annually[3]	3600 tonnes	400 tonnes

1.1 Key observations:

- In 2016, numbers of electric vehicles and charging stations have begun growing exponentially from a near-zero base
- Visibility of charging infrastructure and electric vehicles is very low.
- **Coverage** is not yet complete. In some areas of the region it is still not practical to drive an electric vehicle (i.e. you would end up waiting hours to recharge along your journey). There is a noticeable gap between Otaki and Wellington. The area north of Featherston is also particularly lacking, as are the South and East coasts of the Wairarapa.
- **Capacity** at charging sites is starting to be an issue, given the relatively few number of chargers today. Capacity will become a problematic bottleneck at popular charging locations as vehicle numbers rise. Queues have been noted at the Vivian St (Wellington city) and Dowse (Hutt city) chargers.
- Knowledge about electric vehicles and installing infrastructure is limited to a few experts, and even then, a high pace of technological change means no one has all the answers.

[3] Simple model of 2 tonnes CO_2e per car per year using the most recent vehicle count from MoT.

- Transport emissions contribute 39% of the regions total green house gas emissions, with petrol use for road transport contributing 29%.[4]

1. 2. Local government policy and fleets

Currently, about half of the nine councils in the region have at least one electric vehicle. No council has more than two electric vehicles at present. The nine councils in the area operate between 500 and 600 vehicles. Ownership arrangements are mixed across the councils, with some owning their entire fleet and others leasing. The two District Health Boards have approximately the same number of vehicles as the councils combined.

Greater Wellington Regional Council recently adopted an 'electric vehicle first' policy, and Wellington City Council has publicly stated goals to grow its number of electric vehicles. GWRC have produced an information paper for vehicle fleet managers with practical information about fleet transition, charging infrastructure, the changes to Council's vehicle policy and electric vehicles in general. The paper also summarises the results of a NZ wide council survey about electric vehicle uptake.

A key advantage of Council's using EVs is that it boosts visibility of the vehicles in the community. Some vehicle types (e.g. open tray 4WD utes) are not currently available.

1.3 Recent promotional activity

Electric Vehicle Symposium – June 2016: Greater Wellington Regional Council and the Wellington City Council co-hosted an electric vehicle symposium on June 27 with principal sponsorship from Wellington Electricity, EECA and Car Bridge. The one day event sold out with 170 attendees and received excellent feedback. Presentations were given by Transport and Energy Minister Hon Simon Bridges, local councillors, government agencies, other national stakeholders, and international experts. The event highlighted the rapid pace of development of electric vehicle technology and the expected rise of adoption in New Zealand. Presentations from the day are available as video recordings at www.TheFutureIsElectric.co.nz International experts participated in following up meetings with REVWG and national stakeholders.

International Drive Electric Week – September 2016: A number of activities promoted the advantages of electric vehicles to Wellingtonians during Drive Electric Week. Organisers estimate thousands of Wellingtonians saw an electric vehicle, and many took the chance to ride in or drive one.

Key initiatives included

- Production of Wellington based video
- Openings of electric vehicle charging stations
- Opportunities to drive electric vehicles and chat with owners (at weekly markets etc)
- Display of electric vehicles in prominent locations (e.g. beside front door of Moore Wilsons store)
- Cinema screening of electric vehicle movie
- Discounted entry for EV owners at locations with charging stations (such as Zealandia).
- Large social media presence during the week plus almost 1000 posters on the regions busses and trains

For more information on the international context of Drive Electric Week see https://driveelectricweek.org/

1.4 Charging infrastructure development

[4] Regional Green House Gas Inventory

1. Charge Net NZ (private company) is installing a nationwide network of 100 fast chargers nationwide (50 kW DC). Their chargers are now operational in Wellington, Lower Hutt, and Featherston, Otaki and Porirua. Installations in Paraparaumu, Upper Hutt and Masterton are planned for 2017. See https://charge.net.nz/charging-map/ for more info. The sites currently installed have the capacity to charge just one vehicle at once, it is acknowledged that expansion will be necessary over time.

2. Wellington Electricity are actively supporting the development of a charging network across the region, covering the cost of the electricity network work required for installation of one fast charger in each TA area (Vivian St and Petone having been completed), and participating in relevant working groups and stakeholder forums. WE were one of the first organisations in the region to bring EVs into their corporate fleet and now have 5 electric cars.

3. Spark is working with a number of the councils to install standard chargers attached to roadside phone boxes (10-22kW AC). These are positioned at sites of interest (town or suburban shopping districts, etc) where drivers have access to a range of activities while their cars charge. This initiative has the potential to add several dozen sites to the region.

4. Staglands Wildlife Reserve and Zealandia have installed charging facilities supported by Wellington Electricity and Wellington City Council

5. Tesla Motors are opening a NZ operation and in doing so may well deploy very fast (120kW+ DC) "SuperCharger" infrastructure for their vehicles in the region, and/or offer slower (22kW AC) Destination Charging for hospitality and other appropriate sites. Link to map - see Asia-Pacific.

The above initiatives will largely offer 'coverage' for the region. This leaves remaining areas of interest where there are large volumes of drivers or pedestrians, which provide the dual benefit of promotion to public and electricity for cars. Sites such as malls and the airport fall into this category. Recreational / outdoor attractions also offer significant potential for awareness raising.

1.5 Central Government Electric Vehicle Programme

In May 2016, the Government announced its Electric Vehicle Programme, with a package of measures to stimulate the adoption of electric vehicles in New Zealand. Information on this can be accessed at www.electricvehicles.govt.nz. The lead agencies and their roles in the electric vehicle programme are:

ELECTRIC VEHICLES
DRIVING AN EV FUTURE

Lead agencies for the Programme

Ministry of Transport	EECA	NZ Transport Agency
Establishing and convening the Leadership Group	Nationwide information and promotion campaign	Supporting the development of public charging infrastructure
Regulatory changes to implement the RUC exemptions for light and heavy EVs	Establishing and administering the contestable fund for low emission vehicles	
Regulatory changes to enable EVs to use bus and transit lanes		
NZ Government Procurement, MBIE	**MBIE and ACC**	**IRD**
Investigate the feasibility of joint public-private procurement of EVs	Reviewing and potentially amending the ACC levies payable by PHEVs	Reviewing and potentially amending the depreciation rate and/or FBT for EVs

1.5.1 Electric vehicle charging safety guidelines:
Worksafe have released electric vehicle charging safety guidelines.

1.5.2 Low Emission Vehicles Contestable Fund:

The Government has established a contestable fund to encourage innovation and investment that will accelerate uptake of electric and other low emission vehicles in New Zealand that might not otherwise occur.
The fund will provide up to $6 million per year (up to $4 million in 2016/17) to co-fund, up to 50%, projects with private and public sector partners in areas where commercial returns aren't strong enough yet to justify full private investment.

These projects will need to contribute to at least one of the following objectives:

- Increasing the variety and supply of electric vehicles (EVs) available
- Improving the availability of servicing or charging infrastructure in areas where demand is not fully developed
- Increasing demand for EVs
- Developing innovative products or systems to take advantage of growing EV usage

REVWG recognise the fund as a key mechanism for supporting the ongoing uptake of electric vehicles and development of associated infrastructure in the region. Where appropriate Councils will utilise the fund, ensuring optimal value for local projects is achieved.

WCC, HCC and KCDC have submitted bids to the round currently under consideration.

Details about the fund including dates for the next round are on the LEVCF fund website.

1.5.3 National guidance for public charging infrastructure: NZTA are working towards publishing National guidance for public electric vehicle charging infrastructure

2. **Regional EV Working Group:** Current objectives & actions

The Regional EV Working group (REVWG) operates as a coordinating mechanism for the promotion of electric vehicles (EV) generally, and in relation to the development of charging infrastructure.

Electric vehicles are considered a key platform for sustainable transport within the transport hierarchy, which prioritises active and public transport modes and places emphasis on the importance of air quality, reduced noise and urban form for enhancing quality of life.

REVWGs intention is to ensure that both electric vehicle charging **capacity** and **coverage** is maintained at a sufficient scale to enable electric vehicle owners to travel freely throughout the region, and that charging infrastructure is utilised as a promotional tool that encourages further uptake of EVs.

Table 1 below summarises the strategic trajectory (achieving coverage then maintaining capacity) underpinning REVWGs work, and figure 1 depicts the current level of coverage based on the range of a Nissan Leaf.

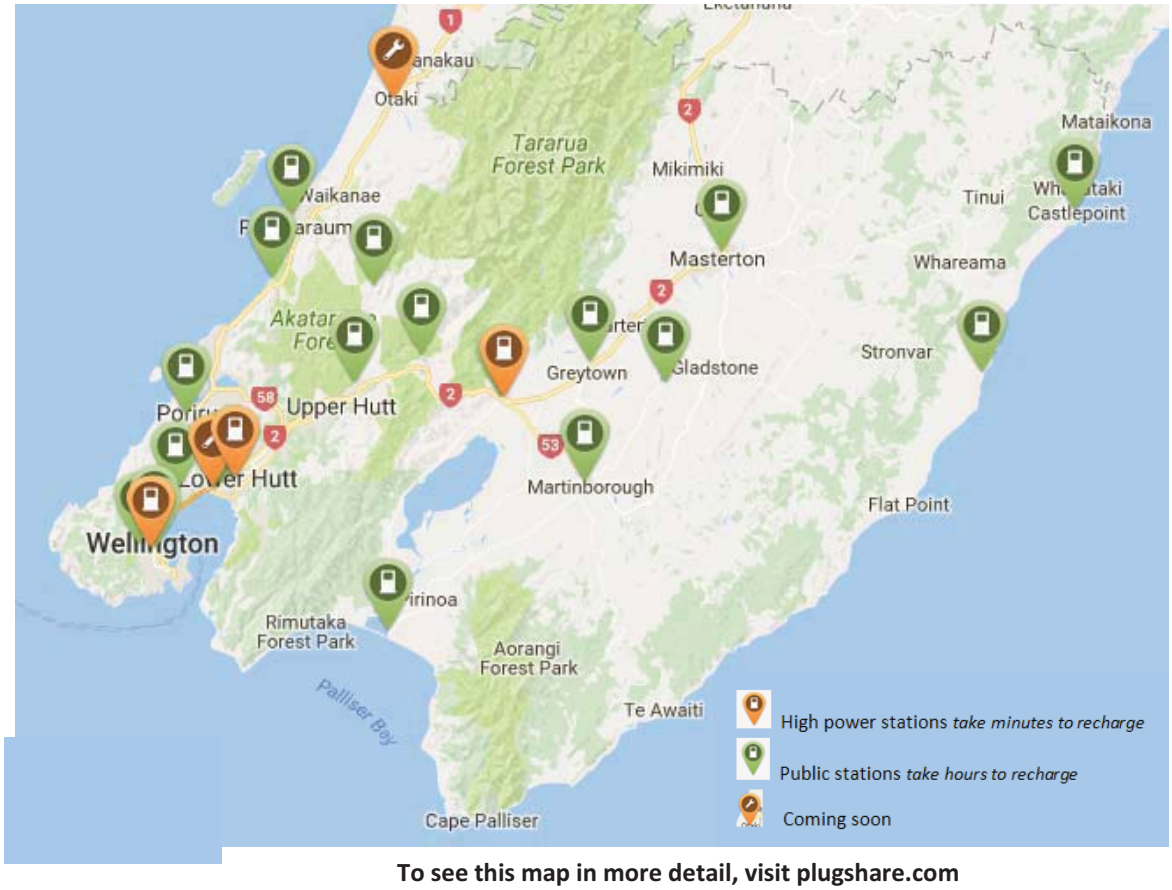
Table 2 EV charging infrastructure: Achieving coverage and maintaining capacity

TIME ◆----------▶ ***Now*** *(2016)*				***Future*** *(keeping pace with demand)*
REVWG supports multiple stakeholders to install **100 charging stations** in a coordinated fashion, providing regional **coverage.** REVWGs role is to facilitate optimal placement and accelerate the pace of installation.	This will inform those who don't know about EVs to **learn about their existence**.	And will give those who know about EVs the **confidence to buy** one.	And give those who have an EV the confidence to **drive anywhere** in the region.	But will soon create bottlenecks of cars queuing to recharge, and so REVWG will need to support and coordinate **additional capacity**.
Coverage and Promotion				***Add Capacity***

Figure 1: Publicly available EV charging infrastructure

Current level of coverage across the Wellington region (Nov 2016)

Note the ~20 residential chargers that plug share members allow EV drivers to use are not included



To see this map in more detail, visit plugshare.com

In regards to publicly available EV charging infrastructure, coverage is currently considered insufficient across the region and within Territorial Authority (TA) boundaries,[5] though some are better served than others.

Over the coming 6 to 12 month period a number of new installations will occur, including some old Telecom phone boxes being converted to 'Spark plugs'. This will significantly increase coverage within some TA areas. These individual installations are outlined in the TA pages in section four.

While the new installations and conversion of the Spark boxes will greatly improve the situation regionally, 'flat spots'[6] will still remain. The most notable of these will be:

- Porirua City, outside the CBD (e.g. Plimmerton, Pauatahanui, Whitby, Titahi, Pukerua Bay)
- Upper Hutt outside the CBD (e.g. SilverStream)
- Hutt City outside the CDB (e.g. Wainuiomata and Eastbourne).
- At the time of writing Wairarapa councils are assessing the potential for Sparkplug conversions, which have the potential to provide coverage in all towns including along the east and south coasts.

REVWG 2016/17 Objectives and relevant actions

[5] Territorial Authorities are city and district councils. I.e. Wellington, Hutt, Upper Hutt and Porirua City Councils; Kapiti Coast, South Wairarapa, Carterton and Masterton District Councils.

[6] So called 'flat spots' (areas that lack coverage) are identified using a conservative estimate of an EV drivers range requirements. The Generation 1 Nissan Leaf (the most popular EV on NZ roads currently) which has a range of 117 kilometres on a full charge is used as a benchmark. An assumption is applied that most drivers considering 'regional travel' would desire a publicly available charger to be located within 30 kilometres of any TA centre. This would enable a driver starting out on approximately 75% battery to conduct a return trip from one TA centre to another. In practice, the driver is unlikely to live in the TA centre, and so additional kilometres will be required for travel within the TA area, hence the conservative figures applied. It is acknowledged that most EV owners will be able to charge their vehicle at home (if purchased for personal/family use); or at their business (if purchased by a business).

Table 3 below sets out a broad range of **objectives** designed to accelerate the adoption of electric vehicles in the region.

Options for initiatives that will progress the objectives are also identified, however it should be noted that the capacity for implementation of the options differs from council to council. Electric vehicles are a relatively new technology and incorporating the wide array of initiatives required to facilitate their uptake into council planning, budgets and strategy is an iterative process that will take time.

Table 3: REVWG 2016/17 Objectives and relevant actions	Indicative timeframe
Enable sufficient coverage Provide support and coordination as appropriate, enabling a sufficient **coverage** of charging infrastructure to develop across the region as quickly as possible – so that electric vehicle drivers can travel confidently around the region. *Note: Positioning of charging stations should consider both geographical coverage (the distance between chargers) population density, and visibility (i.e. located in places where they will act as promotional tools). See Appendix 2 for details.*	2016/17
Ensure capacity maintained After achieving sufficient coverage, provide support and coordination as appropriate so that the **capacity** of charging infrastructure is boosted, staying adequately ahead of demand to stimulate further uptake. *Note: Capacity goals can simplistically be viewed using a historical rule of thumb ratio of 1 public charger to 10 cars. However in practice capacity growth will usually only be justified where a specific site can be shown to be congested with cars regularly queuing up to recharge.*	2018+
Promotion Promote the benefits of electric vehicles to the public in the region Initiative options being considered by some individual councils (where planning, review and budget cycles align appropriately) include: • Support / facilitate events that enable the public to test drive an EV • Demonstrate leadership (and gain knowledge) through electrification of council fleets (includes the adoption of a policy that prioritises the purchase of an electric vehicle; and formulation of a 'percentage of fleet electric by x date' target - e.g. match private sector fleet pledges of at least 30% vehicles to be EVs by 2019 NZ *Ref*) • Provide EV charging facilities at council operated facilities as appropriate (e.g. visitor carparks at libraries, swimming pools, major parks, council offices, iSites, etc) • Ensure major retailers (that currently provide car parking) and car parking facility/building operators are aware of the commercial advantages providing charging infrastructure can bring. Where retailers and/or parking facility operators are installing charging infrastructure encourage the wider promotion of EVs through locating chargers in areas of high visibility with consistent messaging. • Where appropriate, work with recreation and tourism destination operators to offer charging facilities and adopt consistent messaging.	
Encourage charging in homes and businesses Provide support and coordination to ensure the development of private charging	2017

infrastructure (primarily amongst businesses and households) develops sufficiently to sustain electric vehicle demand. Initiatives that have proven successful overseas and that are currently being investigated by some individual councils for local relevance and feasibility (including where planning, review and budget cycles align appropriately) include: • A council provided loan for charger installation in homes. Ratepayers could repay the loan at x% via rates payments (a similar scheme *Warm Up Wellington* exists for home insulation, the rate is 7%). • A workplace charging challenge similar to the one run in the US (The US challenge currently has over 500 workplaces offering charging for employee vehicles, and has demonstrated that workplace charging for staff increases private ownership of electric vehicles by 20x). • Creation of zero and low-emission zones (streets where only electric vehicles can park and/or drive through, unless they pay an exemption charge), an idea based on their prevalence and effectiveness in many major European cities including Paris, London, and Oslo. • Amending building codes, consents and bylaws applicable to houses, apartments, retail premises and car parking buildings - requiring new builds and significant upgrades to provide recharging facilities. This is common in foreign locations (e.g. Vancouver scheme). • Investigate options for on street charging in areas where off street marking is rare (note the UK scheme for local authorities) and work with relevant stakeholders where appropriate. • Rates remission - to stimulate provision of charging infrastructure and dedicated EV parking space	
Incorporate EVs in council planning and strategy Incorporate the development and coordination of charging infrastructure, the adoption of EVs within the council's own operations and the promotion of electric vehicles into statutory and non-statutory documents as appropriate. Examples include: • Local Government Annual Plan (July 2017 - June 2018, internal planning beginning late 2016) • Local Government Long Term Plan (2018 - 2028, internally planning late 2016 through 2017) • Regional Transport Plan (2018-2021, planning done 2016/2017). • Sustainability, climate change, air quality or transport strategy documents (non statutory).	
Provide charging facilities at public spaces	Ongoing

Ensure upgrades to council property and facilities (e.g. council offices, swimming pools, community centres, as well as significant public spaces like popular beaches, walking trailheads, and major parks) consider the provision of charging facilities.	
Encourage car share schemes Car share schemes reduce road congestion and lower parking demand. Car share schemes that utilise electric vehicles enable more people to experience EVs.	Ongoing
Encourage the adoption of low emission technologies across the transport sector – e.g. marine and public transport (buses etc)	
Central government collaboration Work with central government agencies and the private sector to ensure adequate data is available to accurately inform capacity growth Work with relevant central government agencies around policy development and implementation where appropriate	Ongoing
Data collection & provision Ensure charging infrastructure is able to capture relevant usage statistics and that it is made available to appropriate agencies	Ongoing
Compatibility standards Ensure charging infrastructure meets consistent compatibility standards	Ongoing
Monitor and evaluate change Monitor and evaluate changes in EV demand and technologies. Progress appropriate responses via the Regional EV Working Group or relevant Central Govt. agencies.	Ongoing

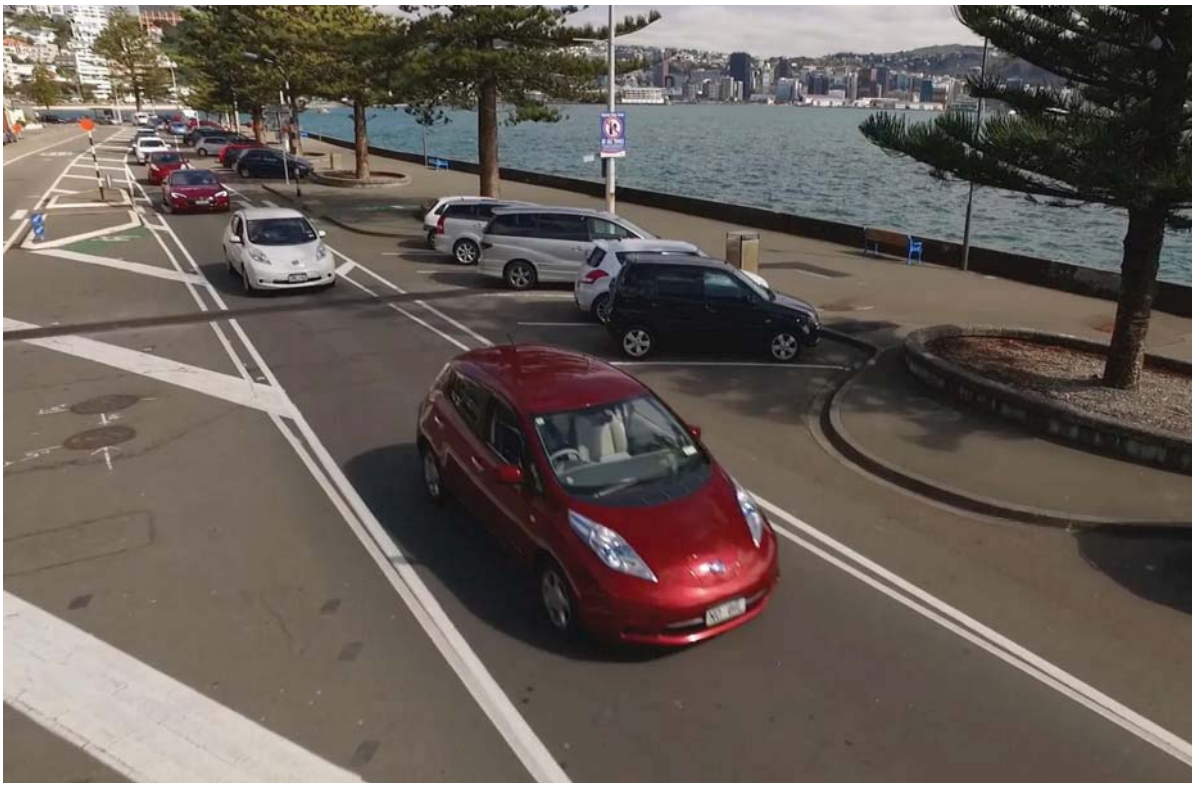
3. Looking ahead

Leading the Charge road trip will hit Wellington 28-30 April 2017

The Motor Trade Association will run a major event for their centenary ("MTA100") at the end of April 2017 . An agreement has been struck that this will be the "Wellington stop over" for the annual *Leading the Charge* road trip. At least a dozen amazing electric vehicles will stop off for display, rides, and drives. This time of the year is a sensible time to promote electric vehicle activities and/or run broader promotions to ratepayers about electric vehicles. (E.g. social media and posters in trains and buses) Contact sigurdmagnuson@gmail.com or the MTA100 event organiser, Grant Stevenson (grant@thewhiteboard.co.nz).

4. City and District infrastructure plans

Information on the pages below are sourced from each Territorial Authority and is subject to change.



4.1 Wellington City

Policy	Council agreed to "Identify up to 100 locations for car chargers or car share" in Low Carbon Capital 2016/17 Plan, and broader intent via 2015 mayoral declaration[7] to "support ... uptake of electric vehicles"
Assets	Large population, high incomes. CBD is primary destination for work and non-work travel in region. Since mid 2016, now has chargers to satisfy a low number of EVs.
Issues	Low visibility of infrastructure and EVs Contention for car parking space High percentage of homes, apartments without off-street parking/charging. Lack of HOV and bus-lanes makes it harder to advantage EV travel Charging capacity is currently limited with only one fast charger (options for additional chargers are being investigated)
Tasks	WCC-funded charger at Z Featherston is outdated, off-standard; needs upgrading. Develop process and identify technology for chargers on residential streets Decide time limits, and pricing structure (or free to drive uptake?) for on-street parking By-law for designation and enforcement (fines) Add EV charging to standard feature on property/urban area upgrades/builds Identify options for additional fast chargers
Goal	40 electric car charging locations (to serve population of 200,000; 40% of region; plus high commuter and visitor numbers).
Fleet	1 electric car out of fleet of 197 (100 of which are traditional passenger vehicles that may be eligible for conversion). Council has stated an intention towards more EVs.

SLOW CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
WCC slow charger (Featherston St) - *needs upgrade*	2011	1		
Sustainability Trust solar slow chargers (near Courtenay Pl)	2016	1		
Zealandia solar-fed slow chargers (Karori)	2016	1		
CQ Hotel (6 electrified carparks for overnight guests)	2016	1		
Greater Wellington office (for visitors and afterhours public access)	2016	1		
SparkPlug installations at 20+ inner city and suburban locations			22	
Car Parking Buildings - two with 4+ slow bays, either end of city				2
Key destinations eg Airport, Te Papa, Zoo, Botanic Gardens, Stadium, Brooklyn Turbine,		1		10
On Street chargers. E.g. Featherston St, Victoria St, Inglewood Pl				3
Destination chargers at walking and cycling track heads, beaches, etc. (encouraging healthy lifestyle)				
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Charge Net NZ fast charger (at Z Vivian St)	2016	1		
Fast Chargers (e.g. Airport/East, North CBD, Karori, Johnsonville)				4
TOTAL		**7**	**22**	**19**

To see a map of charging infrastructure currently installed, visit plugshare.com

[7] http://www.lgnz.co.nz/assets/Mayors-Climate-Change-Declaration-Dec.pdf

4.2 Hutt City

Policy	Environmental Sustainability Strategy 2015-2045 states "introduce and trial use of electric cars into council vehicle fleet" and "work with businesses to help build electric car charging points", and broader intent via 2015 mayoral declaration[8] to "support ... uptake of electric vehicles".
Assets	High traffic corridor (SH2) and high population and moderate retail density. Charger located at prominent public location (Dowse)
Issues	Infrastructure concentrated to isolated areas of the city (Jackson St, Dowse)
Tasks	Increase capacity at Dowse facility which is facing increasing congestion with only one car park. Add EV charging to standard feature on property/urban area upgrades/builds Increase number of electric vehicles into fleet
Goal	20 electric car charging locations (to serve population of 100,000; 20% of region)
Fleet	Mayoral vehicle is electric (Plug-in Hybrid. First Mayor to do so in country). 1 electric car out of fleet of 100+

SLOW CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Pak'n'save Petone	2016	1		
Dowse (Stephens Grove)	2016	1		
HCC Fleet Carpark (public use out of business hours)	2016	1		
Community Hub, Stokes Valley (building under construction)			1	
SparkPlug installations at 3+ locations (e.g. Petone, CBD, Days Bay, Wainuiomata)			3	
Avalon Park / Playground			1	
CBD major retail destination				1
Hutt Hospital (idea for fleet and visitors)				1
Further community facilities (Libraries, Walter Nash, Pelorus Trust, Naenae Pool, etc)				5
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Charge Net NZ fast charger (Was Z Petone but currently at Stephens Grove)	2016	1		
Z Petone (currently unavailable but will be reinstated early December 2016).				
TOTAL		**4**	**5**	**7**

To see a map of charging infrastructure currently installed, visit plugshare.com

[8] http://www.lgnz.co.nz/assets/Mayors-Climate-Change-Declaration-Dec.pdf

4.3 Upper Hutt City

Policy	Electric vehicles acknowledged in 30 year plan - upperhuttcity.com/planning/urban-growth-strategy/ and and broader intent via 2015 mayoral declaration[9] to "support ... uptake of electric vehicles".
Assets	Moderate traffic corridor (SH2) and moderate population and moderate retail density. A fast charger installation has been given approval to proceed, and a slow charger is at a regional destination (Staglands)
Issues	No infrastructure in inner city, yet. No slow chargers planned for inner city (useful for longer stay visitors and needed for cars lacking fast-charge compatibility) No electric vehicles in fleet
Tasks	Progress ideas for slow chargers into plans Begin fleet transition, and add charger for use by fleet and visitors to council
Goal	10 electric car charging locations (to serve population of 40,000; 8% of region)
Fleet	None out of fleet of 24

SLOW CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Staglands (regional wildlife reserve)	2016	1		
Akatarawa campground (for overnight users, but daytime visitors accepted)		1		
H20 Extreme Swimming Complex				1
Harcourt Park, Maidstone Park, Trentham Park (popular outdoor destinations)				3
SparkPlug installations (yet to be evaluated)				2
Identify Silverstream opportunity				1
Kaitoke Park (managed by GWRC)				1
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
City center (Charge Net NZ at Lion Court shopping precinct)			1	
TOTAL		**2**	**1**	**8**

To see a map of charging infrastructure currently installed, visit plugshare.com

[9] http://www.lgnz.co.nz/assets/Mayors-Climate-Change-Declaration-Dec.pdf

4.4 Porirua City

Policy	Internal Sustainability Strategy gives preference to fuel efficient and electric vehicles, and sets fuel use reduction and fuel efficiency targets.
Assets	High traffic corridor (SH1, for now) and high population and moderate retail density. Fast charger to be installed late 2016 in city
Issues	No infrastructure in inner city, yet. No slow chargers planned for inner city (useful for longer stay visitors and needed for cars lacking fast-charge compatibility) Transmission Gully motorway development will divert SH1 and its vehicle traffic away from this area
Tasks	Progress ideas for slow chargers into plans Develop fleet transition
Goal	10 electric car charging locations (to serve population of 50,000; 10% of region)
Fleet	1 electric out of fleet of 52

SLOW CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Campground (for overnight use, daytime permitted.)	2016	1		
Pataka Art Gallery				1
SparkPlug installations (CBD, Plimmerton, Mana, Pukerua, Titahi Bay)				5
Identify Whitby and Pauatahanui opportunities (SparkPlug, or something else?)				2
Battle Hill park (managed by GWRC)				1
Kenepuru Hospital (fleet and visitors)				1
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
City center (Charge Net NZ at Ferry Place shopping precinct)			1	
TOTAL		**1**	**1**	**10**

4.5 Kapiti Coast District

Policy	Corporate emissions reduction target and plan (80% GHG emissions reduction in 2021-22 compared to 2009-10 baseline[10]) is consistent with the introduction of electric vehicles. Agreement to purchase first fully electric vehicle late 2016.
Assets	High traffic corridor (SH1) and moderate population and regional destination. Fast charger to be installed late 2016 in Otaki, ideal stop 70km north of Wellington
Issues	Lack of charging infrastructure in main population area (Paraparaumu, Waikanae) Location of fast charger in Otaki is excellent for drivers continuing north but is problematic for completing a return trips from Wellington
Tasks	Gain approval from a landowner to install Paraparaumu fast charger Progress ideas for slow chargers into plans Begin light vehicle fleet transition
Goal	10 electric car charging locations (to serve population of 50,000; 10% of region)
Fleet	1 electric out of fleet of 100 (a rubbish truck!)

SLOW CHARGERS	Installed	Running	Planned	Idea
Paekakariki Campground (for overnight use, daytime permitted)	2016	1		
Southwards Car Museum				1
SparkPlug installations (2x Waikanae, 2x Paraparaumu, perhaps Paekakariki)				5
Nga Manu Wildlife Reserve				1
Queen Elizabeth park (managed by GWRC)				1
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Otaki (Charge Net NZ at New World)		1		
Paraparaumu (Charge Net NZ at Coastlands or nearby shopping precinct)				1
TOTAL		**1**	**1**	**9**

To see a map of charging infrastructure currently installed, visit plugshare.com

[10] http://www.kapiticoast.govt.nz/CEMARS

4.6 Wairarapa Districts

Comprises Masterton District Council, Carterton District Council, South Wairarapa District Council.

Policy	Masterton District: broad intent via 2015 mayoral declaration[11] to "support ... uptake of electric vehicles"
Assets	Traffic corridor (SH2) between Wellington and Hawke's Bay Regional tourism destination (Martinborough) Fast charger at Featherston (installed) and Masterton (planned, awaiting site selection)
Issues	Large land area, long distances between locations, especially coastal towns. Low population density
Tasks	Finalise Masterton fast charger location Get Spark Plug plan underway as a joint Wairarapa-wide initiative Invite retailers with off-street parking and long dwell times to offer destination charging (e.g. vineyards) Update tourism maps showing charging locations provided by council and businesses
Goal	15 electric car charging locations (to serve population of 45,000; 9% of region, plus lots of regional travellers) This ensure each town has a dedicated slow charger, two have a Fast charger, and two destinations in rural areas have facilities.
Fleet	South Wairarapa has 0 electric out of 12 vehicles; Carterton 0 out of ~15; Masterton 0 out of 19.

SLOW CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Masterton, Greytown, Featherston campgrounds (overnight use, daytime permitted)	2015	3		
Stonehenge (Carterton district)				1
SparkPlug installations at: Masterton: Masterton township, Castlepoint, Riversdale Carterton: township South Wairarapa: Greytown, Martinborough, Ngawi				7
Martinborough iSite redevelopment (South Wairarapa District)				1
Mt Bruce Pukaha (part managed by DOC) (Masterton District)				1
FAST CHARGERS	**Installed**	**Running**	**Planned**	**Idea**
Featherston (Charge Net NZ at Supervalue supermarket)	2016	1		
Masterton (Charge Net NZ at location to be determined)			1	
TOTAL		**4**	**1**	**10**

To see a map of charging infrastructure currently installed, visit plugshare.com

[11] http://www.lgnz.co.nz/assets/Mayors-Climate-Change-Declaration-Dec.pdf

4.7 Greater Wellington Regional Council

Greater Wellington Regional Council (GWRC) has a different statutory function to that of Territorial Authorities, and therefore it is not relevant to provide a table like those set out above. However it should be noted that GWRC has adopted a Climate Change Strategy and is taking action to reduce GHG emissions across all its areas of influence, including its own operations.

GWRC is electrifying its vehicle fleet and has adopted an electric vehicle first policy, which prioritises the purchase of electric vehicles. The council currently owns 3 electric vehicles and it likely that several more will be purchased this financial year. GWRC has a goal to be the first region in New Zealand with an all electric bus fleet, and when achieved this will help to normalise electric vehicles with the public.

GWRC convenes the Regional Electric Vehicle Working Group and supports individual councils as appropriate.

GWRC has installed charging infrastructure (for it's fleet and visitors) at it's Centerport (Shed 39) premises in Wellington, and is currently working towards installing chargers at it's other offices around the region. Other initiatives currently being progressed include reviewing the facilities at Regional Parks with an aim to provide charging infrastructure for public use and supporting relevant promotional opportunities for electric vehicles.