

The ENA and associated North Island EDBs

North Island EV Journey Charging Project Report

Final Report

12/02/2026



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Executive Summary

Purpose

The New Zealand Government aims to install 10,000 public electric vehicle (EV) charging points nationwide by 2030, a target that demands strategic decisions on location and capacity to ensure efficient infrastructure investment. To support this, Electricity Networks Aotearoa (ENA) and North Island Electricity Distribution Businesses (EDBs) engaged DETA Consulting to develop a location-based light EV (less than 3.5 T) journey charging forecast, identifying potential charging sites based on traffic volumes, network capacity and low connection cost.

Outcome

It is estimated that combined light EV journey charging demand in 2030 will peak at 50 MW over a half hour period. 30 MW of this demand can be covered by existing journey chargers, resulting in 20 MW of additional capacity required or 443 additional 50 kW chargers. 20 MW is approximately 0.5% of the North Island grid typical loading.

Quarter-hourly traffic flows at 103 locations across the North Island were reviewed to estimate the EV charging demand in 2030, and the charging capacity required to meet this demand, in addition to existing journey chargers in the North Island.

Table 1 presents a summary of the additional peak charging capacity and the corresponding number of 50 kW¹ chargers required to satisfy forecasted journey charging requirements for light vehicles in 2030. This is broken down by the 9 regions in the North Island to highlight the areas with the highest additional charging capacity requirements in 2030.

Table 1: Summary of 2030 Additional Peak Capacity (MW) and Additional 50 kW Chargers Required to Meet Peak demand

Region	2030 Demand (MW)	2030 Additional Charging Capacity (MW)	No. Additional 50 kW Chargers Required
Northland	6.4	4.3	90
Auckland	7.9	1.6	34
Waikato	14.0	5.3	115
Bay of Plenty	5.4	2.2	50
Gisborne	1.1	0.9	21
Hawkes Bay	2.2	1.2	26
Taranaki	1.8	0.8	18
Manawatū-Whanganui	6.0	2.2	50
Wellington	5.3	1.8	39
Total	50.1	20.3	443

The ten locations with the highest additional charging requirements were compared with the ten locations with the highest excess charging capacity (excluding Auckland as this was an outlier

¹ 50 kW chargers were representative of additional demand as they are the most common public DC charger size, however larger chargers (100-300 kW) are popular for journey charging purposes, and the number of chargers would scale accordingly.



with -5,100 kW of additional capacity required), shown in Figure 1. Locations with high additional requirements are generally smaller towns with minimal existing capacity, while locations with excess capacity are generally larger towns which have considerable journey and destination charging.

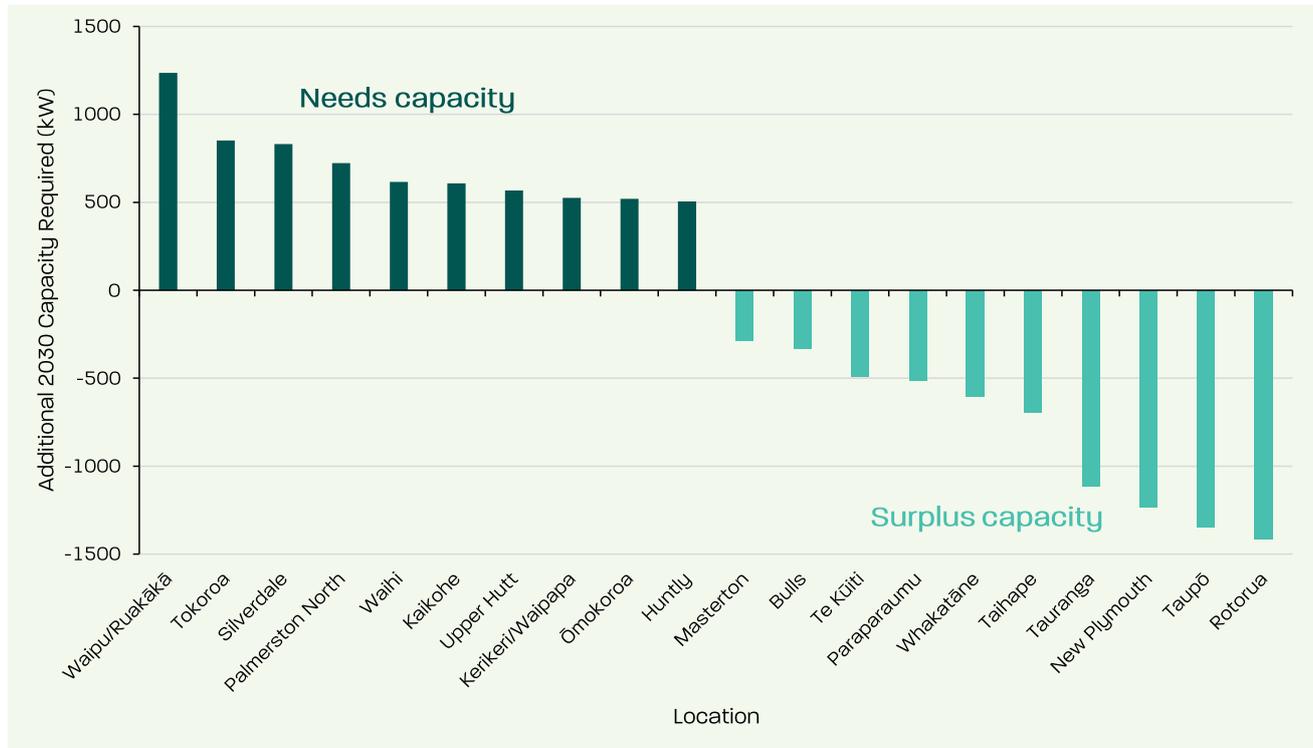


Figure 1: Top Ten Locations with the Highest 2030 Additional Peak Capacity Needed (kW) and the Top Ten Locations with the Lowest Additional Peak Capacity Needed (kW)

High level connection costs were given by the EDBs for 289 transformers and serve the purpose of giving an indicative cost (+/- 20%) at a snapshot in time (Oct/Nov 2025) to connect to specified transformers.

The average indicative connection cost per site was \$60,000 with the average available transformer capacity being 150 kVA. The average indicative cost per kW connected was \$590/kW, and the median was \$500/kW, see distribution in Figure 2. Outliers >\$2,000/kW (1% of sites) were excluded from Figure 2, and were typically in remote towns requiring major infrastructure upgrades.

An estimated **\$29.3 million** is required to fully install and connect chargers across the North Island to meet peak additional charging demand in 2030, connecting approximately 24 MW of capacity. Of this total, \$9.6 million (33%) relates to connection costs, with the remaining \$19.7 million (67%) covering all other associated costs.

The cost estimate assumes an installed charger cost of \$830/kW, which includes charger hardware, software, planning and commissioning costs, but excludes connection costs. When combined with EDB-provided indicative connection costs, this results in a total estimated cost of \$29.3 million. The installed capacity slightly exceeds the theoretical requirement of 20 MW, as some sites provide more capacity than required.



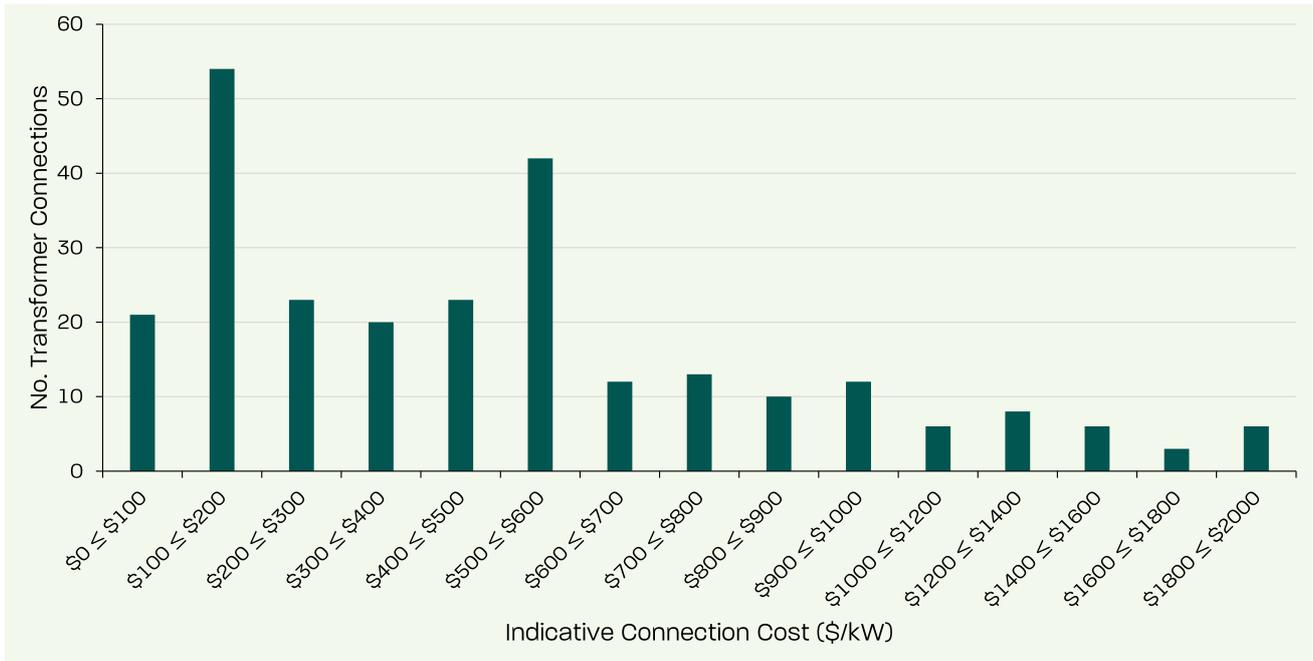


Figure 2: Charger Cost Distribution (\$/kW)

Other Insights

- Some locations, like Rotorua, currently have charger capacity that exceeds 2030 demand. However, in some places, the capacity is provided by relatively few chargers, which can result in charging bottlenecks, further exacerbated by units under maintenance.
- The demand forecast model assumed that 10% of light vehicles in NZ will be battery electric in 2030, based on forecasts published in 2021. This is an aggressive growth rate which some believe to be achievable, however, current uptake rates show less promise, and this should be considered when reading the report. How demand actually progresses will be influenced by government policies, vehicle pricing and charging infrastructure.
- North Island traffic volumes are less peaky overall than in the South Island. The larger population drives higher and more consistent traffic volumes on state highways which will result in chargers sized to peak demand being more economic in the North Island, as they are utilised more regularly throughout the year. It is recommended that support and funding is given to locations where the connection cost is high and the load factor is poor.
- Peak traffic volumes (and therefore peak charging demand) typically occur between 2pm and 5pm. These times fall outside of peak network times of 7 - 9am and 5 - 9pm, thus public journey charging is unlikely to add significant load to the electricity network at peak times.
- The commitment made by the government to install 10,000 public chargers by 2030 encompasses all public chargers in NZ. This study is focused solely on North Island journey charging for light vehicles and does not consider heavy vehicle charging needs or destination charging (generally slow, low power charging). This study focuses solely on one of the four parts of light public charging in New Zealand. The three other parts are:
 - South Island journey charging (DETA completed a study earlier in 2025)
 - South Island destination charging (no analysis to date)
 - North Island destination charging (no analysis to date)

1. Introduction

1.1 Project Purpose

The New Zealand Government has committed to installing 10,000 public electric vehicle (EV) charging points across the country by 2030. Achieving this ambitious target requires thoughtful and informed decisions regarding the location and capacity of charging points to enable efficient investment in infrastructure. To date there has been no detailed analysis to identify suitable locations for these charging points in the North Island, with respect to both traffic patterns and networks' available electrical capacity.

The Electricity Networks Aotearoa (ENA), alongside the North Island Electricity Distribution Businesses (EDBs), engaged with DETA Consulting to carry out a two-stage project to forecast 2030 EV journey charging demand and assess the additional charging capacity required to meet demand.

Stage 1 consisted of modelling light vehicle journey charging demand in locations (towns) where it was predicted that EV charging would be required in 2030. Stage 2 consisted of engaging with EDBs to find potential charging sites within these locations and providing transformer capacity data and respective indicative connection costing for each site.

1.2 Stage 1: Modelling

DETA completed a North Island wide analysis of light vehicle (less than 3.5 T) traffic flows using NZTA through-traffic data for major traffic routes to identify areas where charge points will be needed to service EV journey charging demand in 2030. Average, peak and 90th percentile traffic flows in each location were analysed to ensure the charging points will cope during peak traffic seasons.

This analysis focuses only on light **battery electric vehicles** (BEV), with hybrids excluded from this study. Only **journey charging** needs were considered. The demand forecast does not aim to meet the needs of local traffic in the area charging publicly or any drivers using destination charging (slow, low power charging). Current charging capacity only considers public DC chargers of 50 kW and above in each location – chargers with lower power output were deemed too slow for journey charging needs.

Using the 2030 demand forecast and removing current charging capacity, the required additional charging capacity in 2030 was determined for each individual location. A separate methodology report details the modelling assumptions and methodology, with supporting appendices.

1.3 Stage 2: Engagement with EDBs

DETA engaged with each EDB to gather transformer capacity data and high-level indicative connection costs in locations where additional capacity was forecasted to be required in 2030. Emphasis was put on EDBs finding sites that made sense from a network perspective by having

available transformer capacity and relatively cheap connection costs but still met user needs of being close to state highways and amenities.

1.4 Document purpose

This document collates the data gathered for this project and reports key findings and takeaways of this study.

A summary of each section follows:

- **Methodology Overview:**
 - Summary of demand forecast methodology and key assumptions used in model
- **Results:**
 - Summary of results on a North Island and regional basis
 - Summary tables for each EDB showing the 2030 demand forecast, transformer capacity data and indicative connection cost for individual locations
 - Analysis of where chargers are most needed
- **Discussion:**
 - Sensitivity analysis to determine the effects of key assumptions
 - Commentary on connection cost data received
 - Other key insights and findings from study
- **Appendices:**
 - 2030 total daily demand forecast including all locations
 - Full tables for each EDB including 2030 traffic profiles, peak/avg. factors, peak time, as well as location and commentary around transformers and connection cost
 - Current charging capacity in each location
 - Capacity distribution of current chargers

2. Methodology Overview

2.1 Modelling Methodology

A brief explanation of the modelling methodology is given below. A detailed methodology is provided in the separate methodology report.

1. 2030 Demand Forecast

Average day: NZTA 2021 quarter hourly traffic flows from traffic monitoring sites around each location were used to build average daily traffic profiles. To minimise impacts from local traffic, monitoring sites >5 km from town centres were used. Various charging assumptions were applied to the daily traffic profile to build a charging demand profile.

Peak day: A Peak/Avg. factor was applied to the average daily demand profile. This factor was calculated using the peak traffic count day in 2021 over the 2021 annual average daily traffic (AADT) count.

2. 2025 Charging Capacity

Current installed charging capacity for each location was estimated, only considering public DC chargers with capacities of 50 kW or above in each location. Chargers below 50 kW were ignored for this analysis as it was assumed that they would be too slow to meet the needs of journey charging. In large centres, chargers further than 2.5 km from a state highway were classified as destination chargers and subsequently ignored. Individual chargers were collated from various sources including EECA's public EV database, NZTA's EV charger map, PlugShare's charger map, and various charger operator websites/apps.

3. 2030 Additional Charging Capacity

The 2030 additional capacity required at each location was determined by subtracting the 2025 charging capacity from the daily peak half hour charging demand on average and peak days. The number of additional 50 kW chargers required for each location was then calculated from the total additional charging capacity.

2.2 Key Assumptions

The model contains several key assumptions that affect the demand forecasts and overall results. A short description of each assumption is provided below for context and some of these are tested in the sensitivity analysis in Section 4.1. A detailed explanation of these assumptions is provided in the separate methodology report.

- **2021 Traffic Counts Adjusted to Align with 2024:** 2021 was the most recent and complete quarter hourly data set from NZTA. To improve data accuracy, adjustment factors were overlaid to align the modelled 2024 traffic flows for an average day to the 2024 AADT from NZTA.

- **Turn-in Rate:** Turn-in rates were estimated based on how far away traffic monitoring sites were from different sized towns, on a population basis. These have been increased by 5% since the South Island study (completed in 2024). For towns with a population >35,000, a blanket turn-in rate of 20% was applied. It was assumed that drivers are more likely to turn in at these places while travelling given the number of amenities available, making them attractive locations to stop and charge.
- **10% EVs in 2030:** The model assumes that 10% of light vehicles in New Zealand will be BEVs. As of September 2025, 1.9% of light vehicles are BEVs². Currently, 10% appears to be optimistic for 2030, however this is based on publicly available forecasts for NZ. The slower than anticipated uptake of EVs can be attributed to the removal of government incentives and high capital cost, but also the lack of public charging infrastructure in some locations. Potential EV owners generally want confidence that they can charge reliably wherever they travel, and this need for charging security can be a key factor in their decision to purchase an EV.
- **Battery Charge per Half Hour:** The model assumes that EVs in 2030 will have an average battery capacity of 70 kWh (based on 2024 BEV market share) and will stop and charge their battery by 30% over a half hour period, consuming 21 kWh per charging session.
- **Reduction in Current Charging Capacity:** Public DC chargers (≥ 50 kW) were assumed to have a maximum output of 170 kW to reflect the average maximum charging rate of the top 10 EVs purchased in NZ in 2025. Studies overseas have found that people experience an issue with every 1 in 5 public chargers they use. To account for this and other inefficiencies in charging behaviour, all charging capacities were reduced by 30%.
- **3% Annual Increase in Traffic:** Annual traffic was assumed to increase in-line with New Zealand's forecast economic growth rate of 3% pa.
- **Representative charger being 50 kW DC:** A 50 kW charger was selected to represent the additional demand in terms of chargers. While higher-capacity chargers (100–300 kW) are increasingly being installed, 50 kW units remain the most common DC charger type in the North Island, accounting for 34% of chargers ≥ 50 kW. Using a 50 kW charger provides a simple, widely understood reference point for modelling purposes and aligns well with typical charging expectations.

² [EV Market Stats \(2025\)](#)

3. Results

3.1 Summary of Total Additional Charging Requirements

Key Findings:

- 2030 light EV journey charging demand in the North Island is estimated to peak at ~50 MW over a half hour period. This is not the coincident peak as traffic volumes peak at different times across locations. On the peak day, the coincident peak is 47 MW from 4:30-5:00pm, see Appendix A for coincident demand profile.
- 30 MW of demand can be met with existing DC fast chargers (DC ≥50 kW). Although total installed capacity across the North Island is ~75 MW (or 44 MW after model adjustments³), uneven distribution of chargers across locations means excess capacity at some places cannot be utilised, limiting practical usable capacity to around 30 MW.
- 20 MW of additional charging capacity is forecast to be required by 2030, with 443 additional 50 kW DC chargers required to meet this demand.

Table 2 shows the total additional capacity and number of 50 kW chargers required across the North Island to meet peak half hour charging demand in 2030 on a peak and average day.

Table 3 shows this broken down on a regional level for the peak day.

Table 2: Overall Summary of 2030 Additional Peak Capacity (MW) and Additional 50 kW Chargers for Peak and Average Days of the Year

Day	2030 Journey Charging Demand (MW)	2025 Current Capacity (Adjusted) (MW)	2030 Additional Peak Capacity (MW)	No. Additional 50 kW Chargers Required
Peak	50.1	44.0	20.3	443
Average	29.5	44.0	9.0	216

³ This is total adjusted capacity of journey chargers DC ≥50 kW, adjusted by reducing original capacity by 30% to account for inefficiencies and capping at 170 kW based on average max charging rate of EVs.



Table 3: Regional Summary of 2030 Additional Peak Capacity (MW) and Additional 50 kW Chargers for a Peak Day

Region	2030 Journey Charging Demand (MW)	2025 Current Capacity (Adjusted) (MW)	2030 Additional Peak Capacity (MW)	No. Additional 50 kW Chargers Required
Northland	6.4	2.1	4.3	90
Auckland	7.9	11.6	1.6	34
Waikato	14.0	11.1	5.3	115
Bay of Plenty	5.4	6.3	2.2	50
Gisborne	1.1	0.2	0.9	21
Hawkes Bay	2.2	1.1	1.2	26
Taranaki	1.8	2.3	0.8	18
Manawatū-Whanganui	6.0	4.9	2.2	50
Wellington	5.3	4.4	1.8	39
Total	50.1	44.0	20.3	443

Figures 3-5 show a visual representation of the North Island's modelled 2030 journey charging demand, where existing journey chargers are located and where additional chargers will need to be installed to meet EV charging demand in 2030. EDB boundaries can be seen using the linked Lines Company Map⁴.

Key Insights:

- The Waikato region has the highest journey charging demand due to large volumes of traffic on routes between Auckland and the rest of the North Island. Waikato also has the highest number of locations that were investigated as part of this analysis.
- Northland has the second highest demand due to high traffic flows through Whangārei, Waipu/Ruakākā and Kerikeri during holiday periods.
- Auckland and Waikato regions have the highest existing capacity as they contain major North Island cities such as Auckland, Hamilton and Taupo. These areas also have several routes that are well serviced by large EV charging hubs, which the rest of the North Island typically lack.
- While Gisborne has minimal charging capacity currently, demand forecast indicates that traffic flows in and around the city are low, due to Gisborne generally being a destination rather than a place where drivers will stop to charge while passing through.
- Some locations are well-serviced by chargers, such as New Plymouth and Napier/Hastings, but routes to them from surrounding areas currently have low charging capacity in comparison.

⁴ www.ena.org.nz/lines-company-map



- Routes that are already well serviced by chargers include:
 - Wellington ⇌ Auckland via SH1
 - Auckland ⇌ Whakatane
 - Wellington ⇌ Palmerston North

- Routes requiring significantly more charging:
 - Whakatane ⇌ Gisborne
 - Whangarei ⇌ Cape Reigna

Forecast Journey Charging Demand (2030)

Region
 Auckland Bay of Plenty Gisborne Hawkes Bay Manawatū-Whanganui Northland
 Taranaki Waikato Wellington

Capacity (kW) ○ 500 ○ 1,000 ○ 2,000 ○ 4,000

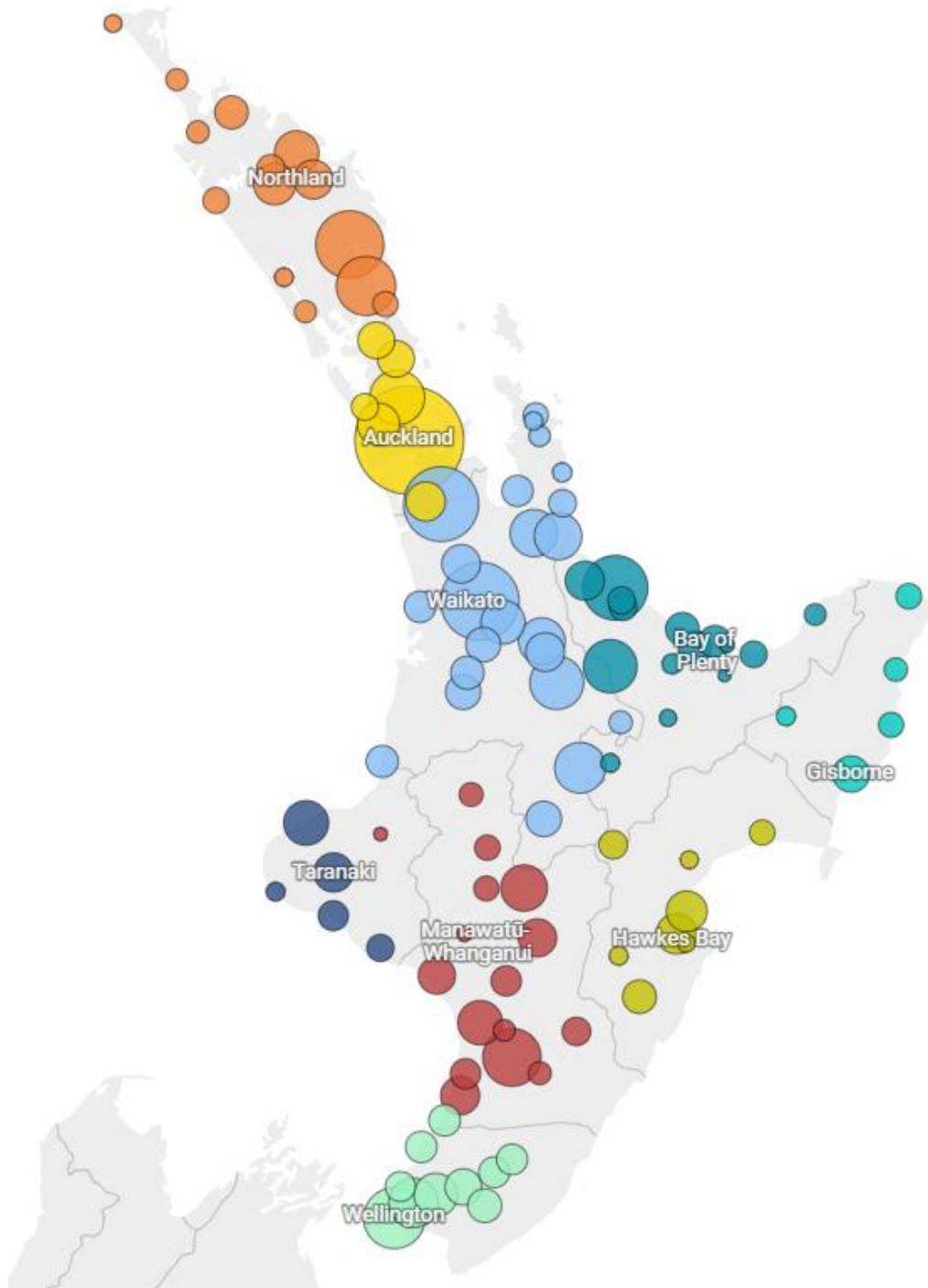


Figure 3: 2030 Forecast Journey Charging Demand

Current Charging Capacity (2025)

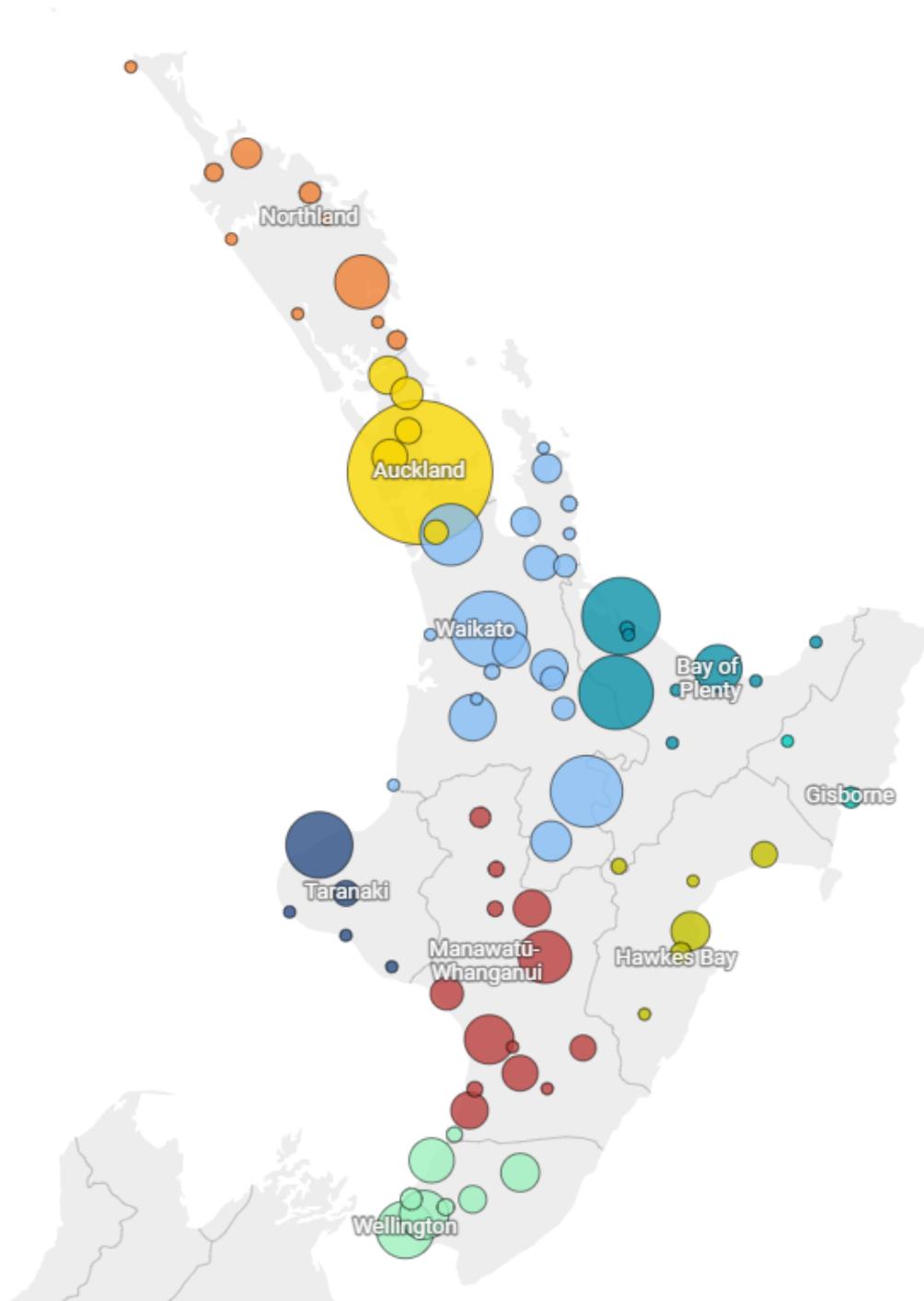
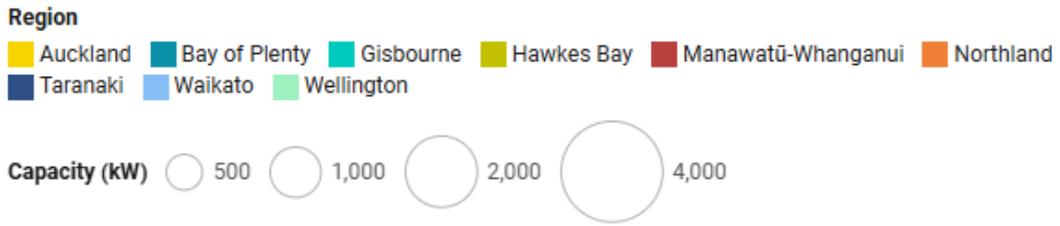


Figure 4: 2025 Current Journey Charging Capacity

Additional Peak Capacity Required (2030)

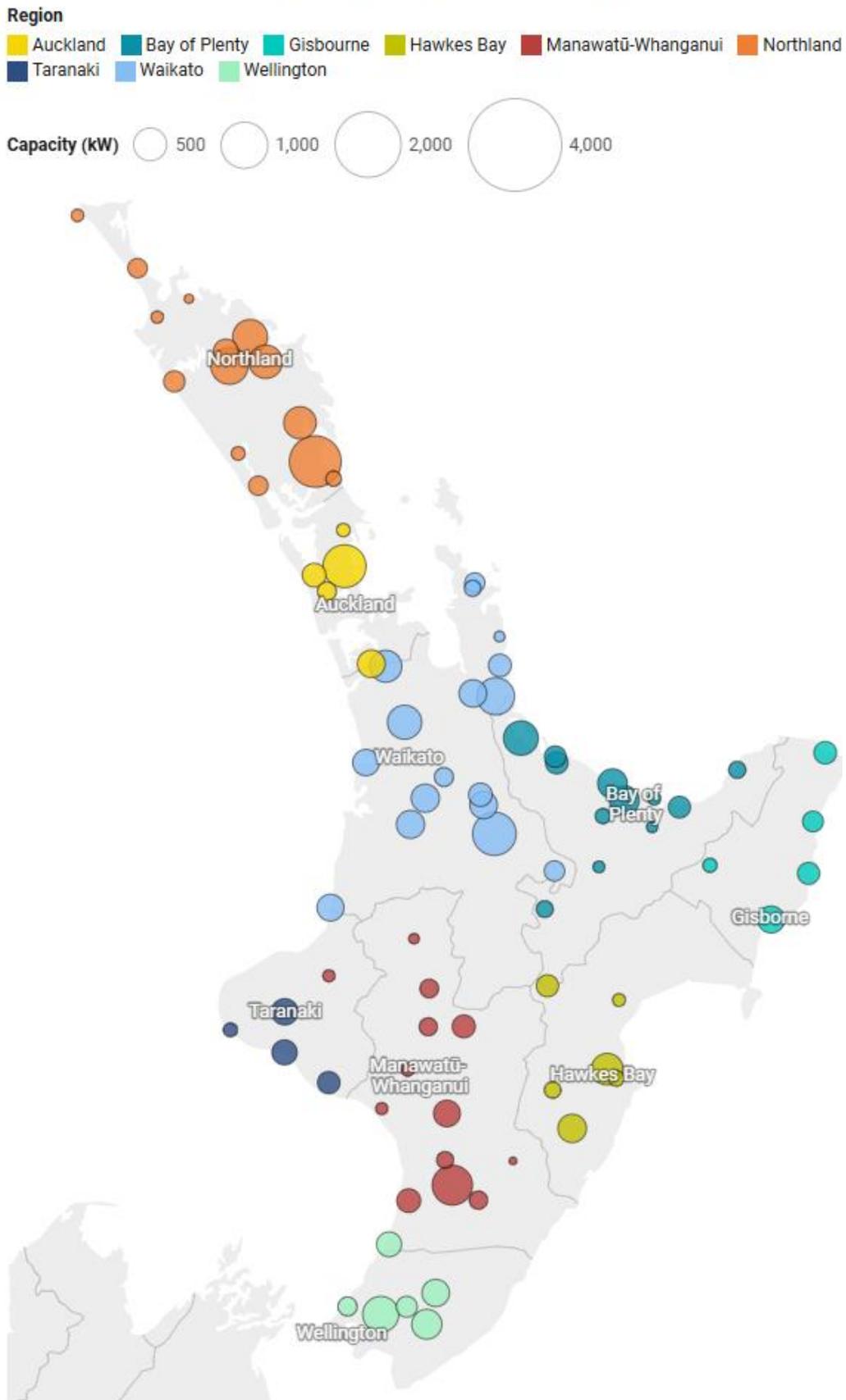


Figure 5: 2030 Additional Peak Capacity Required to Meet 2030 Charging Demand

3.2 Summary Additional Charging Requirements By EDB

The following subsections are categorised alphabetically by EDB and contain summary tables with the following information for each location:

- Current charging capacity (adjusted, refer to assumptions)
- 2030 additional charging capacity required for the peak half hour on an average and peak day
- Turn-in rate
- Transformers identified to supply a charging site with available capacity and indicative connection cost (EDBs were requested to size transformers to each location's peak half hour on the peak day)

Additional information regarding costing and assumptions specific to each EDB is shown under the accompanying information section. Note that the indicative costs are high-level estimates that are only valid for the period they were supplied (Sept 25 – Nov 25) and are subject to change as new loads are connected, and/or surrounding situations change.

Negative additional capacity values (red font), indicate that the current charging capacity exceeds the 2030 forecasted demand. For example, if in 2030, 100 kW of charging demand was forecast for a location, but there was currently 500 kW of charging capacity installed, the additional charging capacity would be shown as -400 kW. In these locations, no capacity was required to be found, however some EDBs did provide information for reference.

Detailed data tables for each EDB can be found in Appendix B. Current charging capacities by location for recorded and adjusted capacities are listed in Appendix C, and the capacity distribution of current chargers is shown in Appendix D.

3.2.1 Centralines

Table 4: Centralines 2030 Charging Demand and Network Capacity & Cost Data⁵

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Tikokino	-	60	96	20%	B2/40	Upgrade transformer to 200 kVA	\$100,000
Waipukurau	35	218	339	15%	C4/25	200	\$60,000
					C4/22	150	\$95,000

Centralines Accompanying Information:

Centralines costing allowed for a dedicated LV circuit from a distribution transformer to a service pedestal next to the proposed EV charger.

⁵ Please refer to Appendix B.1 for more information on the demand forecast and site specific information provided by the EDB



3.2.2 Counties Energy

Table 5: Counties Energy 2030 Charging Demand and Network Capacity & Cost Data⁶

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Pōkeno	1,656	-627	439	20%	5I092	350	\$30,000
					4I996	250	\$30,000
Pukekohe	210	150	314	10%	4G181	215	\$30,000
					4G187	215	\$30,000
					4G399	600	\$30,000
					4G294	560	\$30,000
					4H405	640	\$30,000

Counties Energy Accompanying Information:

Costs are based on minor LV reticulation and capacity costs. In some cases, the costs could be lower if installation of new infrastructure is kept to a minimum.

⁶ Please refer to Appendix B.2 for more information on the demand forecast and site-specific information provided by the EDB

3.2.3 Electra

Table 6: Electra 2030 Charging Demand and Network Capacity & Cost Data⁷

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Foxton	70	134	226	10%	C271	200	\$25,000
					C191	150	\$35,000
					C376	100	\$55,000
Levin	550	-176	-34	10%	E267	50	\$25,000
					D179	50	\$25,000
					E368	200	\$25,000
					E92	100	\$25,000
Ōtaki	70	133	249	10%	L101	50	\$25,000
					L72	200	\$65,000
					L222	50	\$25,000
					M77	50	\$45,000
Paraparaumu	830	-627	-511	10%	W587	200	\$30,000
					W604	200	\$25,000
					W677	200	\$25,000
					W514	100	\$25,000

Electra Accompanying Information:

The indicative connection costs provided are high level. Detailed costing to be provided at application stage.

⁷ Please refer to Appendix B.3 for more information on the demand forecast and site specific information provided by the EDB



3.2.4 Firstlight Network

Table 7: Firstlight Network 2030 Charging Demand and Network Capacity & Cost Data⁸

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Gisborne	147	199	302	20%	B6267	50-100	\$100,000
					B6600	100	\$150,000
					C670	50-100	\$50,000
					A77	50	\$50,000
Matawai	35	4	64	10%	F231	50	\$100,000
Te Araroa	-	100	199	40%	Only 1 suitable transformer in township. Upgraded or new transformer required.		
Te Puia Springs	-	104	162	40%	H363	50	\$50,000
Tolaga Bay	-	130	188	25%	G371	100	\$20,000
Wairoa	245	-153	-51	20%	W1535	50	\$50,000
					W1534	50	\$50,000
					W1558	50	\$50,000
					W836	50	\$50,000
					W1538	50	\$50,000

Firstlight Network Accompanying Information:

Please be advised that the indicated available capacity must be verified at the time a decision is made to proceed with the EV charger development project at the specified locations. The recommended sites for EV charger installation are indicative only and have been used as the basis for preliminary cost estimates. Final costs are subject to variation depending on the availability of physical space and the proximity of the connection point to the transformer.

⁸ Please refer to Appendix B.4 for more information on the demand forecast and site specific information provided by the EDB



3.2.5 Horizon Energy

Table 8: Horizon Energy 2030 Charging Demand and Network Capacity & Cost Data⁹

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Awakeri	-	219	365	15%	25M045*	-	\$170,000
					25M041*	-	\$205,000
					260019*	-	\$205,000
Galatea	35	19	41	20%	23B050*	-	\$115,000
Kaingaroa	-	73	99	15%	20A010	50	\$85,000
					23A049	50	\$60,000
Kawerau	35	38	80	15%	23S055*	-	\$120,000
Matata	-	219	365	15%	23K002	50	\$65,000
					23K004	100	\$100,000
					24K005*	-	\$360,000
Ōpōtiki	35	139	187	15%	33O094	100	\$45,000
					33O122	100	\$70,000
Te Kaha	35	32	102	40%	40F016*	-	\$145,000
Waimana	-	27	35	15%	29T009*	-	\$105,000
Whakatāne	945	-701	-603	10%	Sufficient charging capacity already		
Ōhope	-	37	51	10%	29M037	100	\$40,000
					28M044	250	\$50,000

*Transformer upgrade required to supply required charging demand

Horizon Energy Accompanying Information:

Horizon Networks has selected the transformers based on the following criteria:

- Transformers with sufficient capacity have been identified based on Horizon Networks' internal After Diversity Maximum Demand (ADMD) assumptions. No measured data has been used for identifying the transformers.
- Transformers with sufficient capacity that meet the following criteria are selected and presented first in the table:
 - Near customer services (i.e. shops, cafe, etc), and
 - Near or visible from the main road
- For areas where existing transformers do not have sufficient capacity for connecting the required EV Charger load, we have proposed another transformer to be upgraded that can supply the required full capacity of the area. The indicative connection cost reflects the upgrade works to supply the full required EV charger capacity for the area.

General Comment:

- Due to the sparse population density of our network, we are unable to identify 5x transformers that have spare capacity sufficient to supply the required EV charging load. Hence, the candidate transformers presented represent our view of realistic upgrade works on our network.

⁹ Please refer to Appendix B.5 for more information on the demand forecast and site specific information provided by the EDB

2. We have not provided any transformers in areas/townships where there is sufficient EV charging capacity (i.e. Whakatane)

Cost Estimates Caveats:

1. The cost estimate assumes a new dedicated LV circuit is required to supply the EV charger from the distribution transformer. The length of the LV circuit has been assumed to be from the location of Horizon's transformer to the GPS coordinate provided in the response.
2. For transformers that require an upgrade, we have assumed the upgraded capacity is sufficient to supply the full EV charger load required for the area/town.
3. The cost for transformer upgrade includes a new transformer foundation, LV rack and earth bank.
4. A new pillar has been assumed for each EV charger.
5. We have assumed 4/185mm² cables are required, and cables are installed through open trenching. We are unable to refine the cabling cost further without further detailed analysis.
6. Network fees such as Application Fee, Livening Fee, and Infrastructure Development Contribution fee have been added to the indicative cost.
7. The indicative cost for sites involving a transformer upgrade includes Horizon's contribution for the upgrade. Horizon is reviewing its contribution policy, and the contribution value may change in the future.
8. Other works related to the EV Chargers such as the supply and install of the EV Charger, civil work, and commissioning of the EV charger, are excluded from the estimate.

3.2.6 Northpower

Table 9: Northpower 2030 Charging Demand and Network Capacity & Cost Data¹⁰

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$) *
		Avg. (kW)	Peak (kW)				
Dargaville	35	30	61	10%	DA90	174	\$26,000
					DA69	136	\$31,000
					DA26	450	\$36,000
					DA48	187	\$27,000
					DA18	83	\$27,000
Ruawai	-	95	140	20%	F204	132	\$38,000
					F205	200	\$67,000
					F208	57	\$33,000
Waipu/Ruakākā	35	502	1,236	15%	RR311	97	\$31,000
					RR256	124	\$54,000
					R0222	119	\$36,000
					RP844	389	\$55,000
					RR145	68	\$42,000
Whangārei	1,246	-530	448	20%	WC279	120	\$40,000
					WC209	425	\$29,000
					WC443	193	\$63,000
					WC262	240	\$24,000
					WC350	400	\$31,000
Mangawhai	112	-32	79	15%	MC253	159	\$112,000
					MC573	170	\$108,000
					MC208	138	\$99,000
					MC334	954	\$27,000
					MC344	160	\$43,000

*All costs are for the connection of a 50 kW charger rather than the connection of all available capacity

Northpower Accompanying Information:

Indicative costing is a Class 5 estimate (+100% - 50%) = LV Panel upgrade + (Capacity charge x KVA) +Cabling/ meter. Exclusions: Traffic Management & Labour.

Assumption 50kVA charger in each location

¹⁰ Please refer to Appendix B.6 for more information on the demand forecast and site specific information provided by the EDB

3.2.7 Powerco

Table 10: Powerco 2030 Charging Demand and Network Capacity & Cost Data¹¹

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Bulls	1,022	-536	-332	15%	Sufficient charging capacity already		
Carterton/Greytown	-	224	308	10%	T4235	200	\$59,000
					T4209	100	\$32,000
					T1507	50	\$75,000
					T1440	50	\$73,000
Coromandel	35	62	151	20%	T1512	50	\$37,000
					TC3772	100	\$35,000
					TC6324	150	\$14,000
Featherston	280	-41	167	15%	TC1260	50	\$18,000
					T2579	50	\$80,000
					T4713	150	\$15,000
					T2195	50	\$55,000
Feilding	35	29	99	10%	T1829	50	\$60,000
					7363P	300	\$80,000
					T3/553	50	\$22,000
					7405P	250	\$40,000
Hāwera	35	181	255	10%	T3/575	150	\$18,000
					T3/334	100	\$21,000
					C3085	250	\$27,000
					5000E	200	\$26,000
					5252E	50	\$16,000
Hunterville	-	175	294	15%	5305E	150	\$55,000
					C3010/T1	200	\$50,000
					Z61W	150	\$77,000
					Z60W	50	\$40,000
Kakatahi	-	38	55	15%	No suitable sites identified		
Martinborough	-	111	379	15%	Z6511W	50	\$52,000
					T4222	300	\$43,000
					T1831	50	\$52,000
Masterton	594	-370	-285	10%	T1899	100	\$55,000
					Sufficient charging capacity already		
					TP379	50	\$38,000
Matarangi	-	55	91	20%	TP2098	50	\$64,000
					TC5001	100	\$19,000
					TP2098	50	\$64,000
New Plymouth	1,932	-1,460	-1,230	20%	Sufficient charging capacity already		
Ōmokoroa	-	364	520	15%	TP4209	300	\$19,000
					TP2864	50	\$45,000
					TP717	100	\$56,000
					TC3-110	50	\$94,000
Ōpunake	35	37	63	20%	TC3-130	50	\$61,000
					X5007:E	150	\$41,000
Paeroa	476	-80	315	20%	X5620:E	100	\$24,000
					TC2826	100	\$62,000
					TC1699	50	\$77,000
					TC3259	50	\$41,000
					TC3719	100	\$110,000
Pahiatua	35	63	121	15%	TC3722	150	\$70,000
					7525P	50	\$22,000
					T7/427:P	50	\$28,000
					T7/415:P	150	\$18,000

¹¹ Please refer to Appendix B.7 for more information on the demand forecast and site specific information provided by the EDB



Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Palmerston North	504	305	722	20%	G149	50	\$37,000
					G252	250	\$90,000
					G224	150	\$48,000
					G19T2	200	\$39,000
					T6/581	400	\$52,000
Pauanui	70	-20	32	15%	TC5819	50	\$22,000
					TP1279	50	\$61,000
Putāruru	196	112	314	15%	TC3723	50	\$74,000
					TP4327	200	\$17,000
					TC2735	250	\$33,000
					TC2607	50	\$74,000
					TC640	50	\$37,000
Stratford	238	116	288	15%	2010T	200	\$31,000
					2065T	50	\$42,000
					2097T	100	\$21,000
					4849T	200	\$41,000
Taihape	1,187	-918	-693	20%	Sufficient charging capacity already		
Tauranga	2,660	-1,634	-1,114	20%	Sufficient charging capacity already		
Thames	315	-136	-2	20%	Sufficient charging capacity already		
Tirau	543	12	218	20%	TP3325	100	\$12,000
					TP2797	50	\$94,000
					TC3784	100	\$116,000
					TC3721	50	\$104,000
					TC3713	50	\$62,000
Tokoroa	182	180	851	20%	TC3182	200	\$87,000
					TC1824	200	\$18,000
					TC1156	250	\$18,000
					TP4112	100	\$44,000
					TC3473	150	\$15,000
Waihi	175	221	616	20%	TC3748	200	\$20,000
					TC5364	100	\$20,000
					TC3839	100	\$14,000
					TC4459	50	\$14,000
					TC1238	200	\$20,000
					TC16159	50	\$92,000
Waiouru	546	-243	209	25%	X3072	400	\$36,000
					4906W	50	\$15,000
					4753W	50	\$40,000
					X730	100	\$47,000
					3130W	50	\$56,000
Waverley	35	83	196	15%	X2258	100	\$39,000
					X307	100	\$44,000
					2422W	100	\$78,000
Whangamatā	35	108	203	20%	TC6347	100	\$13,000
					TP819	100	\$61,000
					TC3812	50	\$13,000
Whangamōmona	-	17	43	40%	4106T	50	\$38,000
					5139T	50	\$50,000
Whanganui	420	-51	45	20%	3164W	50	\$27,000
					4854W	50	\$12,000
					1459W	250	\$22,000
					3180W	100	\$25,000
Whitianga	315	-254	-186	20%	Sufficient charging capacity already		



Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Te Puke	35	119	197	20%	TE5-055	100	\$17,000
					TE5-213	100	\$50,000
					TE5-099	100	\$50,000
					TE5-056	50	\$85,000
Papamoa	53	101	179	20%	T4634	50	\$42,000
					TP4386	150	\$85,000
					TP3368	50	\$41,000
					TD5-265	50	\$14,000
					TP761	150	\$14,000

Powerco Accompanying Information:

Costing assumptions based on 2024 rates (not inflated to 2030 \$):

- \$500/m for LV 4-core cabling trenched
- \$10,000 for LV distribution panel work - adding an extra fuseway
- Excludes EV charging station cost
- Excludes easement costs in private property if required
- Excludes traffic management costs
- \$/m rate will be higher if hard rock is encountered but costing is site-specific, and we have refrained from price estimating this



3.2.8 Scanpower NZ

Table 11: Scanpower NZ 2030 Charging Demand and Network Capacity & Cost Data¹²

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Dannevirke	245	-80	12	15%	LT1089	350	\$52,000
					LT1477	100	\$15,000
					LT983	100	\$15,000

Scanpower Accompanying Information:

The connection costs cover the trenching, and the contribution to the existing capacity that is already at the transformer.

¹² Please refer to Appendix B.8 for more information on the demand forecast and site specific information provided by the EDB



3.2.9 The Lines Company

Table 12: The Lines Company 2030 Charging Demand and Network Capacity & Cost Data ¹³

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Mokau	35	103	299	25%	T2154	132	\$100,000
					T2153	51	\$100,000
					T2159	30	\$60,000
National Park	70	35	174	25%	T4344	500	\$75,000
Ohakune	70	87	166	25%	20L65	202	\$75,000
					20K20	83	\$200,000
					20L51	120	\$120,000
					T4298	65	\$170,000
Otorohanga	35	239	329	20%	T2941	132	\$70,000
					T2954	98	\$135,000
					T1173	169	\$150,000
					T2498	155	\$285,000
					T1019	154	\$250,000
Taumarunui	140	-59	30	20%	01A42	222	\$75,000
					T4012	51	\$140,000
Te Kūiti	903	-619	-490	20%	T3455	156	\$150,000
					T478	179	\$90,000
					T3074	49	\$55,000
Tūrangi	665	-404	-104	20%	10S48	79	\$40,000
					11S05	181	\$200,000
					T4005	156	\$75,000
					10S14	260	\$125,000
					11S06	218	\$355,000

The Lines Company Accompanying Information:

- All cost estimates are merely indicative, approximately +30/-10%
- More accurate cost estimates may be provided on a case-by-case basis once a connection application has been made.
- Where there are less than 5 transformers are given for a township, this is because these are the only transformers at a suitable location with some spare capacity.

¹³ Please refer to Appendix B.9 for more information on the basis and limitations of these cost estimates.



3.2.10 Top Energy

Table 13: Top Energy 2030 Charging Demand and Network Capacity & Cost Data¹⁴

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)	Cost Basis *
		Avg. (kW)	Peak (kW)					
Cape Reinga	35	6	48	40%	T03277	141	\$27,000	1 x 50 kVA Charger
Coopers Beach	343	-111	21	25%	T05350	80	\$27,000	1 x 50 kVA Charger
					T01252	100	\$27,000	1 x 50 kVA Charger
					T04923	100	\$27,000	1 x 50 kVA Charger
					T00724	Upgrade transformer to 300 kVA	\$27,000	1 x 50 kVA Charger
Kaikohe	-	185	608	20%	T00416	97	\$27,000	1 x 50 kVA Charger
					T03181	297	\$79,000	3 x 50 kVA Charger
					T09017	252	\$53,000	2 x 50 kVA Charger
					T01961	200	\$27,000	1 x 50 kVA Charger
					T05707	100	\$27,000	1 x 50 kVA Charger
Kaitaia	105	4	44	20%	T01959	240	\$27,000	1 x 50 kVA Charger
					T05217	106	\$27,000	1 x 50 kVA Charger
Kawakawa/Moerewa	35	258	488	20%	T02750	136	\$53,000	2 x 50 kVA Charger
					T00509	Upgrade transformer to 500 kVA	\$104,000	4 x 50 kVA Charger
Kerikeri/Waipapa	158	297	525	20%	T01182	132	\$27,000	1 x 50 kVA Charger
					T09285	278	\$53,000	2 x 50 kVA Charger
					T08668	87	\$27,000	1 x 50 kVA Charger
					T00235	151	\$27,000	1 x 50 kVA Charger
					T02283	201	\$27,000	1 x 50 kVA Charger
Ōkaihau	-	122	246	25%	T05592	Upgrade transformer to 500 kVA	\$130,000	5 x 50 kVA Charger
Opononi	35	107	174	40%	T05900	100	\$27,000	1 x 50 kVA Charger
					T08939	169	\$53,000	2 x 50 kVA Charger
Pukenui	-	98	140	20%	T02554	Upgrade transformer to 500 kVA	\$79,000	3 x 50 kVA Charger

* Connection cost based on connecting X number of 50 kVA chargers

Top Energy Company Accompanying Information:

The indicative connection cost provided in the Data Template is based on our standard methodology for connections costs. Each connection includes (GST exclusive):

1. Connection cost: a fixed charge of \$1,250.
2. Network capacity cost: 3ph 15kVA equates to \$7,700 of available transformer capacity.

If the nominated transformer does not have sufficient spare capacity to meet the required demand and requires a simple transformer upgrade, the associated upgrading cost will not be charged to the client, however, the network capacity charge still applies.

If a new transformer is required at a specific location that does not contain an existing transformer then the total installation cost will apply to the customer based on a suitable design.

In some locations, particularly in smaller towns, it may not be possible to provide five suitable transformers with adequate spare capacity, as many sites do not meet the requirements for EV charger installation. In such cases, only one or two viable transformers may be provided. Where and if additional costs are required, then this will be communicated with the client in advance.

¹⁴ Please refer to Appendix B.10 for more information on the demand forecast and site specific information provided by the EDB

Notes:

At each town the projected EV Peak Capacity rounded to the nearest 50KW has been priced up and spread across different transformer sites.

This will align with the required 2030 additional capacity.

Also note that we do not reserve capacity and capacity at these sites could be consumed as new customers connections are commissioned.

Costs are based at today's rate.

3.2.11 Unison Networks

Table 14: Unison Networks 2030 Charging Demand and Network Capacity & Cost Data¹⁵

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Hastings	140	244	430	20%	Trans 3978	288	\$40,000
					Trans 3834	400	\$40,000
					Trans 5895	219	\$120,000
					Trans 3835	317	\$40,000
Napier	602	-218	-32	20%	Trans 5442	85	\$100,000
					Trans 5666	New dedicated transformer	\$150,000
					Trans 7292	200	\$100,000
Reporoa	-	112	157	10%	Trans T3909	116	\$100,000
Rotorua	2,436	-1,811	-1,412	20%	Sufficient charging capacity already		
Taupō	2,265	-1,766	-1,348	15%	Sufficient charging capacity already		
Te Haroto	70	30	189	15%	Trans 1046	New dedicated transformer	\$100,000
					Trans 5748	New dedicated transformer	\$100,000
					Trans 3677	New dedicated transformer	\$100,000
					Trans 1590	New dedicated transformer	\$100,000
Tutira/Putorino	35	15	51	15%	Trans 830	New dedicated transformer	\$100,000
Havelock North	-	58	85	20%	Trans 6877	250	\$50,000
					Trans 4791	200	\$80,000
					Trans 2224	364	\$120,000

Unison Networks Accompanying Information:

N/A

¹⁵ Please refer to Appendix B.11 for more information on the demand forecast and site specific information provided by the EDB



3.2.12 Vector

Table 15: Vector 2030 Charging Demand and Network Capacity & Cost Data¹⁶

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Helensville	-	154	224	15%	6,775	150	\$83,000
					4,389	100	\$85,000
					1,214	300	\$105,000
					TB4	100	\$66,000
Kumeū /Waimauku	490	-66	128	15%	12	100	\$68,000
					N21121	300	\$56,000
					N2210	100	\$69,000
					N3453	200	\$79,000
Silverdale	245	406	831	10%	N3925	150	\$66,000
					N22312	400	\$126,000
					TB2466	250	\$73,000
					N2037	250	\$53,000
Warkworth	396	-84	57	15%	7,728	250	\$76,000
Wellsford	581	-269	-128	15%	TB6911	150	\$68,000
Auckland	9,632	-6,835	-5,111	20%	No capacity for areas with amenities. Increasing network capacity would require construction of new feeder.		
					Feeder PAPA K10	1,000	\$182,000
					Feeder MKAU K18	1,000	\$184,000
					Feeder ROCK K09	1,000	\$193,000
					Feeder CHEV K11	1,000	\$204,000
Feeder HCRE K03	1,000	\$181,000					

Vector Accompanying Information:

Following high-level desktop assessments for each site, the provided estimates of the total indicatives for each site are approximate and do not include GST. These estimates are non-binding based on Vector's current pricing policy.

Other costs including but not limited to traffic management and civil works and the like have been estimated and final costs will need to be confirmed by sub-contractors at detailed design. No allowance has been made for network approval, temporary generation, consents, arborists, surveys, rock breaking and after hours/weekend work. In Appendix B.12, Vector has split out the indicative connection costs. In the “works estimated cost” column in this cost breakdown, the works required with the “LV panel” up to the point of connection is included. Where required, this would include LV frame terminations or installing/upgrading the LV frame.

An easement in favour of Vector Limited will be required for any equipment installed on private property to ensure ownership and ongoing maintenance of the assets. The project initiating party will be responsible for liaising with the landowner to secure this easement.

¹⁶ Please refer to Appendix B.12 for more information on the demand forecast and site specific information provided by the EDB



This indicative cost is based on information available during a desktop exercise at the time of high-level costs being provided. If scope or requirements change in the detail design stage, any additional costs will be added in final design and pricing.

Spare capacities indicated on existing transformers have been estimated at the time of the assessment and are subject to change. Transformer datalogging may be required and may add to the indicative cost for each site.

Based on the development contribution policy that came into effect from the 1st of December 2021, Vector may contribute towards the cost of the transformer and its installation. If applicable, this contribution will form part of the customer works agreement that will be issued to you once the design and price have been completed.

The costs outlined in this report are based on standard connection pricing.

Flexible Connections:

The costs assume flexible connections by entering a DERMS agreement with Vector and integrating with Vector DERMS, which can communicate the available capacity on the transformer to manage charging rate at network peak times:

- Reduced Growth Charge
 - Calculated using zero as nominated minimum capacity. This allows any spare transformer capacity to be utilised at no additional growth cost.
- Lower Distribution Charges
 - Reduced distribution charges – the Capacity (-CAPY) component rate will be based off the nominated minimum capacity.
 - [For further information on standard connection pricing, please see Vector's Pricing Schedule and Policy.](#)
- Important Notes:
 - Spare capacity cannot be guaranteed and may fluctuate significantly throughout the day. Vector is available to discuss current transformer capacities for flexible connections.
 - Flexible connections require additional equipment. Vector is happy to provide further details and guidance on these requirements.

3.2.13 Waipā Networks

Table 16: Waipā Networks 2030 Charging Demand and Network Capacity & Cost Data¹⁷

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Cambridge	543	-132	132	10%	22556	150	\$20,000
					20101	200	\$35,000
					20035	Upgrade transformer to 500 kVA	\$90,000
					20049	100	\$35,000
					20025	150	\$20,000
Te Awamutu	70	222	331	10%	11579	Upgraded transformer	\$75,000
					10334	100	\$20,000
					12615	100	\$20,000
					10649	50	\$10,000

Waipā Networks Accompanying Information:

- The provided load data of the transformers are based on MDI (Maximum Demand Indicator) readings, the actual "available capacity" could be more than this at different times of day but further investigation would be needed.
- Waipā Networks does not guarantee the accuracy of any of the data provided
- Waipā Networks does not guarantee that EV chargers can be installed at the locations proposed as there are many other factors that have not been considered
- The transformer "available capacity" is subject to decrease as other connections or load increases are connected.
- Waipā networks does not guarantee that the works and costings required to allow for EV charger connection are accurate.
- Indicative costs are for 100% of the works.
- The indicative costs are based on a high-level assessment, additional costs may be required which have not been factored into the provided information.
- The indicative cost is the cost for the spare capacity of the transformer unless specified, for EV chargers greater than this capacity will be subject to greater costs or restrictions for connection.

¹⁷ Please refer to Appendix B.13 for more information on the demand forecast and site specific information provided by the EDB

3.2.14 WEL Networks

Table 17: WEL Networks 2030 Charging Demand and Network Capacity & Cost Data¹⁸

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Hamilton	2,538	-1,141	-248	20%	Sufficient charging capacity already		
Huntly	-	286	506	15%	T5936	493	\$50,000
					T3767	405	\$48,000
Raglan	35	236	287	15%	T7791	342	\$20,000
					T6987	241	\$1,800

WEL Networks Accompanying Information:

This information is provided by WEL Networks Limited for the sole purpose of supporting DETA's study. By accessing or using this information, you acknowledge and agree to the following:

- Snapshot only - All values, including transformer headroom, connection capacity, voltage constraints, and pricing, reflect a moment in time. The network is dynamic. Asset condition, load growth, switching, outages, customer connections, and planned works may change available capacity after this information was supplied. Hosting capacity for fast EV chargers is particularly sensitive to diversity, coincidence, and power-quality factors. It can change without notice.
- Indicative, non-binding information - All figures are indicative and for information purposes only. They are not suitable for detailed design, commercial commitments, or investment decisions. The information does not constitute an offer, quotation, or obligation by WEL to provide connection at any stated capacity, timeframe, or price. Any commitment can only arise from a formal Connection Offer and executed Connection Agreement following a complete application and detailed engineering assessment.
- Accuracy and warranties - WEL has used reasonable care in compiling the information, but makes no representations or warranties, express or implied, as to completeness, accuracy, currency, or fitness for any purpose. To the maximum extent permitted by law, WEL accepts no liability for any loss, damage, cost, or expense arising from use of or reliance on this information.
- Subject to detailed engineering assessment - Feasibility is subject to detailed study of network configuration which may include, but is not limited to: voltage and thermal limits, fault level, protection coordination, earthing, power factor requirements, harmonics, and reliability standards, including any N-1 security obligations. WEL may require technical conditions such as managed or flexible connection, curtailment during constraints, demand response participation, power factor correction, harmonic filtering, or other mitigation to maintain network performance and safety.

¹⁸ Please refer to Appendix B.14 for more information on the demand forecast and site specific information provided by the EDB

- Pricing basis and exclusions - Any pricing or cost guidance is indicative only, in NZD, and exclusive of GST unless stated otherwise. Pricing may exclude contestable works, customer works, land and consenting costs, traffic management, metering, communications, easements, inspections, and any reinforcement or augmentation subsequently identified. Final pricing is subject to detailed design, market rates at the time of delivery, procurement lead times, and WEL's then-current capital contributions and pricing policies. Network tariffs are reviewed periodically and may change.
- Contestable works and approvals - Some works may be contestable and performed by approved contractors, but design approval, inspection, and acceptance by WEL are required. WEL reserves the right to set conditions to protect network safety, reliability, and power quality.
- No endorsement, exclusivity, or commitment - Inclusion of a location or a capacity figure does not imply endorsement of any site or technology. WEL does not commit to reserve capacity for any party unless expressly agreed in a formal Connection Offer and Connection Agreement.
- For certainty on any specific site or to obtain a binding position, submit a formal connection application to WEL so that a detailed assessment and, if appropriate, a Connection Offer can be issued.

3.2.15 Wellington Electricity

Table 18: Wellington Electricity 2030 Charging Demand and Network Capacity & Cost Data¹⁹

Location	Adjusted Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Turn-in rate	Transformer ID	Available Capacity (kVA)	Indicative Connection Cost (\$)
		Avg. (kW)	Peak (kW)				
Lower Hutt	1,005	-674	-135	20%	Sufficient charging capacity already		
Porirua	158	58	132	15%	S3658 (Trans. TS476)	150	\$30,000
					S3496	250	\$40,000
					S4703 (Trans. TS1438)	200	\$15,000
					S3498	450	\$25,000
Upper Hutt	88	242	567	20%	S1075	250	\$26,000
					S2559	300	\$39,000
					S2787	200	\$26,000
					S2058	100	\$21,000
					S2731	50	\$56,000
Wellington	1,418	-612	-56	20%	Sufficient charging capacity already		

Wellington Electricity Accompanying Information:

Sites have been chosen based on proximity to facilities and to the state highway.

Available capacity is estimated only, due to lack of visibility of coincident customer demand.

Estimated capacity is not guaranteed to be available, as further customer connection requests may be received after the submission of this data.

Cost estimates are the expected customer contribution towards the work in line with Wellington Electricity's published customer contribution policy.

Additional capacity may be able to be realised through the use of operating envelopes.

¹⁹ Please refer to Appendix B.15 for more information on the demand forecast and site specific information provided by the EDB

3.3 Analysis of Findings

3.3.1 Current Charging Capacity

Figure 6 shows the current charging capacity and additional capacity required to meet peak demand in each North Island region. Key insights include:

- Auckland and Waikato regions have the highest existing capacity as they contain major North Island cities and towns such as Auckland, Hamilton and Taupo that have large amounts of chargers for destination as well as journey needs. These areas also have several routes that are well serviced by large EV charging hubs in small towns, which the rest of the North Island generally lacks.
- The Gisborne region has the lowest number of existing DC chargers as it is generally seen as a destination location rather than a place to stop en-route to another location.
- Waikato has the highest 2030 additional capacity required. This is primarily due to the Waikato region encompassing a large land area with a high density of towns, resulting in this region having the highest number of locations (23) investigated as part of this analysis.
- The Gisborne and Taranaki regions have the lowest additional capacity requirements, with only 5 locations within each region investigated.

Analysis performed on the distribution of current charger capacity in the North Island (≥ 50 kW) shows that the most common chargers are 50 kW at 34%. 150 kW chargers are also common, with 22% of chargers between 100 kW and 150 kW. Higher capacity chargers are less common but may increase in the future as larger vehicles electrify and super chargers become more prevalent. A distribution graph can be seen in Appendix D.

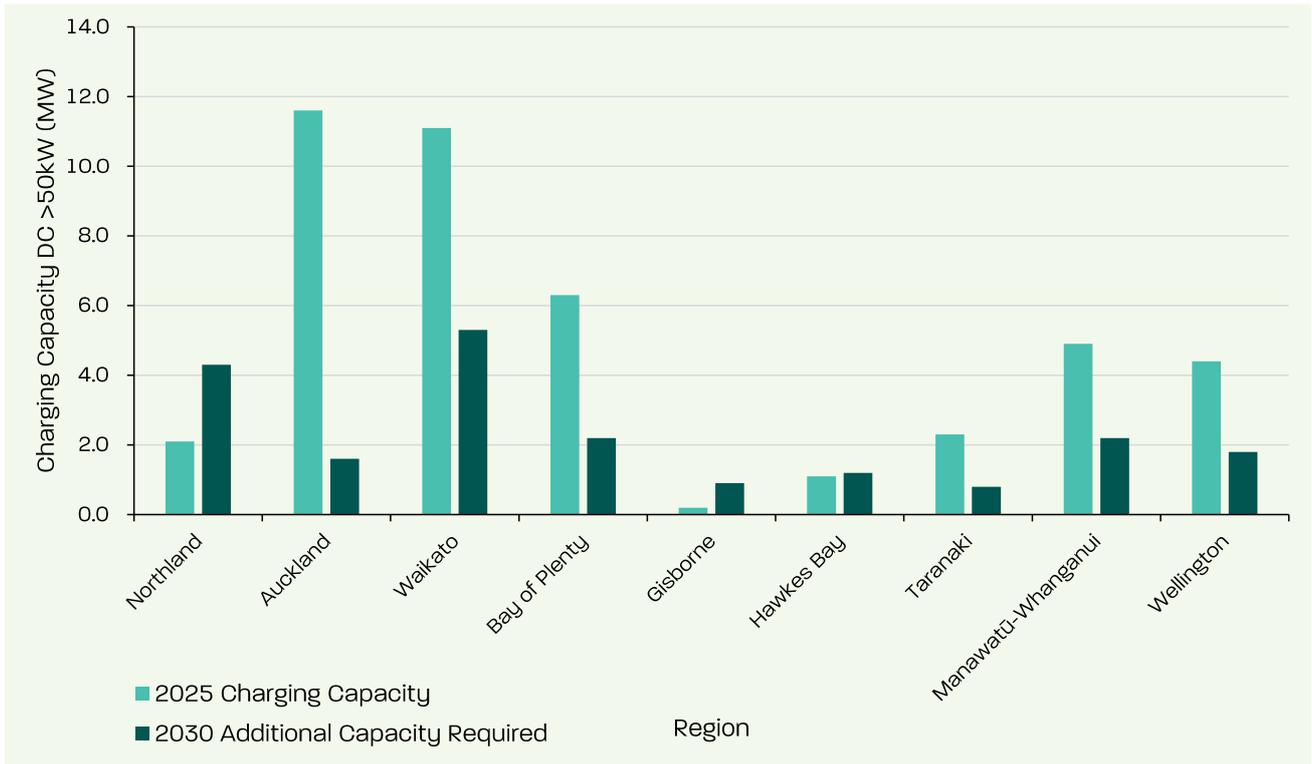


Figure 6: Current Charging Capacity and Additional Capacity Required to Meet Peak Demand for Each North Island Region

3.3.2 Additional Charging Capacity Requirements

Following the review of 103 locations across the North Island, analysis was completed on the top ten locations where the highest additional peak charging capacity is needed to meet 2030 forecasted demand. These locations are compared with the top ten locations where there is excess charging capacity in 2030 (excluding Auckland as this was an outlier with 5,100 kW of excess capacity), as shown in Figure 7.

Locations with high additional charging requirements are generally smaller towns with minimal existing capacity, while locations with excess capacity are generally larger towns with large charging hubs and considerable destination charging.

Waipu/Ruakākā requires the highest additional capacity due to an unusually high Peak/Avg. traffic factor in 2021 which demonstrates the effect that one peak day in the year can have on sizing capacity to peak demand.

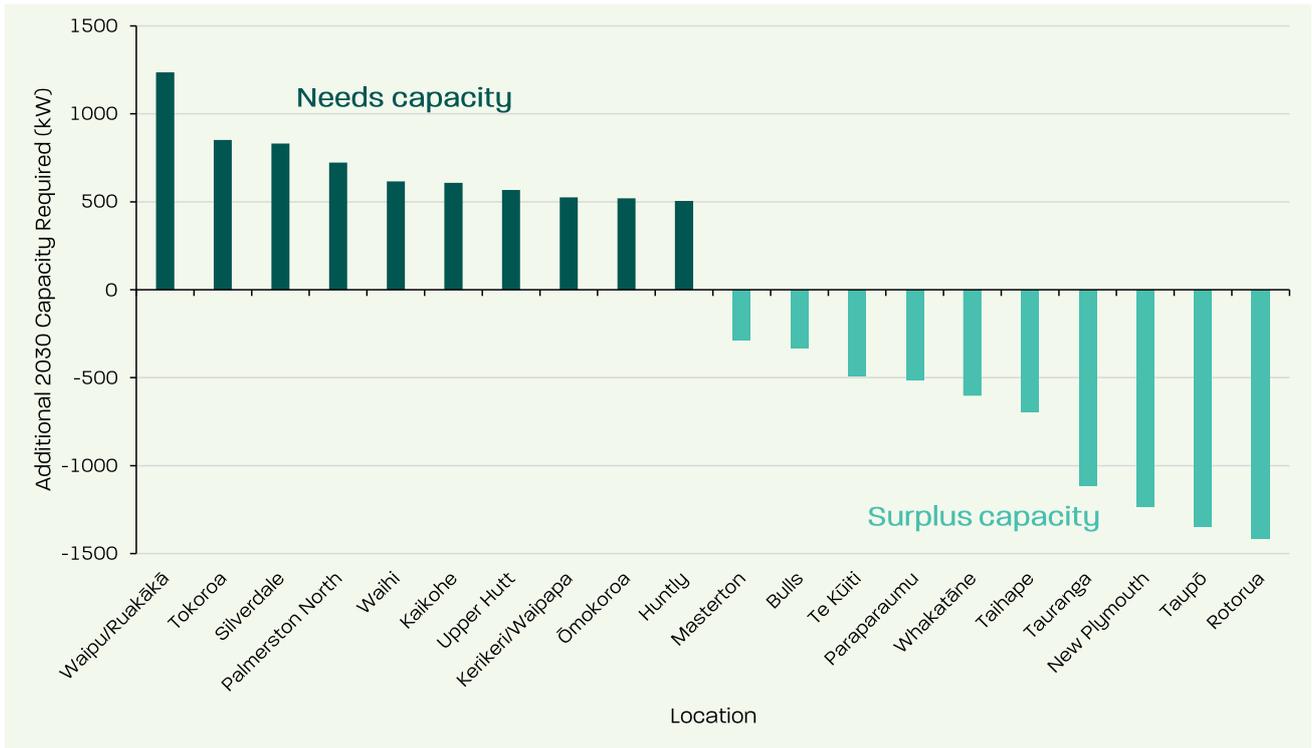


Figure 7: Top Ten Locations with the Highest 2030 Additional Peak Capacity Needed (kW) and the Top Ten Locations with the Lowest Additional Peak Capacity Needed (kW)

There are also numerous locations around the North Island where there are currently no DC chargers ≥ 50 kW, as listed in Table 19. Installation of charging infrastructure should therefore be focused on the top 10-20 locations with the highest capacity requirements, as well as those without existing charging capacity.

Table 19: Locations with No DC Charging Capacity >50 kW

Region	Location
Northland	Kaikohe
	Ōkaihau
	Pukenui
	Ruawai
Auckland	Helensville
Waikato	Huntly
	Matarangi
	Reporoa
Bay of Plenty	Awakeri
	Kaingaroa
	Matata
	Ōmokoroa
	Waimana
Gisborne	Te Araroa
	Te Puia Springs
	Tolaga Bay
Hawkes Bay	Tikokino
Manawatū-Whanganui	Hunterville
	Kakatahi
	Whangamōmona
Wellington	Carterton/Greytown
	Martinborough

4. Discussion

4.1 Sensitivity Analysis

Several scenarios were analysed to assess how specific assumptions affected the results:

- **% of Battery Charged (+/-10%):** The base case of 30% of battery charged per half hour was increased to 40% and decreased to 20%
- **Turn-in Rates (+/-5%):** All turn-in rates were increased/decreased by 5% e.g. 10% base case went to 15% and 5%
- **Current Charging Capacity - Faults (+/-10%):** The base case of 30% reduction in charger capacity was Increased to 40% and decreased to 20%
- **Current Charging Capacity - Charger Output (remove max charging rate):** Assumes all EVs can charge at the max rate of the charger (i.e. 250 kW chargers will output 250 kW rather than the base case that assumes a 250 kW charger will have max output of 170 kW)

Figure 8 shows the effects of the above changes on the total number of additional 50 kW chargers required.

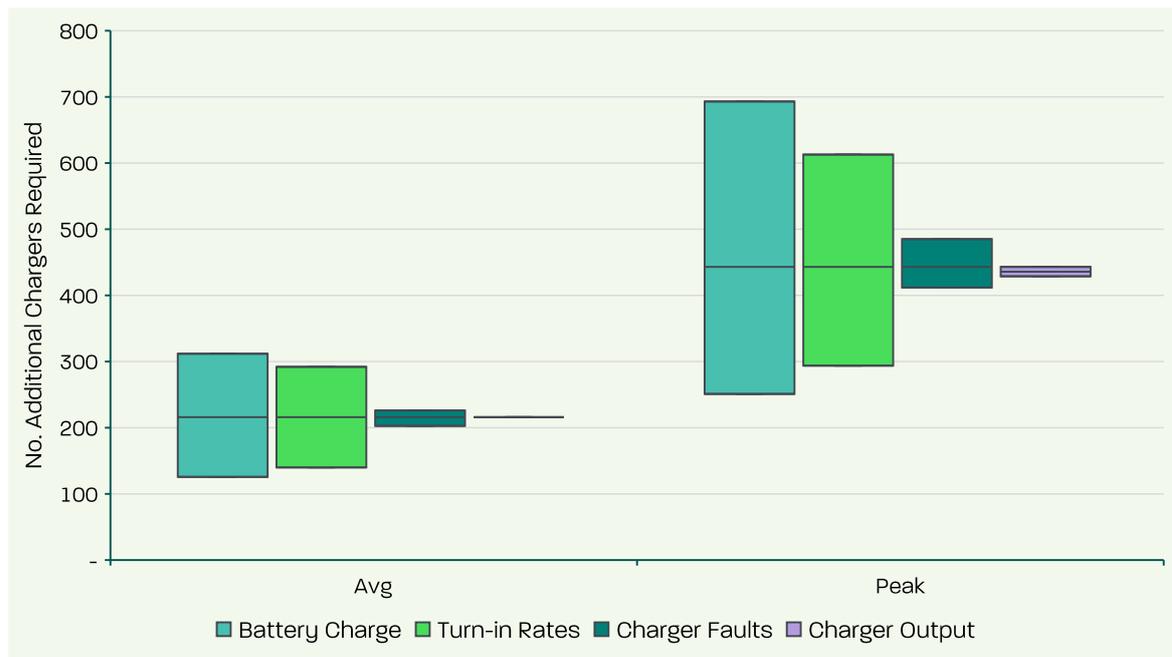


Figure 8: Sensitivity Analysis – Total No. Additional 50 kW Chargers Required

- **The battery charge %** has the largest effect on the results, with up to a 56% increase and 43% decrease when looking at peak requirements. Battery charge % refers to how much the battery is charged in a half hour period, which directly affects the demand and the additional capacity required to meet demand. Note that if drivers choose to charge their battery for longer in one place, then this will reduce the turn-in rates for locations further along the journey, so the overall chargers needed may be less than shown if battery charge % increases.

- **Turn-in rates** also have a significant impact, with the 5% increase or decrease resulting in the charging requirements increasing by 38% or decreasing by 34%. Turn-in rate also directly affects the demand as it dictates the percentage of cars that are assumed to charge over a half hour period.
- **Charger faults and the max charger output** have less of an impact on charging requirements, increasing/decreasing the number of chargers by 9 and -7%. The larger chargers (>150 kW) are generally located in larger towns/cities where there is already sufficient charging capacity. As such, the “increase” in current charging capacity will have minimal impact on the additional charging requirements.

Further analysis on turn in rates and battery charging rates would be beneficial as technology and vehicle numbers change in the future. This would refine assumptions and calculations, to reduce uncertainty and variation in results.

4.2 Connection Cost Distribution

4.2.1 Description of Connection Costs

DETA requested indicative connection costs from EDBs, including trenching and cabling from the transformer to the selected charging site. Unless specific cost caveats have been stated in the EDB accompanying information sections in Section 3 or Appendix B, it was assumed that this was what was included in the costs provided.

These costs supplied by EDBs are high-level estimates intended to provide an indicative cost ($\pm 20\%$), for connecting to specific transformers. These figures were valid only at the time they were provided (Sept – Nov 2025) and are intended give readers an order-of-magnitude, snapshot in time understanding of EV charging connection costs across the North Island.

It should be noted that these represent only one component of the total project cost – the full installed cost of chargers is expected to be several times higher due to lease or purchase of land, charger software and hardware and other planning and commissioning costs.

4.2.2 Analysis of Connection Costs

High level connection costs were given for 289 transformers. These costs were put into \$10k bands from \$0-\$100k, and \$20k bands from \$100-200k, as shown in Figure 9.

Outliers above \$200k (2.5% of sites) have been excluded from the chart, with these sites requiring additional cost to upgrade the transformer to have sufficient capacity to supply charging requirements.

The average indicative connection cost per site was \$60,000 with the average available capacity on the transformer being 150 kVA.

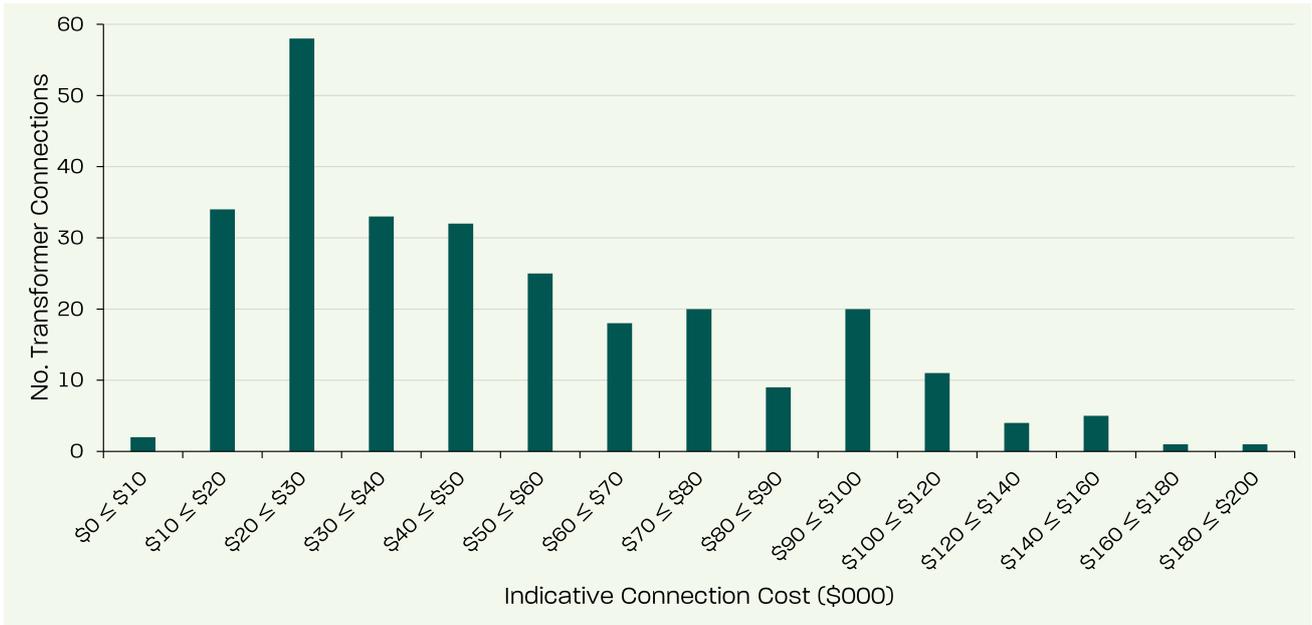


Figure 9: Connection Cost Distribution

The indicative cost per kW connected was also analysed so all costs could be compared against the same basis, as shown in Figure 10. 80% of all site connection costs were estimated to be less than \$1,000/kW, with 27% between \$0 and \$200/kW. The **average indicative connection cost per kW was \$590/kW** and the **median was \$500/kW**.

Outliers above \$2,000/kW (1% of sites) have been excluded from the graph, with these sites typically being in smaller remote towns which require a major infrastructure upgrade to allow additional connections, such as Waimana, Galatea, Matawai, Ohakune, and Mokau. These are places that typically have a peakier load and therefore are good candidates for government funding.

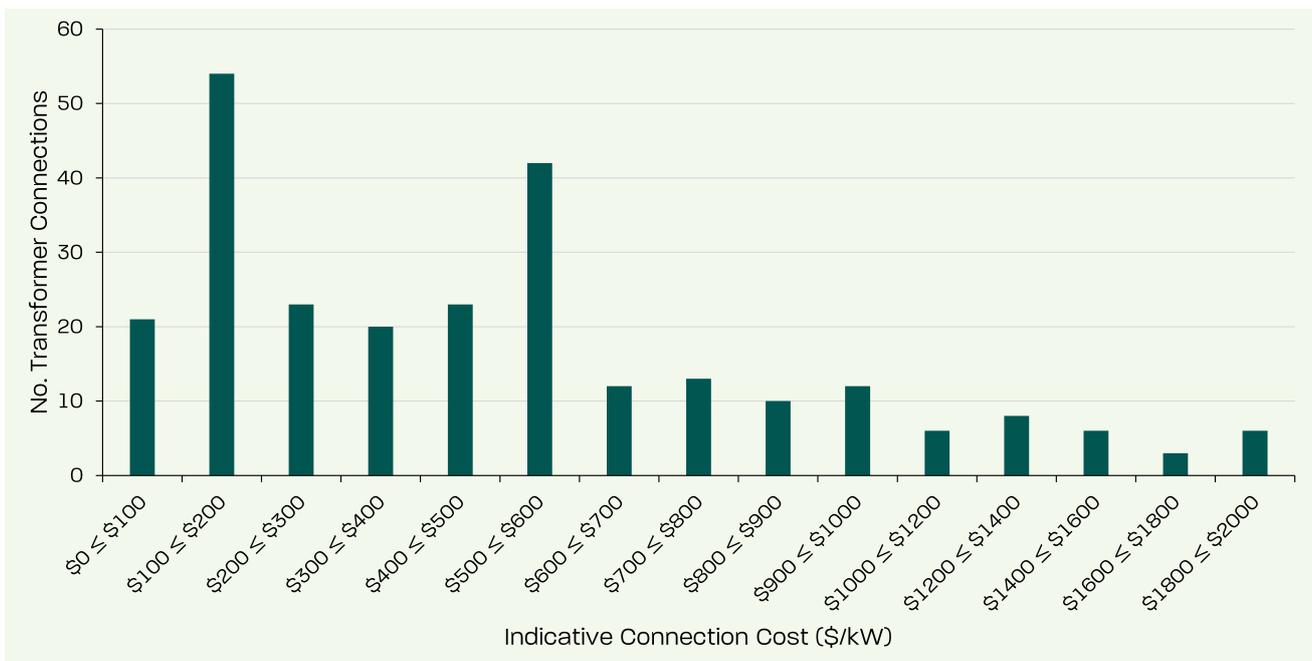


Figure 10: Charger Cost Distribution (\$/kW)

4.3 Estimation of Total Installed Charger Costs

The installed cost of a charger in NZ (excluding the connection component) was estimated at \$830/kW.

To estimate the total installed cost of chargers needed to meet peak additional demand in 2030, EDB-provided indicative connection costs for sites were used alongside this estimated installed charger cost of \$830/kW.

Only the minimum number of sites required to meet the additional demand at each location were included in the calculation. In some locations, no suitable sites were identified, or the total available capacity across all provided sites was insufficient to meet the forecast demand. For these locations, the average connection cost of \$590/kW was applied to the unmet demand.

For 68 out of the 82 locations requiring additional capacity to meet 2030 peak charging demand, EDBs provided sites with sufficient capacity, resulting in provided 152 charging sites being used in the total cost calculation. For the remaining 14 locations, the average connection cost was used for the additional capacity not met by provided sites.

It is estimated that **\$29.3 million would be required to connect and install these chargers**, delivering approximately 24 MW of charging capacity. This exceeds the theoretical requirement of 20 MW, as some EDB-provided sites exceeded the additional capacity required.

4.4 Other Items

- Highly seasonal locations will be the least economically feasible places to install chargers due to the low Return On Investment (ROI). These are places where funding could be needed to install chargers to meet peak demand.
- North Island Peak/Avg. factors are lower than those from the South Island study because its larger population drives higher, more consistent traffic volumes on state highways compared with the South Island. As a result, chargers sized to peak demand will generally be more economic in the North Island, as they will be utilised more regularly over the year.
- Dates of peak traffic days for locations vary however they generally occur on and around NZ wide public holidays and regional anniversary days.
- This study focuses on forecasting the charging demand in each of the selected locations. It does not aim to provide any recommendations on what type of chargers should be used or the size of each charger.
- It was identified that in some locations the total capacity of existing chargers well exceeded the demand requirements. However, the capacity in some of these locations were provided by relatively few chargers, which can result in charging bottlenecks. An example is Paeroa, where 800 kW (476 kW adjusted) of total capacity is supplied by only 4 chargers. Customers may leave their vehicles plugged in for longer periods of time which takes up charging space and is known to be an issue. Consideration should be given to both the number of chargers available in locations and the total installed capacity.

- The demand forecast model assumed that 10% of light vehicles in NZ will be battery electric in 2030, based on forecasts published in 2021. This is an aggressive growth rate which some believe to be achievable, however, current uptake rates show less promise, and this should be considered when reading the report. How demand actually progresses will be influenced by government policies, vehicle pricing and charging infrastructure.
- The commitment made by the government to install 10,000 public chargers by 2030 encompasses all public chargers in NZ. This study is focused solely on North Island journey charging for light vehicles and does not include any analysis for heavy vehicle charging. This analysis is just one of the four parts of light public charging in New Zealand, with the other three being:
 - South Island journey charging (DETA completed analysis in 2024)
 - South Island destination charging (no analysis to date)
 - North Island destination charging (no analysis to date)
- Peak traffic volumes (and therefore peak charging demand) typically occur between 2pm and 5pm. These peak charging demand times fall outside of peak network times of 7- 9am and 5 - 9pm, thus journey charging is unlikely to add significant load onto New Zealand's electricity network at peak times. See Appendix A for the coincident demand profile for peak and average day.

Appendix A: 2030 Coincident Demand Profile

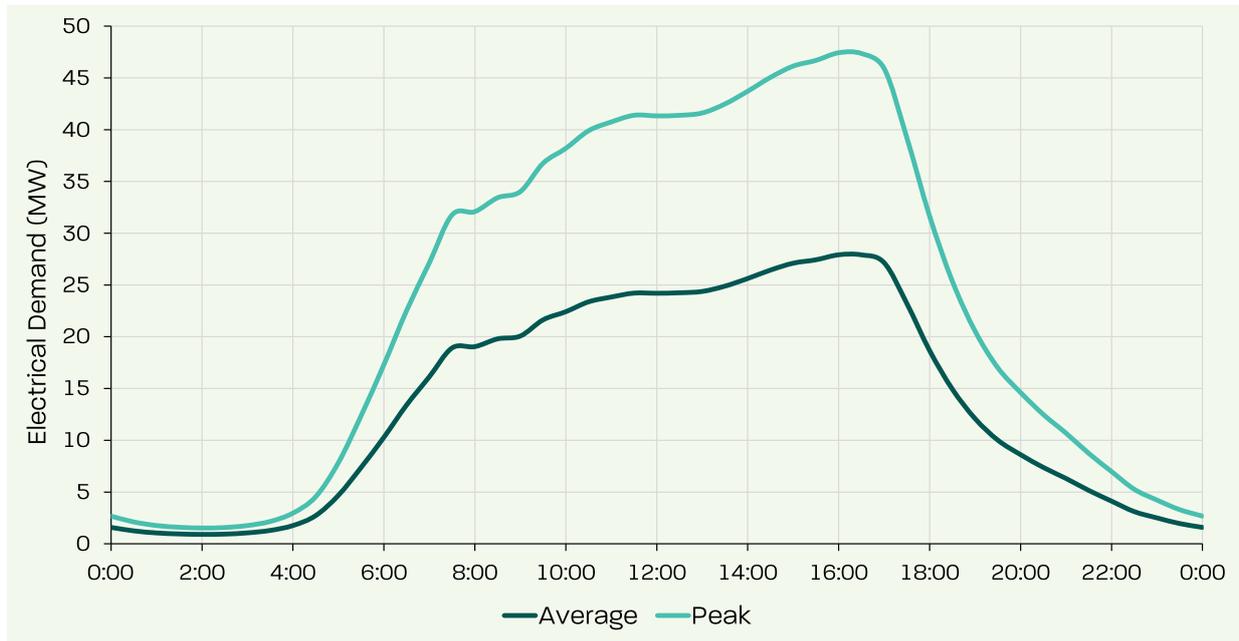


Figure 11: 2030 Coincident Charging Demand Profile (All Locations) for Peak and Average Day

Appendix B: Detailed EDB Data Tables

The following subsections of Appendix B details the full set of data associated with each location in each EDB. The information shown for each location is:

- 2030 total forecasted demand (kW) at the half hour peak for the average and peak day
- 2025 DC charging capacity (>50 kW)
- 2030 additional capacity needed at half hour peak after factoring in the current charging capacity
- Turn-in rate
- Peak/average factor
- Time of daily traffic peak
- Transformer identification
- Rated capacity of transformer (kVA)
- Current available capacity on the transformer
- Indicative connection cost to transformer at proposed charging site/s
- Location of proposed charging site/s (general area/address and coordinates)
- Additional comments and any accompanying information supplied by the EDB

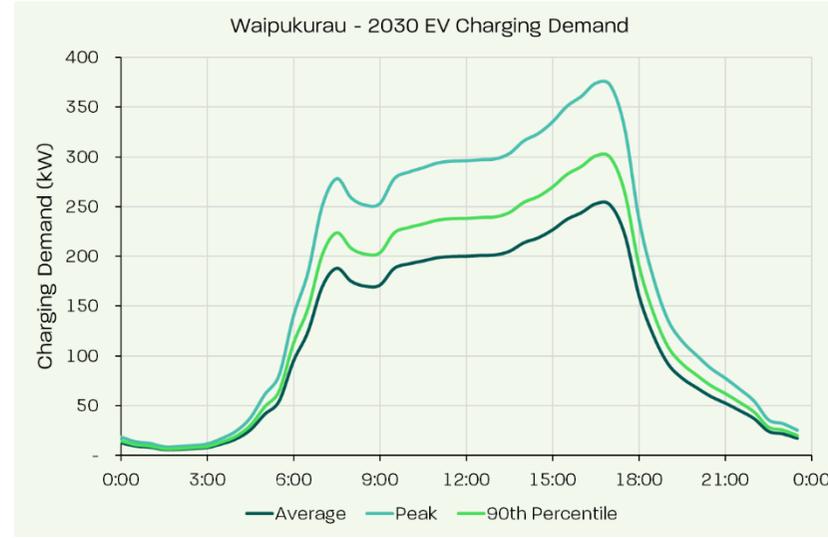
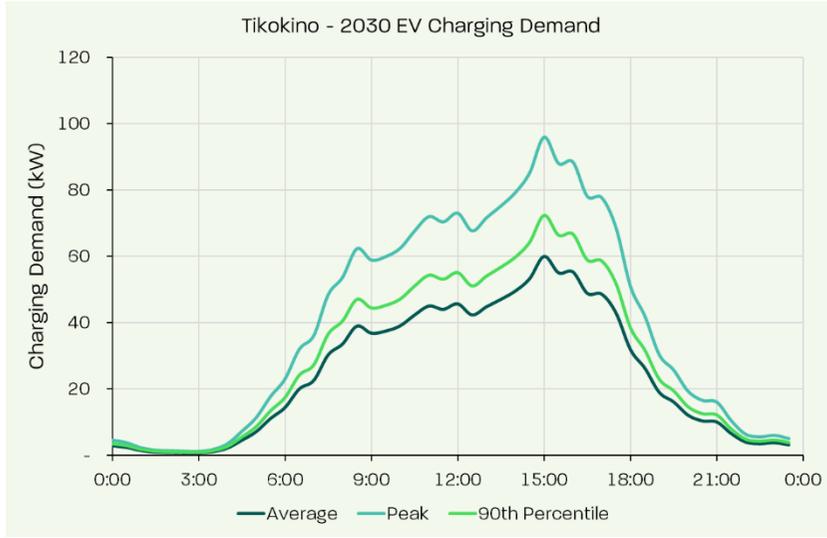
B.1 Centralines

B.1.1 Centralines – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Tikokino	60	96	0	60	96	3:00:00 PM	1.60	20%
Waipukurau	253	374	35	218	339	4:30:00 PM	1.48	15%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Tikokino	B2/40	100	Upgrade transformer to 200 kVA	\$100,000	Sawyers Arms Hotel/Café	-39.8186 176.4587	Upgrade to 200kV Tx. Dedicated LV circuit for 100kW connection.
Waipukurau	C4/25	500	200	\$60,000	Carpark	-39.9951 176.5568	Woolworths Waipukurua - New JM Cabinet & ~100m of dedicated LV circuit to service pedestal
	C4/22	300	150	\$95,000	Carpark	-39.9946 176.5510	Mitre 10 Waipukurau & Mobil fuelstation- Upgrade transformer and add additional LV circuit.

B.1.2 Centralines – 2030 Demand Profile



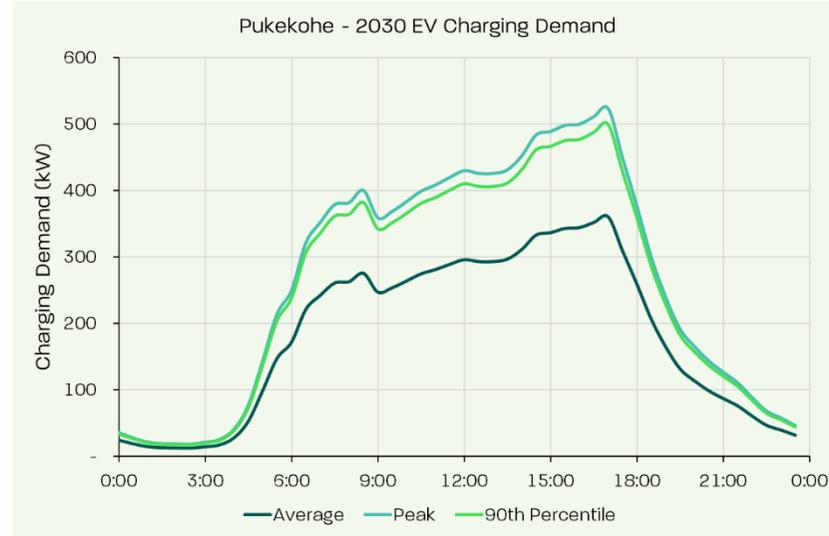
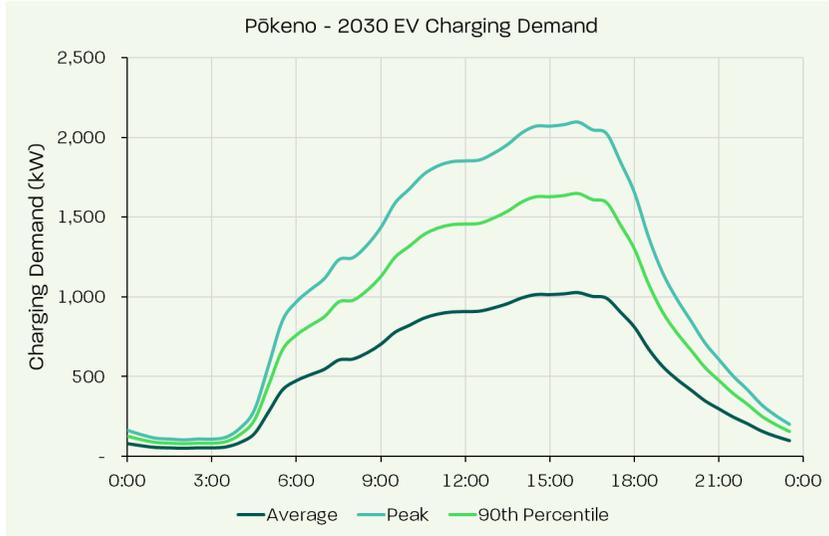
B.2 Counties Energy

B.2.1 Counties Energy – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Pōkeno	1029	2095	1656	-627	439	4:00:00 PM	2.04	20%
Pukekohe	360	524	210	150	314	5:00:00 PM	1.46	10%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Pōkeno	5I092	500	350	\$30,000	Pokeno Motel	-37.2465 175.0235	Site adjacent to Pokeno Motel
	4I996	300	250	\$30,000	Pokeno Plaze/Gull	-37.2448 175.0211	Tx is in reserve adjacent to Gull
Pukekohe	4G181	500	215	\$30,000	New World Carpark	-37.1898 174.9030	Note, New World has a dedicated Tx as well. See next line
	4G187	500	215	\$30,000	New World Carpark	-37.1898 174.9030	This is a dedicated Tx for New World
	4G399	1000	600	\$30,000	Warehouse Carpark	-37.2058 174.9099	Warehouse carpark. This is a shopping centre
	4G294	1000	560	\$30,000	Roulston Lane Carparks	-37.2014 174.9063	Carpark, with pedestrian access to central Pukekohe cafes and shops
	4H405	1000	640	\$30,000	Mitre 10 Carpark	-37.2104 174.9148	Mitre 10 Carpark. This is a shopping centre

B.2.2 Counties Energy – 2030 Demand Profile



B.3 Electra

B.3.1 Electra – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Foxton	204	296	70	134	226	4:00:00 PM	1.45	10%
Levin	374	515	550	-176	-34	4:00:00 PM	1.38	10%
Ōtaki	203	319	70	133	249	12:00:00 PM	1.57	10%
Paraparaumu	203	319	830	-627	-511	12:00:00 PM	1.57	10%

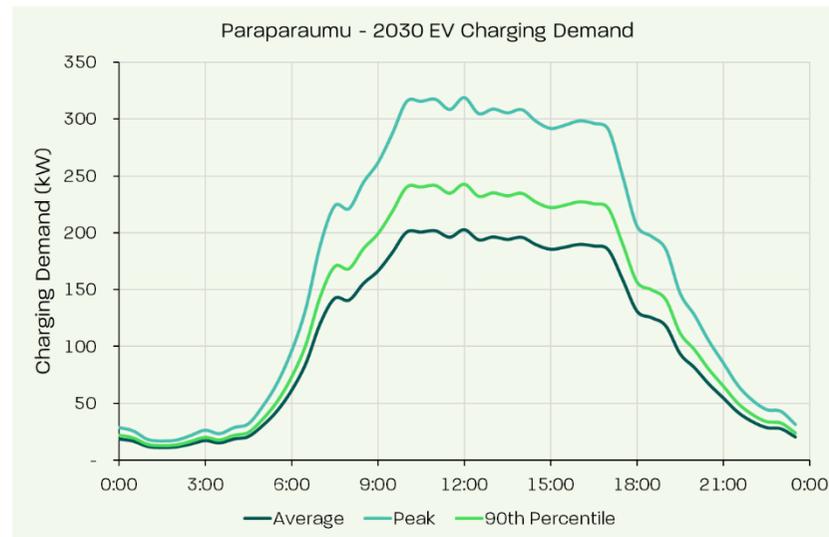
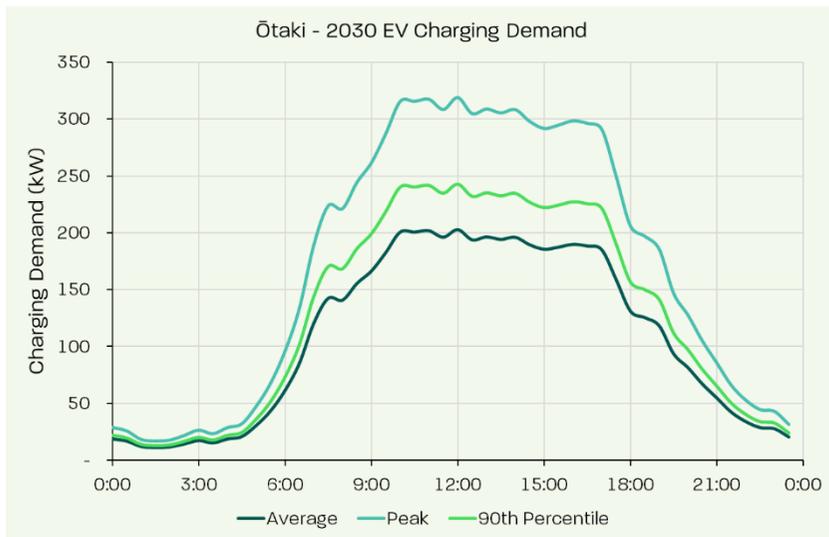
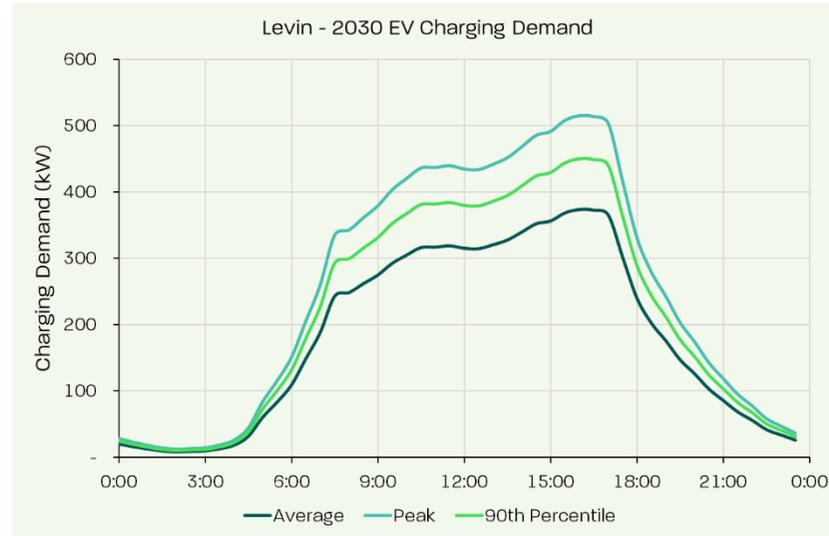
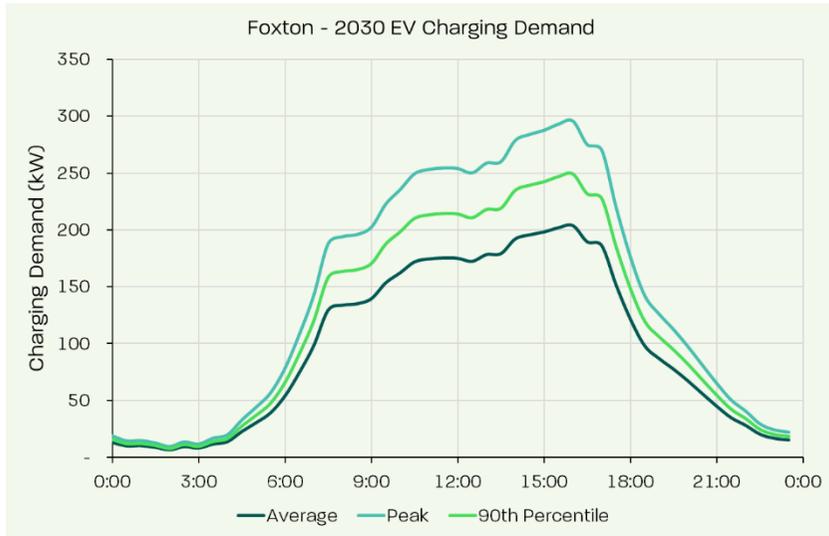
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates
Foxton	C271	500	200	\$25,000	New world Cnr Whyte Street, Main Street, and, Foxton	-40.4725 175.2821
	C191	500	150	\$35,000	10 Wharf street , Foxton	-40.4725 175.2858
	C376	200	100	\$55,000	Eastron Park,Grey Street	-40.6256 175.2814
Levin	E267	750	50	\$25,000	New World Levin	-40.6235 175.2842
	D179	300	50	\$25,000	Pak n Save levin,93 Cambridge street	-40.6220 175.2888
	E368	500	200	\$25,000	Woolworth Cnr Bristol & Stanley Street, Levin	-40.6235 175.2842
	E92	500	100	\$25,000	District War Memorial Hall Levin	-40.6212 175.2850
	H101	300	200	\$25,000	Levin Adventure play ground, Oxford street	-40.6256 175.2814



Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates
Ōtaki	L101	300	50	\$25,000	New world Otaki ,155–163 Main Highway	-40.7637 175.1534
	L72	500	200	\$65,000	Train station Car park,Arthur street, Otaki	-40.7629 175.1564
	L222	100	50	\$25,000	Mobile Otaki ,187–191 Main Highway ,Otaki	-40.7635 175.1538
	M77	300	50	\$45,000	16 Rangatira street, Otaki library parking	-40.9304 174.9832
Paraparaumu	W587	500	200	\$30,000	MITRE 10/New world 135 Kapiti Road, Paraparaumu	-40.9059 174.9958
	W604	1000	200	\$25,000	Paraparaumu Kāpiti Coast District Council Offices,175 Rimu Road	-40.9155 175.0050
	W677	500	200	\$25,000	Kāpiti Coast Airport,lodestar place	-40.9020 175.0100
	W514	300	100	\$25,000	14 Marine Parade, Paraparaumu	-40.8933 174.9794



B.3.2 Electra – 2030 Demand Profile



B.4 Firstlight Network

B.4.1 Firstlight Network – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Gisborne	346	449	147	199	302	3:00:00 PM	1.30	20%
Matawai	39	99	35	4	64	4:30:00 PM	2.52	10%
Te Araroa	100	199	0	100	199	3:00:00 PM	1.99	40%
Te Puia Springs	104	162	0	104	162	1:30:00 PM	1.56	40%
Tolaga Bay	130	188	0	130	188	2:30:00 PM	1.45	25%
Wairoa	92	194	245	-153	-51	3:30:00 PM	2.10	20%

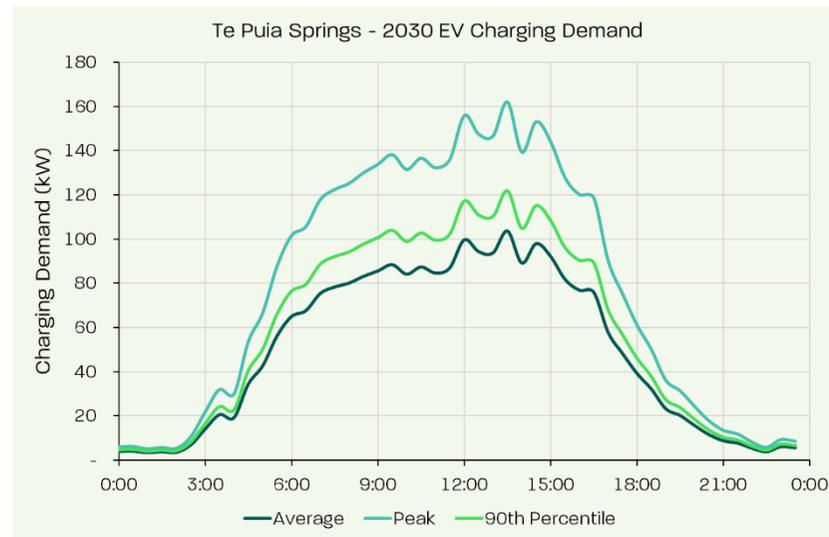
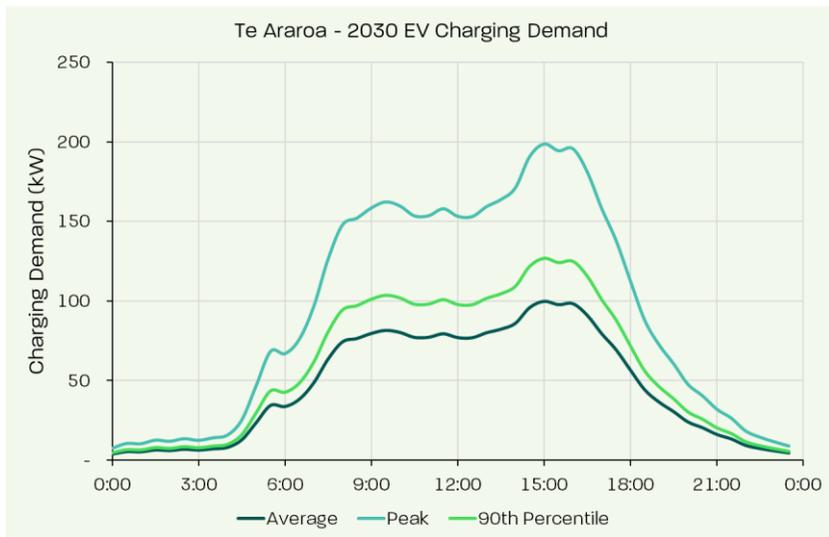
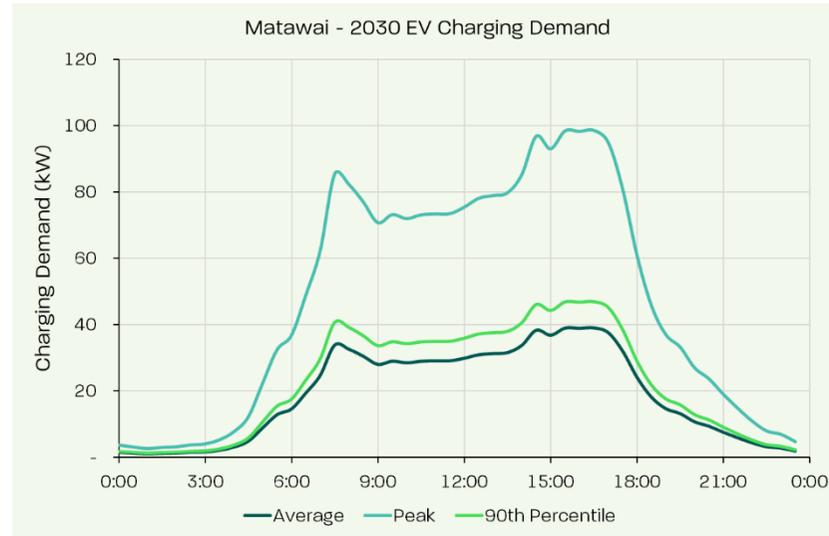
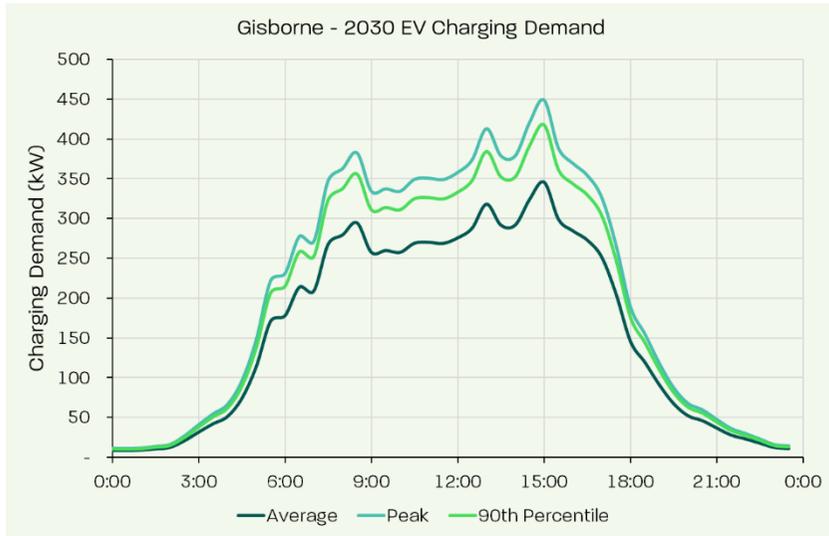
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Gisborne	B6267	300	50-100	\$100,000		-38.6703 178.0093	The beachside parking area close to the Transformer is a suitable location for an EV charging station, with restaurants and restroom facilities within walking distance.
	B6600	500	100	\$150,000		-38.6661 178.0294	The transformer is located adjacent to the GDC office. This site is suitable for an EV charging station, either by Marina Park or at the roadside parking near the GDC entrance.
	C670	250	50-100	\$50,000		-38.6491 177.9660	The transformer is located near the Caltex station, with convenient access to food outlets and other amenities. Installation costs will depend on the chosen EV charger location and its distance from the transformer. Note that this transformer may be replaced & upgraded within the next five years, with the network contributing to the associated upgrade costs.
	A77	200	50	\$50,000		-38.6687 178.0948	Located near Okitu Beach on State Highway 35, this site offers convenient access to the east coast. It is in close proximity to the local superette and public restroom facilities.
	B1051	300	No available capacity, but additional transformer may be installed within the next five years	\$100,000		-38.6551 178.0253	This site offers a convenient location for an EV charging station and is known as the Ballance Street Village, featuring shops, public restrooms, and other amenities. Currently, there is no spare capacity available at the transformer. However, with projected growth in the area, the network may install an additional transformer within the next five years to balance loads, which would provide capacity for an EV charger.
Matawai	F231	300	50	\$100,000		-38.3575 177.5349	The small township of Matawai is currently supplied by a 300 kVA transformer, which services the existing EV charger, local stores, petrol station, and residential customers. Other transformers in the surrounding area are sparsely connected to small residential loads and lack sufficient spare capacity to support additional EV charging infrastructure.

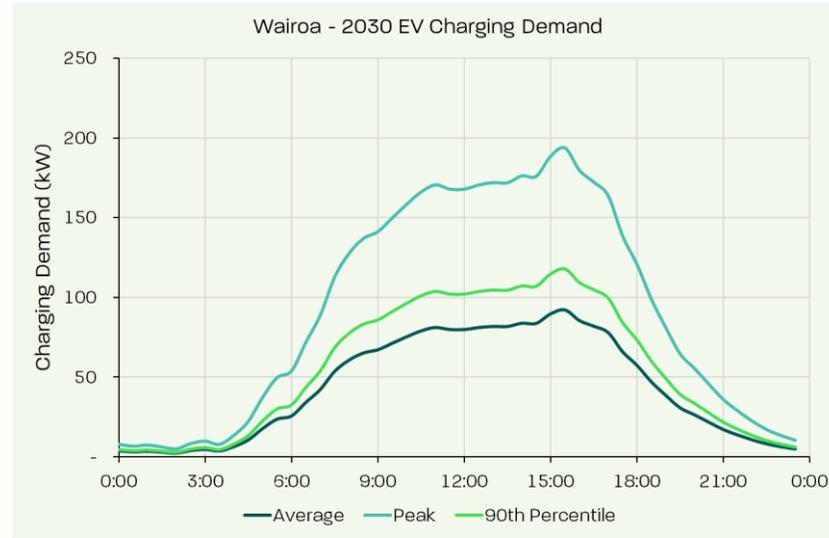
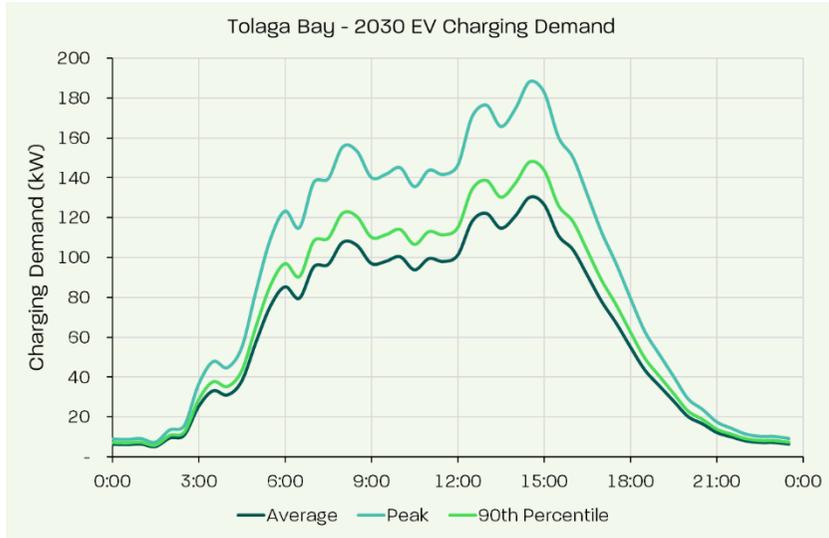


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Te Araroa			0				The small township of Te Araroa is currently supplied by a single 100 kVA transformer, which also powers an existing EV charger. To accommodate additional EV charging infrastructure, the available options are either to upgrade the existing transformer to 300 kVA or to install a dedicated transformer specifically for the new EV charger.
Te Puia Springs	H363	300	50	\$50,000		-38.0557 178.3044	This transformer supplies power to Te Puia Hospital, Te Puia Store, the nearby gas station, and surrounding residential properties. Potential sites for EV charger installation include the car park area adjacent to the transformer, which is within walking distance of Te Puia Store and public restroom facilities.
Tolaga Bay	G371	100	100	\$20,000		-38.3710 178.2966	This transformer was dedicated to the old Firstlight Network EV charger site, which was located near the public toilets. The charger was relocated after repeated vandalism incidents following the development of the nearby skate park.
Wairoa	W1535	200	50	\$50,000		-39.0295 177.4177	All the Wairoa sites are located within Wairoa township, offering convenient access to the highway, public restrooms, café, and supermarket. There is also space available near the transformer site for the development of EV charging facilities
	W1534	200	50	\$50,000		-39.0308 177.4198	
	W1558	500	50	\$50,000		-39.0338 177.4199	Located by the carpark and public toilets
	W836	200	50	\$50,000		-39.0346 177.4234	Located near Wairoa District Council Office and Coronation Square
	W1538	200	50	\$50,000		-39.0337 177.4151	



B.4.2 Firstlight Network – 2030 Demand Profile





B.5 Horizon Energy

B.5.1 Horizon Energy – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Awakeri	219	365	0	219	365	4:30:00 PM	1.67	15%
Galatea	54	76	35	19	41	3:30:00 PM	1.41	20%
Kaingaroa	73	99	0	73	99	3:30:00 PM	1.36	15%
Kawerau	73	115	35	38	80	4:00:00 PM	1.58	15%
Matata	219	365	0	219	365	4:30:00 PM	1.67	15%
Ōpōtiki	174	222	35	139	187	5:00:00 PM	1.27	15%
Te Kaha	67	137	35	32	102	1:00:00 PM	2.04	40%
Waimana	27	35	0	27	35	3:30:00 PM	1.33	15%
Whakatāne	244	342	945	-701	-603	4:30:00 PM	1.40	10%
Ōhope	37	51	0	37	51	4:30:00 PM	1.40	10%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Awakeri	25M045	300	Upgraded transformer to supply required charging demand	\$170,000	Riverslea Mall Car Parking	-37.9754 176.8274	This transformer is in Edgecumbe (the next town from Awakeri), located near the SH2 and close to the parking area. (Riverslea Mall - Edgecumbe). Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 365kW EV capacity
	25M041	300	Upgraded transformer to supply required charging demand	\$205,000	Riverslea Mall Car Parking	-37.9746 176.8262	This transformer is in Edgecumbe (the next town from Awakeri), located near the SH2 and close to the parking area. (Riverslea Mall - Edgecumbe). Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 365kW EV capacity
	260019	50	Upgraded transformer to supply required charging demand	\$205,000	Near Z Awakeri Car Parking	-37.9987 176.8908	This transformer is the only transformer in Awakeri town that has car parking. The indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 365kW EV capacity
Galatea	23B050	200	Upgraded transformer to supply required charging demand	\$115,000	Murupara Town Parking	-38.4572 176.7044	This transformer is in Murupara (nearest town close to the SH38). There is an existing EV charger at the location. Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 41kW EV capacity
Kaingaroa	20A010	150	50	\$85,000	Dun Rd roadside parking, near Fire station	-38.4084 176.5633	Indicative cost assumes a single 50kW charger connected to the transformer, and excludes any transformer upgrade work
	23A049	150	50	\$60,000	Kaingaroa Forest Village Community Centre car park	-38.4078 176.5605	Indicative cost assumes a single 50kW charger connected to the transformer, and excludes any transformer upgrade work

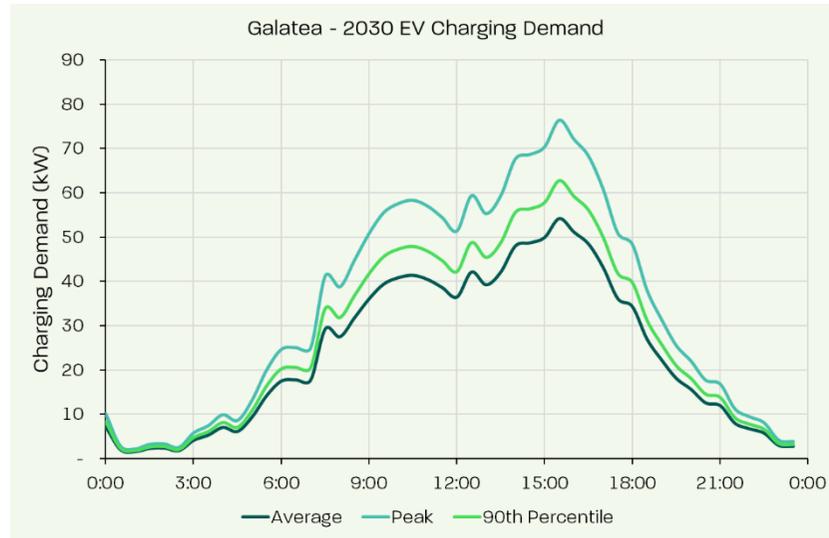
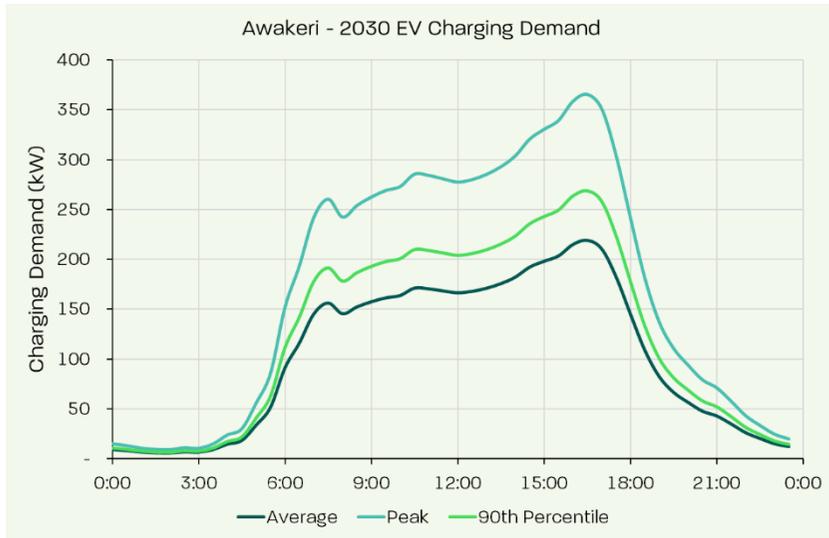


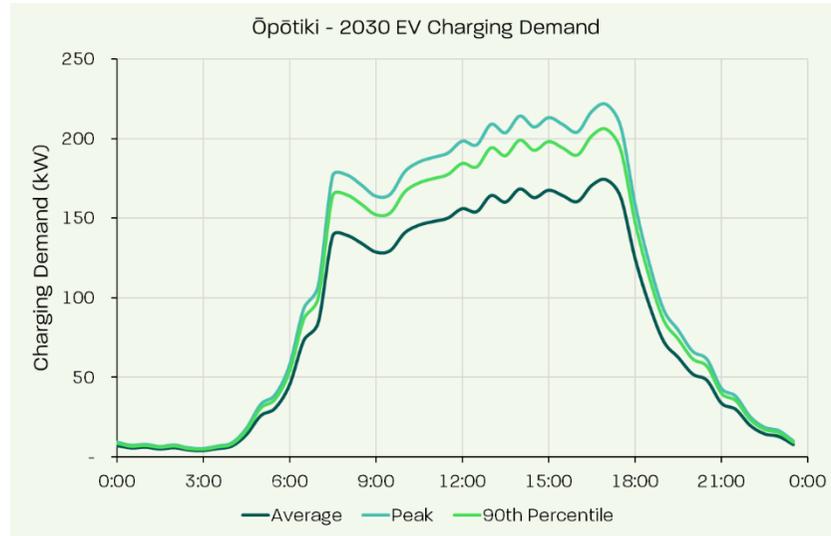
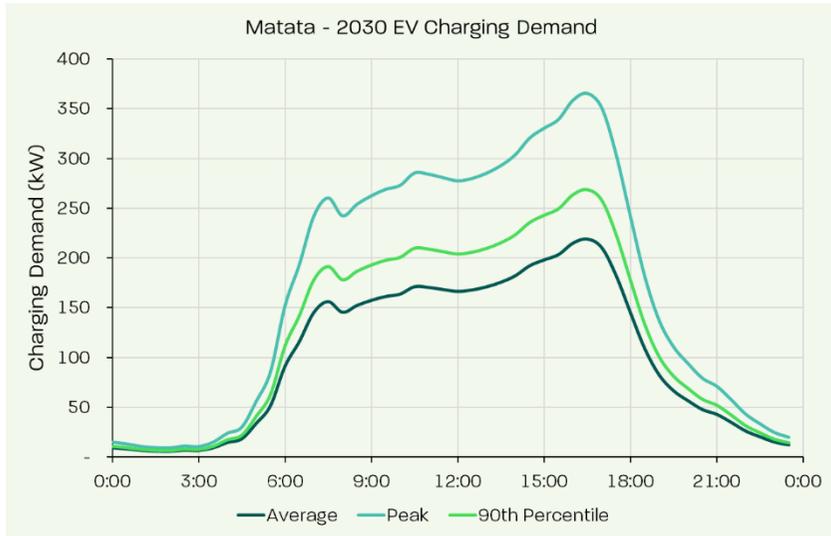
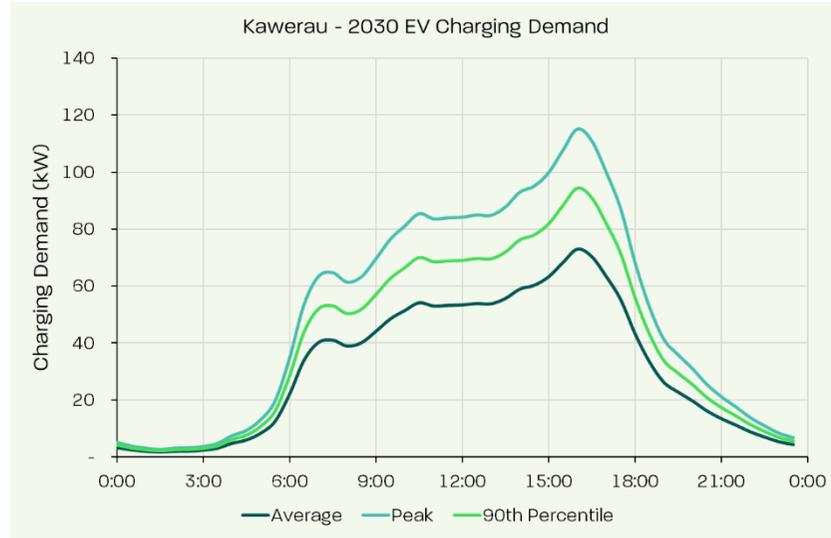
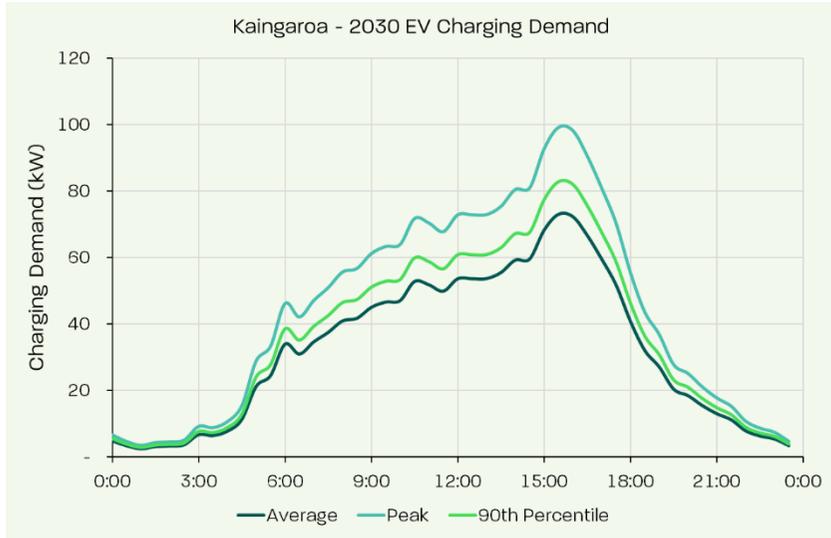
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Kawerau	23S055	300	Upgraded transformer to supply required charging demand	\$120,000	New World Kawerau	-38.0852 176.7012	Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 80kW EV capacity
Matata	23K002	200	50	\$65,000	Western cl - Road Side Parking	-37.8868 176.7496	Indicative cost assumes a single 50kW charger connected to the transformer, and excludes any transformer upgrade work
	23K004	200	100	\$100,000	Richmond St Parking	-37.8852 176.7491	Indicative cost assumes two 50kW chargers (total 100kW) connected to the transformer, and excludes any transformer upgrade work
	24K005	300	Upgraded transformer to supply required charging demand	\$360,000	Graham Cohn Park - Car Park	-37.8883 176.7583	The proposed charging site is near the main road with sufficient street parking. Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 365kW EV capacity
Ōpōtiki	33O094	300	100	\$45,000	New World Opotiki - Car Parking	-38.0118 177.2768	Indicative cost assumes two 50kW chargers (total 100kW) connected to the transformer, and excludes any transformer upgrade work.
	33O122	300	100	\$70,000	Child Centre Street parking	-38.0059 177.2833	Indicative cost assumes two 50kW chargers (total 100kW) connected to the transformer, and excludes any transformer upgrade work.
Te Kaha	40F016	500	Upgraded transformer to supply required charging demand	\$145,000	Te Kaha Beach Resort Parking	-37.7405 177.6747	There is an existing EV charger at the location. There is a lack of distribution transformers at Te Kaha. Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 102kW EV capacity
Waimana	29T009	200	Upgraded transformer to supply required charging demand	\$105,000	Waimana road street parking	-38.1433 177.0766	There is only one distribution transformer in Waimana township (near the commercial area - a dairy). The transformer does not have sufficient capacity for the new load. Indicative cost includes the cost of upgrading the transformer. The upgraded transformer would have sufficient capacity to supply the required 44kW EV capacity

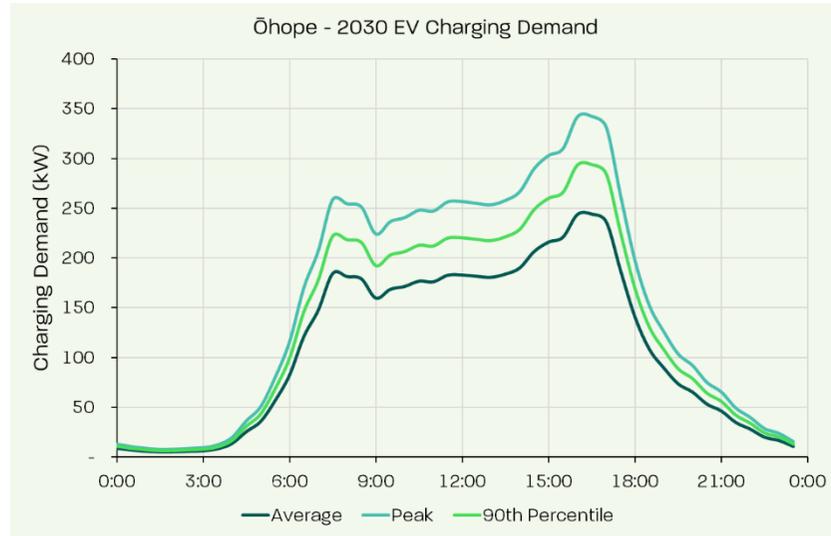
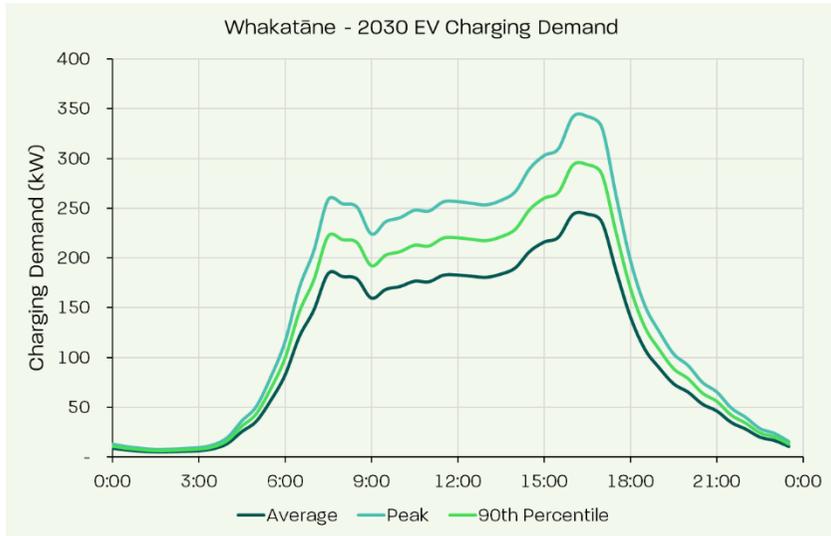
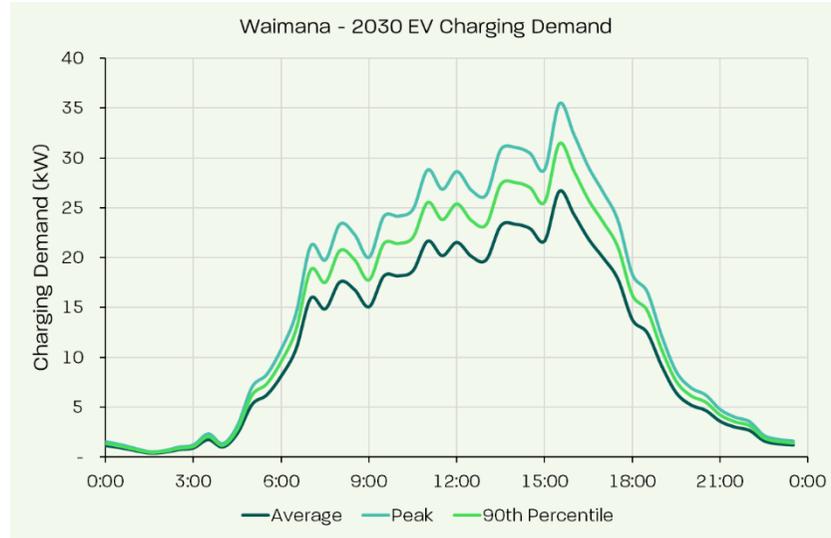
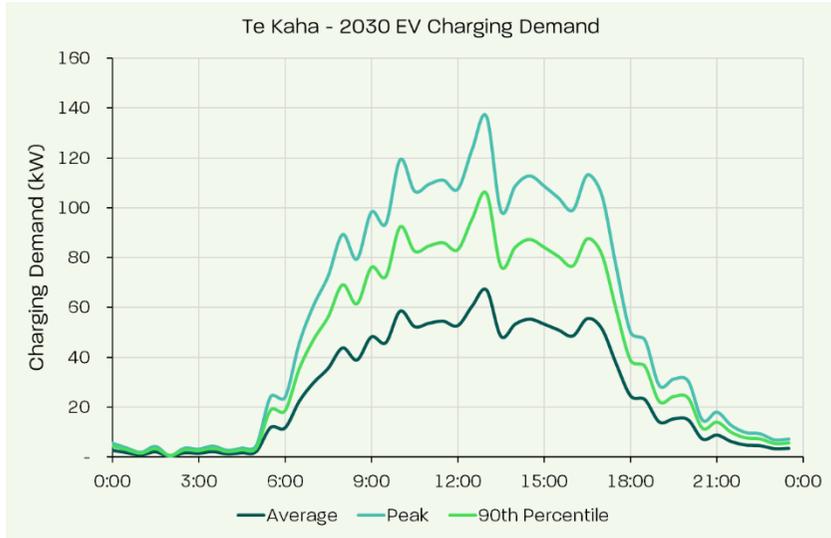


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Whakatāne	Sufficient charging capacity already						
Ōhope	29M037	300	100	\$40,000	Ohope Beach School Car Park	-37.9692 177.0495	Although the transformer provides the lowest connection cost, it is further away from the commercial area (i.e. shops, etc). We recommend an EV charger be installed at 28M044 (Mahy Reserve Car Park). Indicative cost assumes one 50kW charger connected to the transformer, and excludes any transformer upgrade work
	28M044	500	250	\$50,000	Mahy Reserve Car Park	-37.9626 177.0337	We recommend that an EV charger be installed at this transformer (Mahy Reserve Car Park). Indicative cost assumes one 50kW charger connected to the transformer, and excludes any transformer upgrade work

B.5.2 Horizon Energy – 2030 Demand Profile







B.6 Northpower

B.6.1 Northpower – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Dargaville	65	96	35	30	61	4:30:00 PM	1.49	10%
Ruawai	95	140	0	95	140	4:00:00 PM	1.47	20%
Waipu/Ruakākā	537	1271	35	502	1236	4:30:00 PM	2.37	15%
Whangārei	716	1694	1246	-530	448	4:30:00 PM	2.37	20%
Mangawhai	80	191	112	-32	79	4:30:00 PM	2.37	15%

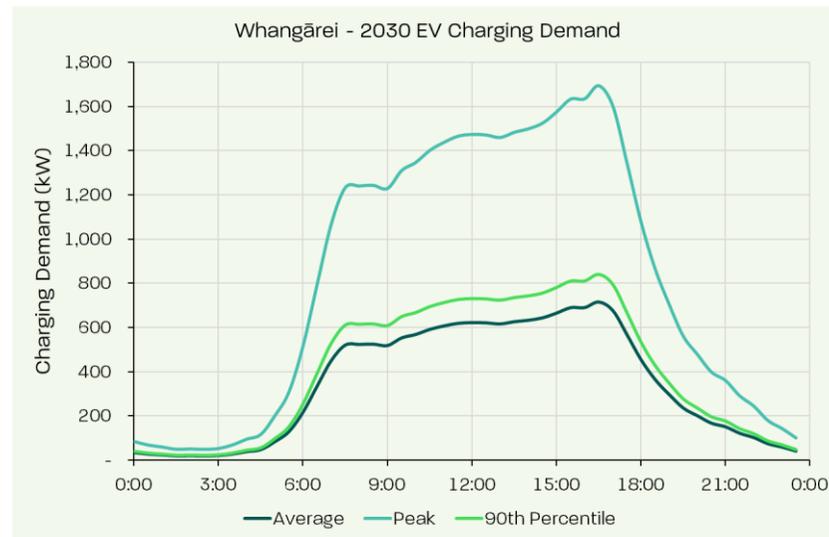
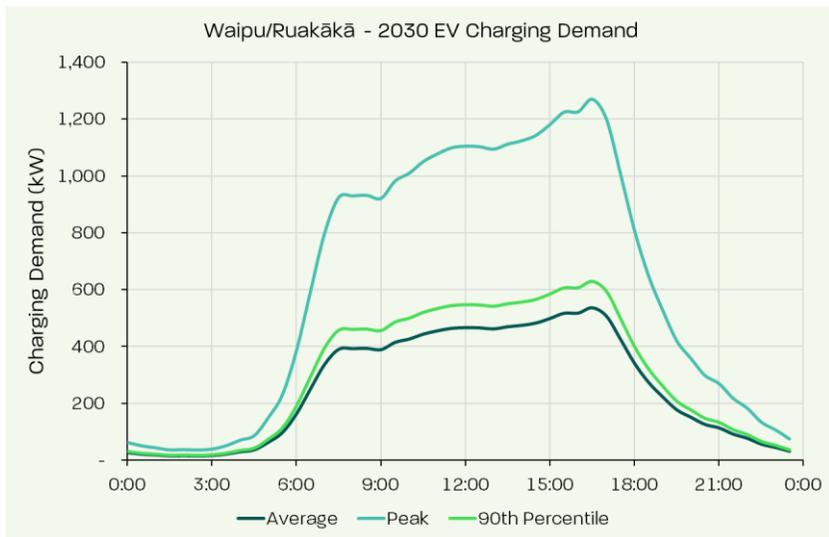
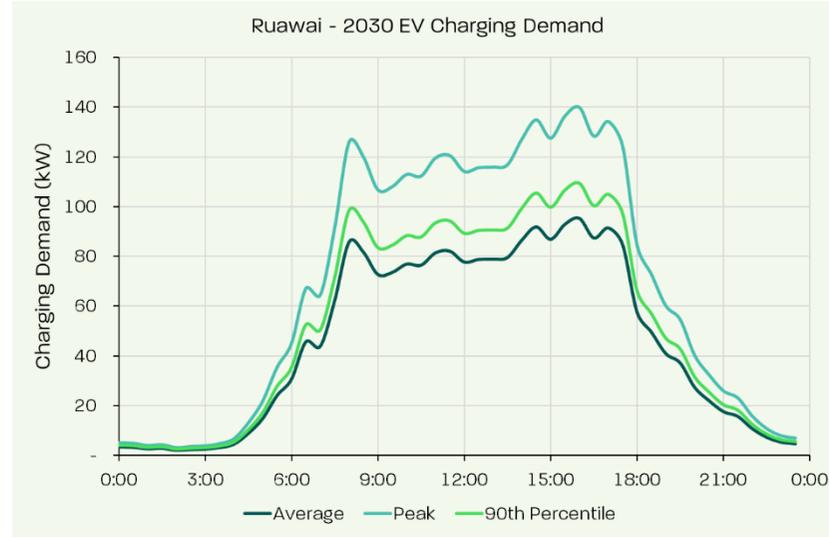
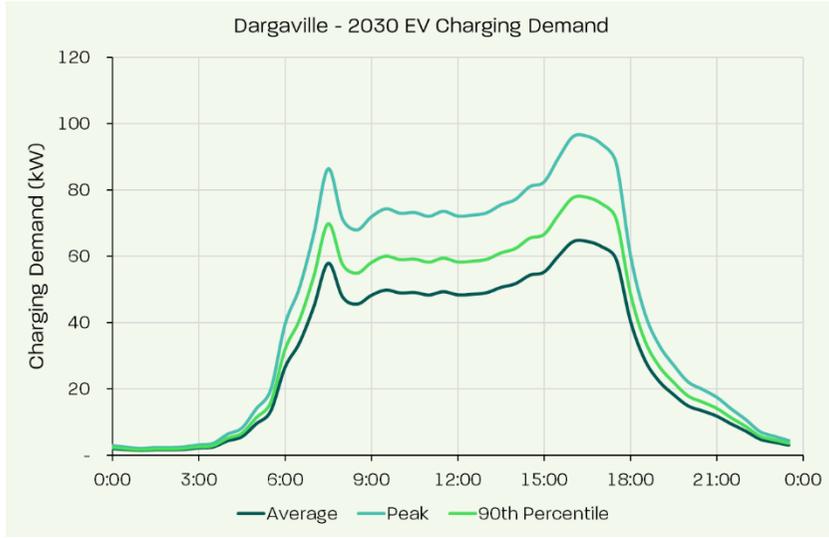
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Dargaville	DA90	200	174	\$26,000	Woolworths Car Park	-35.9398 173.8732	100% Smart meter penetration. Cable length 8m.
	DA69	150	136	\$31,000	Warehouse Car Park	-35.9398 173.8732	100% Smart meter penetration. Cable length 30m.
	DA26	500	450	\$36,000	Totara Street Car Park	-35.9405 173.8720	38% Smart meter penetration. Cable length 30m.
	DA48	300	187	\$27,000	Parenga Street Car Park	-35.9412 173.8709	39% Smart meter penetration. Cable length 10m.
	DA18	200	83	\$27,000	Victoria Street	-35.9432 173.8688	44% Smart meter penetration. Cable length 10m.
Ruawai	F204	200	132	\$38,000	Reeves Street	-36.1352 174.0221	57% Smart meter penetration. Cable length 35m.
	F205	300	200	\$67,000	SH12 Freyburg Street	-36.1363 174.0242	56% Smart meter penetration. Cable length 100m.
	F208	150	57	\$33,000	SH12 Freyburg Street	-36.1356 174.0249	56% Smart meter penetration. Cable length 25m.

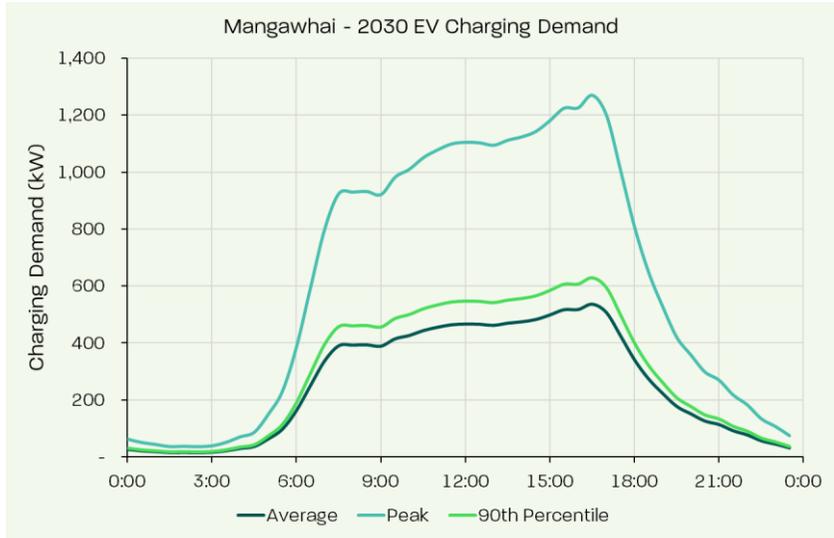


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Waipu/Ruakākā	RR311	200	97	\$31,000	The Centre Waipu	-35.9845 174.4456	50% Smart meter penetration. Cable length 20m
	RR256	200	124	\$54,000	The Centre Waipu	-35.9847 174.4467	40% Smart meter penetration. Cable length 70m.
	R0222	150	119	\$36,000	SH1/15 Junction Ruakaka	-35.8926 174.4337	55% Smart meter penetration. Cable length 30m
	RP844	500	389	\$55,000	Marsden Point Road Ruakaka	-35.8752 174.4559	54% Smart meter penetration. Cable length 73m.
	RR145	150	68	\$42,000	Cove Road Waipu Cove	-36.0297 174.5071	60% Smart meter penetration. Cable length 45m
Whangārei	WC279	300	120	\$40,000	Okara Park	-35.7307 174.3281	21% Smart meter penetration. Cable length 40m.
	WC209	500	425	\$29,000	Robert Street	-35.7232 174.3218	32% Smart meter penetration. Cable length 15m
	WC443	300	193	\$63,000	Water Street	-35.7261 174.3181	26% Smart meter penetration. Cable length 90m
	WC262	300	240	\$24,000	Pak N Save	-35.7247 174.3244	77% Smart meter penetration. Cable length 5m.
	WC350	500	400	\$31,000	Vine Street	-35.7270 174.3203	37% Smart meter penetration. Cable length 20m.
Mangawhai	MC253	200	159	\$112,000	Mangawhai heads beach	-36.0805 174.5959	71% Smart meter penetration. Cable length 200m
	MC573	200	170	\$108,000	Mangawhai heads Holiday Park	-36.0871 174.5896	70% Smart meter penetration. Cable length 191m
	MC208	200	138	\$99,000	Mangawhai heads Wood street	-36.0950 174.5871	51% Smart meter penetration. Cable length 170m
	MC334	1000	954	\$27,000	Mangawhai Main street Car park	-36.1115 174.5731	94% Smart meter penetration. Cable length 10m
	MC344	200	160	\$43,000	Mangawhai Moir Street Car park	-36.1259 174.5758	59% Smart meter penetration. Cable length 47m



B.6.2 Northpower – 2030 Demand Profile





B.7 Powerco

B.7.1 Powerco – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Bulls	486	690	1022	-536	-332	4:30:00 PM	1.42	15%
Carterton/Greytown	224	308	0	224	308	5:00:00 PM	1.38	10%
Coromandel	97	186	35	62	151	2:30:00 PM	1.91	20%
Featherston	239	447	280	-41	167	4:30:00 PM	1.87	15%
Feilding	64	134	35	29	99	5:00:00 PM	2.08	10%
Hāwera	216	290	35	181	255	5:00:00 PM	1.35	10%
Hunterville	175	294	0	175	294	2:30:00 PM	1.68	15%
Kakatahi	38	55	0	38	55	4:00:00 PM	1.43	15%
Martinborough	111	379	0	111	379	11:30:00 AM	3.40	15%
Masterton	224	308	594	-370	-285	5:00:00 PM	1.38	10%
Matarangi	55	91	0	55	91	11:30:00 AM	1.65	20%
New Plymouth	472	702	1932	-1460	-1230	4:30:00 PM	1.49	20%
Ōmōkoroa	364	520	0	364	520	4:00:00 PM	1.43	15%
Ōpunake	72	98	35	37	63	3:00:00 PM	1.37	20%
Paeroa	396	791	476	-80	315	2:30:00 PM	2.00	20%
Pahiatua	98	156	35	63	121	2:30:00 PM	1.59	15%
Palmerston North	809	1226	504	305	722	5:00:00 PM	1.52	20%
Pauanui	50	102	70	-20	32	11:30:00 AM	2.06	15%
Putāruru	308	510	196	112	314	3:00:00 PM	1.65	15%
Stratford	354	526	238	116	288	4:30:00 PM	1.49	15%
Taihape	268	494	1187	-918	-693	2:30:00 PM	1.84	20%
Tauranga	1026	1546	2660	-1634	-1114	4:00:00 PM	1.51	20%
Thames	179	313	315	-136	-2	3:00:00 PM	1.75	20%
Tirau	555	761	543	12	218	4:00:00 PM	1.37	20%
Tokoroa	362	1033	182	180	851	4:30:00 PM	2.86	20%

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Waihi	396	791	175	221	616	2:30:00 PM	2.00	20%
Waiouru	303	755	546	-243	209	1:30:00 PM	2.49	25%
Waverley	118	231	35	83	196	2:30:00 PM	1.96	15%
Whangamatā	143	238	35	108	203	3:30:00 PM	1.67	20%
Whangamōmona	17	43	0	17	43	2:00:00 PM	2.49	40%
Whanganui	369	465	420	-51	45	4:30:00 PM	1.26	20%
Whitianga	61	129	315	-254	-186	3:00:00 PM	2.13	20%
Te Puke	154	232	35	119	197	4:00:00 PM	1.51	20%
Papamoa	154	232	53	101	179	4:00:00 PM	1.51	20%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Bulls	Sufficient charging capacity already						
Carterton/ Greytown	T4235	750	200	\$59,000	52 High Street South, Carterton	-41.0257 175.5266	New World Supermarket carpark
	T4209	500	100	\$32,000	80 Holloway Street, Carterton	-41.0261 175.5294	EV charger presently on site next to Events centre
	T1507	200	50	\$75,000	190/201 High Street North Wairarapa Carterton	-41.0212 175.5306	Challenge Petrol Station
	T1440	200	50	\$73,000	Memorial Square-Park Road, Carterton	-41.0236 175.5297	Memorial Square, Park Road
	T1512	200	50	\$37,000	35-37 Broadway, Carterton	-41.0236 175.5274	Memorial Club Carterton



Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Coromandel	TC3772	300	100	\$35,000	44 Woollams Avenue, Coromandel	-36.7591 175.4986	EV charger exists. Trust Waikato Events Centre
	TC6324	500	150	\$14,000	50 Wharf Road, Coromandel	-36.7602 175.4964	Four Square Coromandel
	TC1260	200	50	\$18,000	2311 Colville Road, Colville, Coromandel-Colville	-36.6347 175.4766	Colville Public Hall
Featherston	T2579	200	50	\$80,000	59 Underhill Rd, Featherston	-41.1112 175.3276	South Wairarapa Sports Hub and Tennis centre car park
	T4713	300	150	\$15,000	43 Fitzherbert St	-41.1172 175.3259	Existing EV charging site supermarket carpark
	T2195	200	50	\$55,000	57 Fox St, Featherston	-41.1174 175.3279	Public toilet carpark, near RSA
	T1829	200	50	\$60,000	Lyon St/Fitzherbert St intersection	-41.1178 175.3272	Onroad parking near Fell Locomotive museum
Feilding	7363P	1000	300	\$80,000	42 Aorangī Street, Feilding	-40.2282 175.5697	EV charger exists. New World supermarket
	T3/553	200	50	\$22,000	147, Cnr Kimbolton &, Weld Street, Feilding	-40.2250 175.5689	Woolworths carpark/ The Warehouse carpark
	7405P	750	250	\$40,000	15 Eyre Street, Feilding	-40.2275 175.5679	Bunnings Warehouse Feilding
	T3/575	500	150	\$18,000	59 South Street Feilding	-40.2333 175.5592	Manfeild Park Event Centre
	T3/334	750	100	\$21,000	15 Fergusson Street, Feilding	-40.2279 175.5636	Near Vision Church carpark

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Hāwera	C3085	500	250	\$27,000	Cnr South Road and, Princes Street, Hāwera 4610	-39.5936 174.2814	EV charger exists, Z Petrol station
	5000E	750	200	\$26,000	42 High Street, Hawera	-39.5893 174.2852	Council car park
	5252E	500	50	\$16,000	49 Victoria Street, Hawera	-39.5889 174.2798	Little Regent St carpark
	5305E	500	150	\$55,000	275 High Street, Hāwera	-39.5879 174.2771	Carpark across from Warehouse
	C3010/T1	500	200	\$50,000	39 Nelson Street, Hāwera 4610	-39.5876 174.2821	Woolworths carpark
Hunterville	Z61W	300	150	\$77,000	7 Milne Street, Hunterville	-39.9378 175.5688	Car park on Milne St
	Z60W	300	50	\$40,000	22 Bruce Street, Hunterville	-39.9356 175.5670	Car park on Bruce St
	Z6511W	100	50	\$52,000	1 High Street, Hunterville	-39.9367 175.5696	Car park on High St
	Z118W	200	50	\$25,000	Cnr Ongo/Wilson Rd, Hunterville	-39.9315 175.5636	On rural road. Will need carpark developed
Kakatahi	No suitable sites identified						
Martinborough	T4222	750	300	\$43,000	37-39 Naples Street, Martinborough	-41.2188 175.4581	Four Square & Mitre 10
	T1831	200	50	\$52,000	13/17 Kitchener Street, Martinborough	-41.2173 175.4580	BP petrol station SH53
	T1899	300	100	\$55,000	52 Naples St, Martinborough	-41.2196 175.4582	Four Square supermarket carpark
Masterton	Sufficient charging capacity already						



Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Matarangi	TP379	200	50	\$38,000	195 Matarangi Drive, Matarangi	-36.7334 175.6624	Four Square
	TC5001	300	100	\$19,000	741 Matarangi Drive, Matarangi	-36.7298 175.6465	Golf course parking
	TP2098	100	50	\$64,000	1237 Whangapoua Road, Te Rerenga	-36.7549 175.5972	Te Rerenga school
New Plymouth	Sufficient charging capacity already						
Ōmokoroa	TP4209	1000	300	\$19,000	137 Hamurana Road, Omokoroa Beach, Ōmokoroa	-37.6412 176.0374	EV charger exists. Village Green carpark
	TP2864	300	50	\$45,000	160 Omokoroa Road, Ōmokoroa	-37.6413 176.0387	Freshchoice supermarket carpark
	TP717	500	100	\$56,000	2/170 Omokoroa Road, Ōmokoroa	-37.6422 176.0381	Omokoroa medical centre
	TC3-110	200	50	\$94,000	21-43 Western Avenue, Ōmokoroa	-37.6463 176.0279	Omokoroa library public toilet carpark
	TC3-130	200	50	\$61,000	134 Hamurana Rd, Omokoroa	-37.6397 176.0374	CHT Acacia Park Care Home carpark
Ōpunake	X5007:E	300	150	\$41,000	12-26 Heaphy Road, Ōpunake	-39.4511 173.8507	Events Centre
	X5620:E	200	100	\$24,000	31 King Street, Ōpunake	-39.4536 173.8601	EV charger existing
Paeroa	TC2826	750	100	\$62,000	27 Belmont Rd, Paeroa	-37.3783 175.6685	Woolworths supermarket carpark
	TC1699	300	50	\$77,000	1 Willoughby St, Paeroa	-37.3789 175.6705	Offstreet parking Paeroa Domain
	TC3259	200	50	\$41,000	Cnr William St & Railway St	-37.3794 175.6669	Public carpark
	TC3719	300	100	\$110,000	2 Seymour St, Paeroa	-37.3755 175.6680	Paeroa L&P Café carpark
	TC3722	500	150	\$70,000	4 Queen St, Paeroa	-37.3817 175.6700	Paeroa Medical centre carpark



Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Pahiatua	7525P	200	50	\$22,000	26 Sedcole Street, Pahiatua	-40.4528 175.8429	New World carpark
	T7/427:P	300	50	\$28,000	85/89 Main Street, Pahiatua	-40.4520 175.8420	EV charger exists. NZ Post/Kiwi bank
	T7/415:P	250	150	\$18,000	1-3 Tui Street, Pahiatua	-40.4510 175.8403	Road side car parkin along Tui st
Palmerston North	G149	500	50	\$37,000	56 Albany Dr, Turitea	-40.3919 175.6241	New World Pioneer supermarket carpark
	G252	750	250	\$90,000	11 Donnington St, Palmerston North Central	-40.3566 175.6160	Donnington St carpark
	G224	500	150	\$48,000	50 Pascal St, Palmerston North	-40.3571 175.5999	Central Energy Trust Arena carpark (Gate 4)
	G19T2	750	200	\$39,000	220 Featherston St, Palmerston North	-40.3504 175.6054	Woolworths Rangitikei supermarket carpark
	T6/581	1500	400	\$52,000	47 Railway Rd, Palmerston North	-40.3283 175.6278	CityFitness carpark
Pauanui	TC5819	200	50	\$22,000	16/7 Centreway, Pauanui	-37.0240 175.8599	Carpark near Freshchoice Supermarket
	TP1279	200	50	\$61,000	Hikuauai Settlement Rd, Pauanui	-37.0324 175.8580	Carpark near Public toilet, tennis courts & playground
Putāruru	TC3723	300	50	\$74,000	107 Tirau Street, Putāruru	-38.0451 175.7822	Waitomo petrol station. The Wooden Farmer restaurant
	TP4327	500	200	\$17,000	68/70 Tirau Street, Putāruru	-38.0474 175.7805	EV charger exists. Z Station
	TC2735	750	250	\$33,000	27-29 Kensington Street, Putāruru	-38.0497 175.7797	Road side car park along Kensington st. Putaruru food court
	TC2607	250	50	\$74,000	2 Overdale Street, Putāruru	-38.0509 175.7779	Putaruru public library parking
	TC640	200	50	\$37,000	2331 State Highway 1, Lichfield	-38.0696 175.7903	Timber Museum carpark

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Stratford	2010T	750	200	\$31,000	Cnr Broadway and Regan St, Stratford	-39.3378 174.2836	Existing Z charging station on site.
	2065T	300	50	\$42,000	90 Broadway, Stratford	-39.3346 174.2831	Caltex gas station
	2097T	300	100	\$21,000	62 Portia St, Stratford	-39.3406 174.2822	TET Multi Sports Centre carpark
	4849T	500	200	\$41,000	311 Broadway, Stratford	-39.3408 174.2851	Carparks near cnr Fenton St/Broadway
Taihape	Sufficient charging capacity already						
Tauranga	Sufficient charging capacity already						
Thames	Sufficient charging capacity already						
Tirau	TP3325	200	100	\$12,000	5A Station Rd, Tirau	-37.9782 175.7586	Existing EV charging station in carpark
	TP2797	200	50	\$94,000	65 Main Rd, Tirau	-37.9767 175.7566	Tirau Information Centre
	TC3784	300	100	\$116,000	11 Goodwin St, Tirau	-37.9753 175.7567	Tirau Swimming Pool carpark
	TC3721	300	50	\$104,000	4-2 Rose St, Tirau	-37.9797 175.7599	Carparks along Rose St
	TC3713	300	50	\$62,000	6 Main Rd, Tirau	-37.9806 175.7598	Waikato Draught tavern carpark
Tokoroa	TC3182	750	200	\$87,000	235 Leith Place, Tokoroa	-38.2187 175.8733	Tokoroa Town centre
	TC1824	600	200	\$18,000	58 Mannering Street, Tokoroa	-38.2178 175.8699	Rear car park of South Waikato District Libraries
	TC1156	750	250	\$18,000	1 Osullivan Drive	-38.2198 175.8727	The Warehouse Tokoroa
	TP4112	500	100	\$44,000	32 Chambers Street, Tokoroa	-38.2142 175.8698	Toi Ohomai
	TC3473	500	150	\$15,000	25 Mossop Road, Tokoroa	-38.2222 175.8769	South Waikato Events



Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Waihi	TC3748	500	200	\$20,000	5 Silverton Road, Waihi	-37.3923 175.8402	Silverton Rd carpark with existing chargers
	TC5364	300	100	\$20,000	3 Devon Street, Waihi	-37.3930 175.8388	New World - ChargeNet existing
	TC3839	300	100	\$14,000	28 Haszard Street, Waihi	-37.3919 175.8415	Waihi Events Centre
	TC4459	300	50	\$14,000	Cnr of School Lane and Seddon St	-37.3915 175.8397	School Lane
	TC1238	500	200	\$20,000	6 Mueller Street, Waihi	-37.3910 175.8428	Hauraki DC car park
	TC16159	200	50	\$92,000	Toomey Street, Waihi	-37.3930 175.8292	Waihi Lifecare carpark
Waiouru	X3072	750	400	\$36,000	State Highway One &, Hassett Drive, Waiouru	-39.4809 175.6706	Waiouru military museum - rear carpark
	4906W	100	50	\$15,000	State Highway One &, Hassett Drive, Waiouru	-39.4812 175.6696	Waiouru military museum - existing ChargeNet EV charger
	4753W	200	50	\$40,000	11 State Highway 1, Waiouru	-39.4795 175.6696	EV charger exists. Z service station
	X730	300	100	\$47,000	30 State Highway 1, Waiouru	-39.4783 175.6685	Subway carpark
	3130W	300	50	\$56,000	2 Ngauruhoe Street, Waiouru	-39.4772 175.6670	Waiouru Welcome Inn carpark
Waverley	X2258	300	100	\$39,000	1 Chester Street, Waverley	-39.7631 174.6355	Existing charger
	X307	300	100	\$44,000	117 Weraroa Road, Waverley	-39.7643 174.6307	Road car park around 117 Weraroa Rd SH3
	2422W	300	100	\$78,000	5182 Gloag Street, Waverley	-39.7629 174.6301	Road car park along Gloag St, near Waverley Primary School

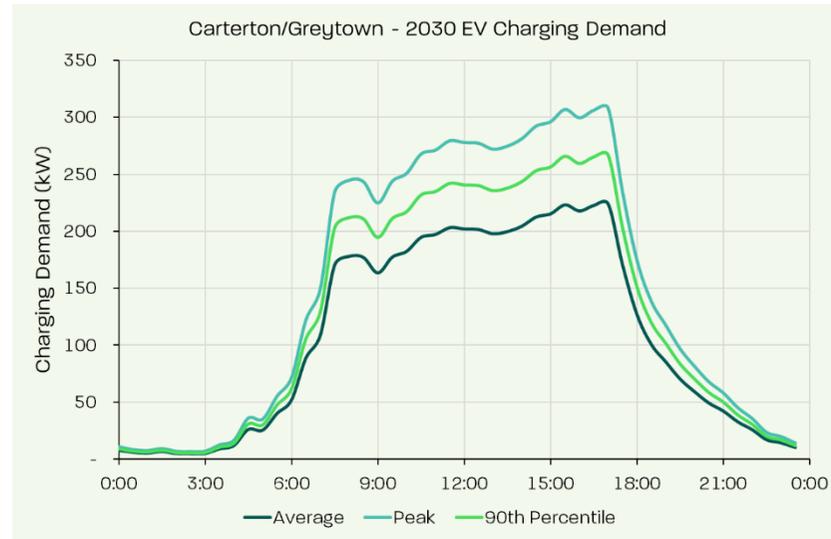
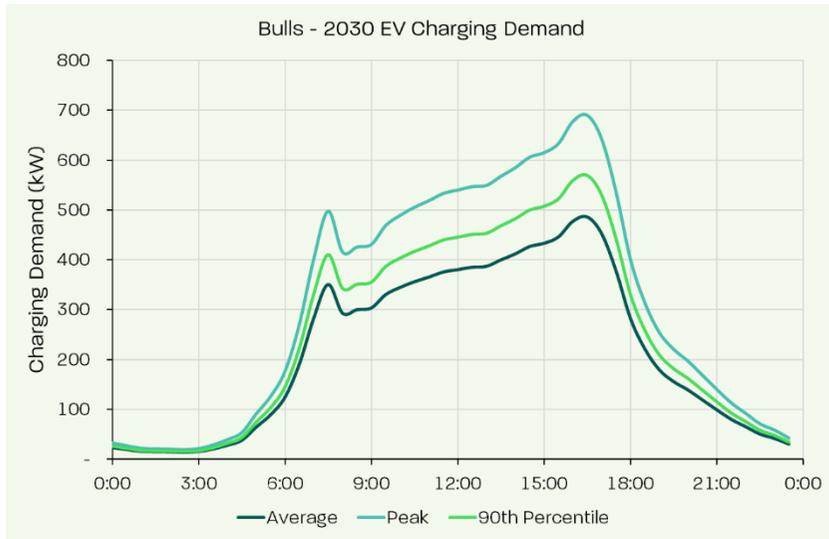


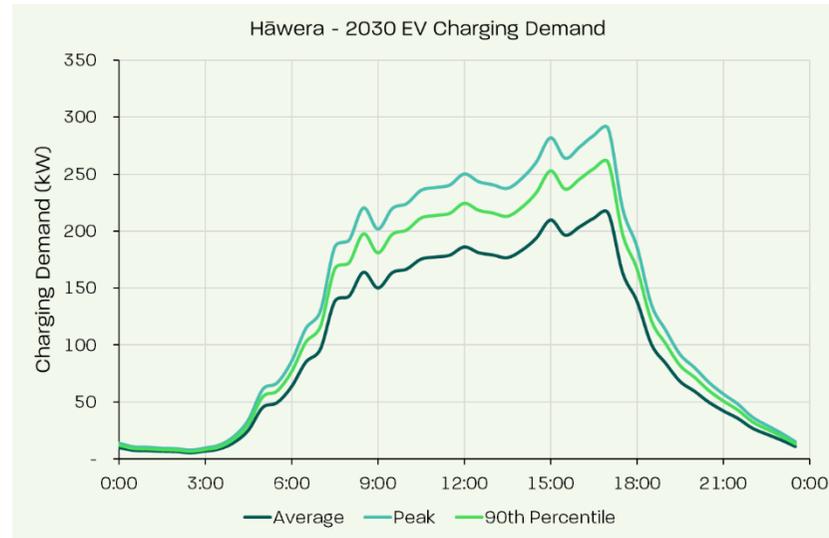
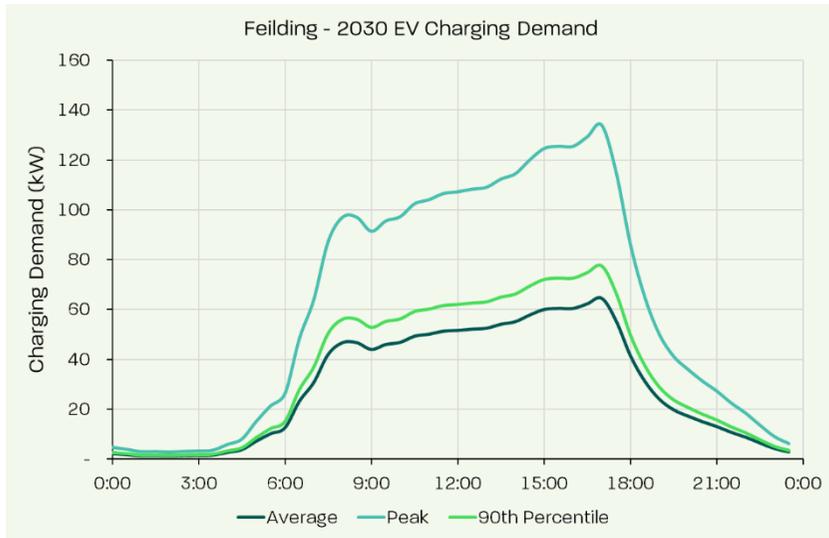
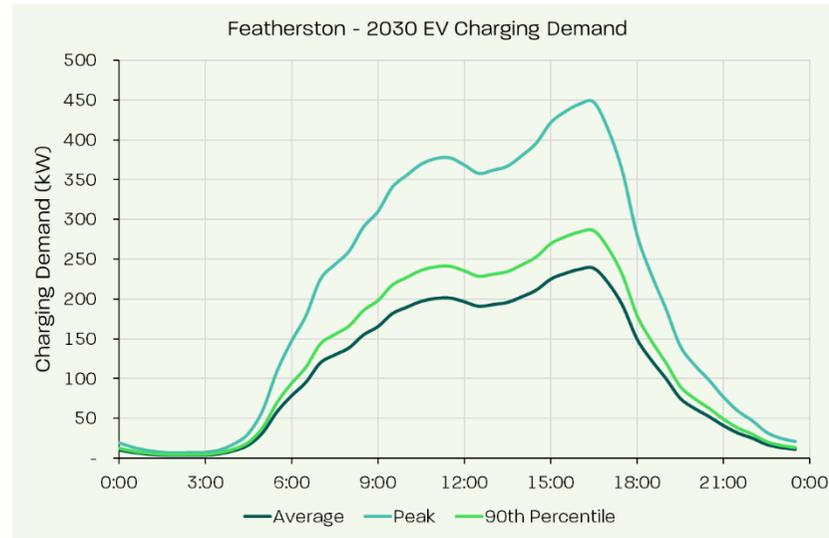
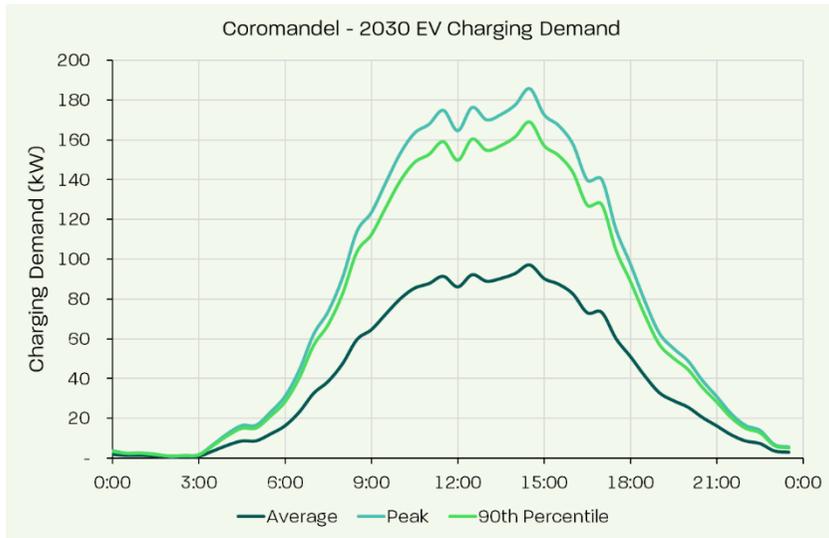
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Whangamatā	TC6347	500	100	\$13,000	330 Port Road, Whangamatā	-37.2109 175.8691	RSA
	TP819	500	100	\$61,000	308 Aickin Road, Whangamatā	-37.2021 175.8677	New World carpark
	TC3812	300	50	\$13,000	100A Lincoln Road, Whangamatā	-37.2060 175.8714	Lincoln Rd car park
Whangamōmona	4106T	100	50	\$38,000	6018 Ohura Road, Whangamōmona	-39.1447 174.7359	Near townhall or hotel
	5139T	100	50	\$50,000	6018 Ohura Road, Whangamōmona	-39.1450 174.7359	Accommodation carpark
Whanganui	3164W	200	50	\$27,000	220 London St, Springvale, Whanganui	-39.9307 175.0300	Springvale Sports Centre carpark
	4854W	200	50	\$12,000	185 London St, Whanganui	-39.9303 175.0318	BP service station with existing charging site
	1459W	750	250	\$22,000	170 Glasgow St	-39.9259 175.0389	Woolworths supermarket carpark
	3180W	500	100	\$25,000	265 Victoria St	-39.9291 175.0448	Carpark KFC
Whitianga	Sufficient charging capacity already						
Te Puke	TE5-055	500	100	\$17,000	143 Jellicoe Street, Te Puke	-37.7838 176.3249	Woolworths carpark
	TE5-213	500	100	\$50,000	5 Queen Street, Te Puke	-37.7856 176.3273	Mitre10
	TE5-099	500	100	\$50,000	40 Atuaroa Avenue, Te Puke	-37.7800 176.3075	Te Puke Sports Parking Lot
	TE5-056	300	50	\$85,000	3 Belvedere Street, Te Puke	-37.7830 176.3204	RSA

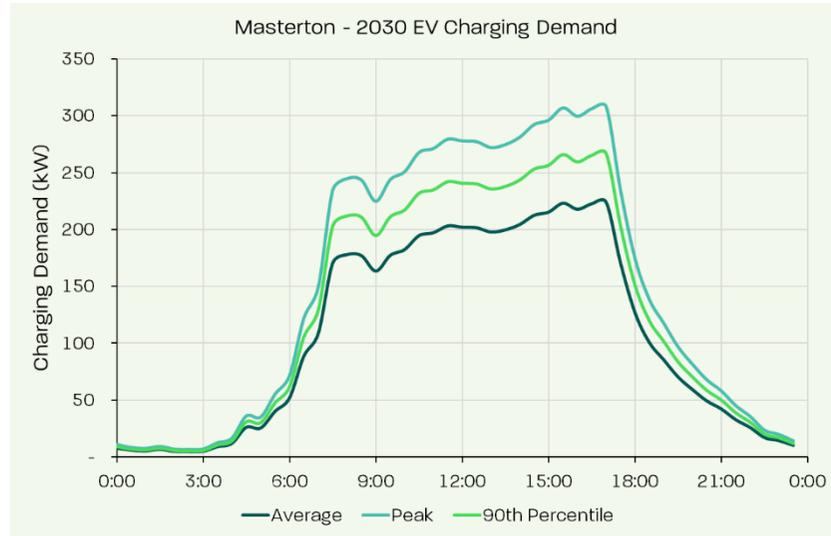
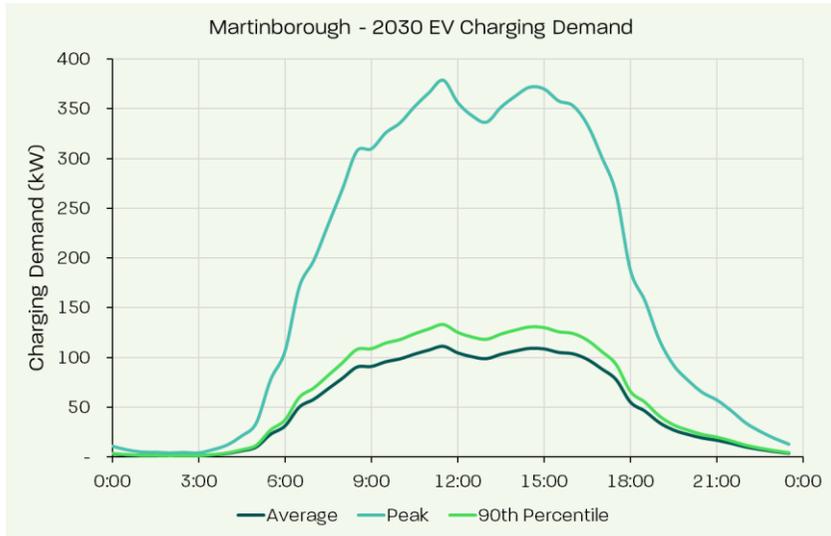
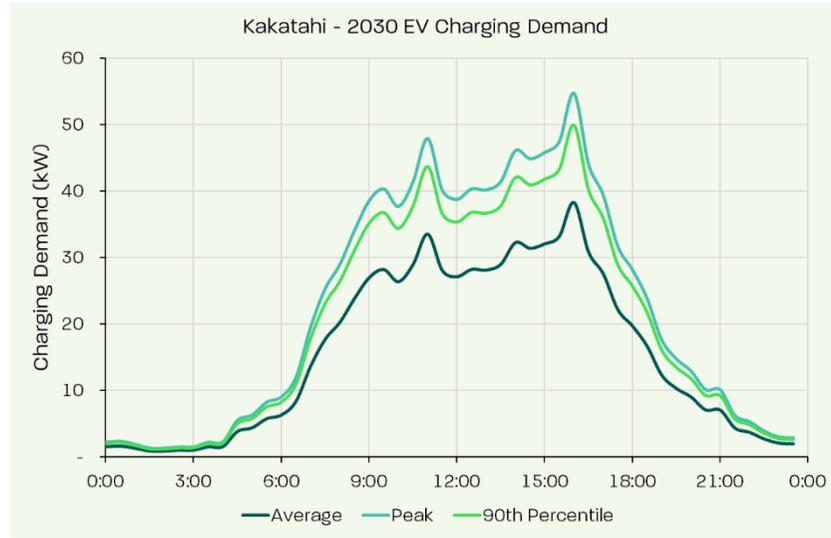
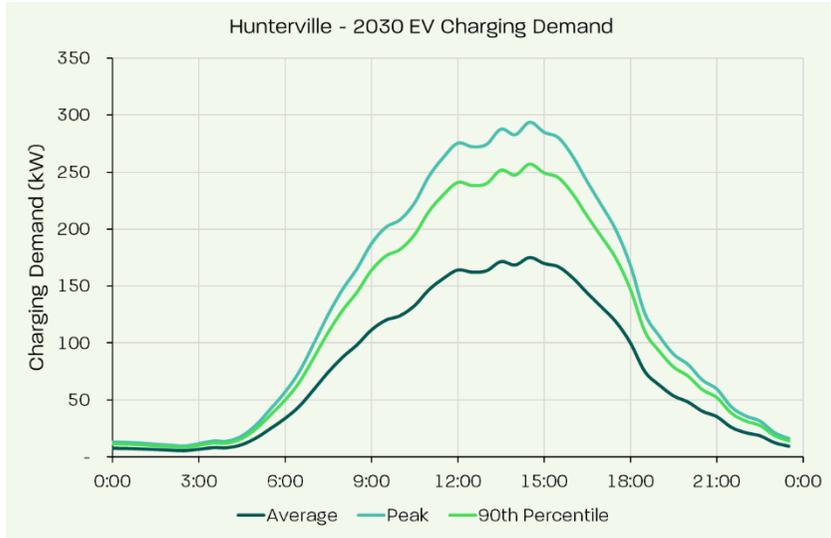


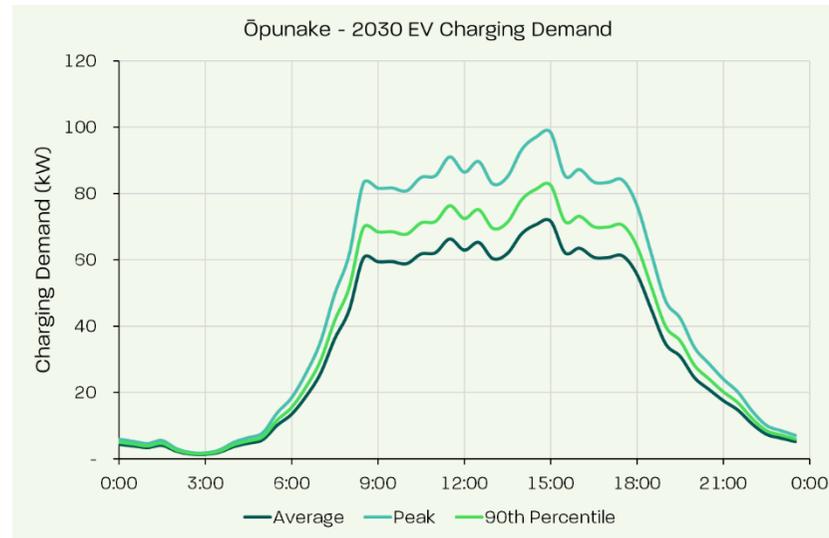
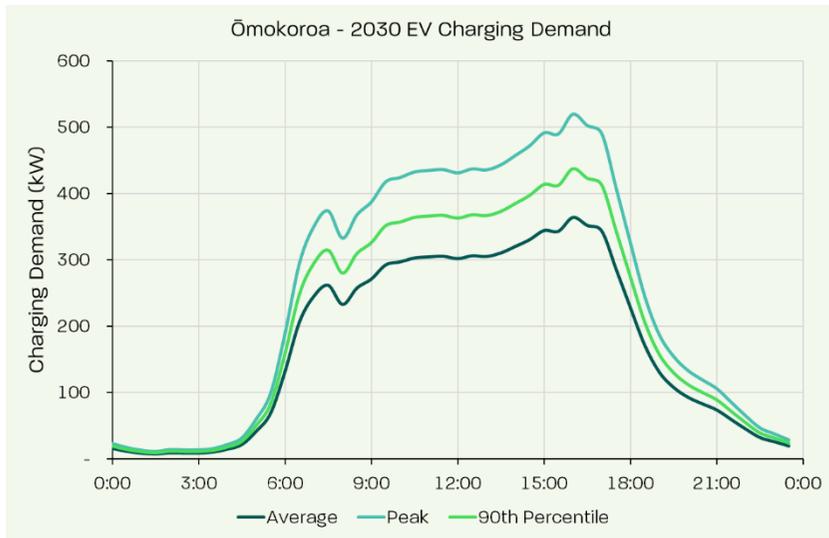
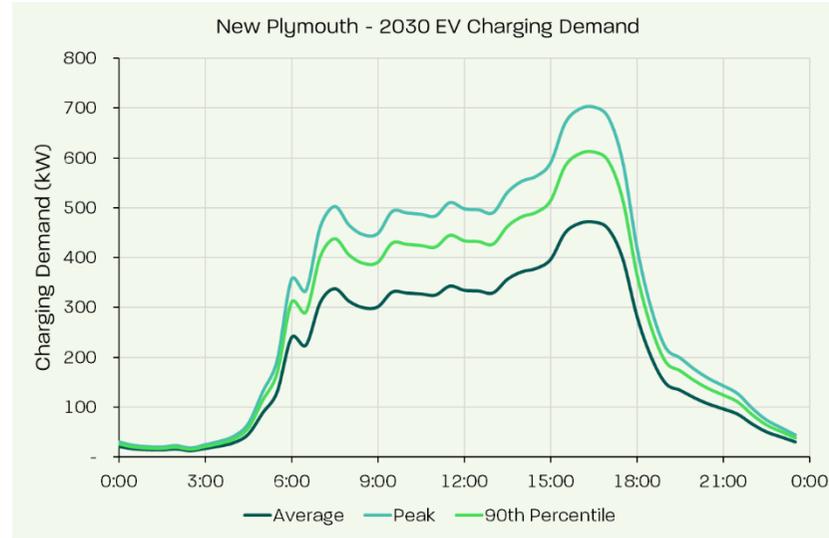
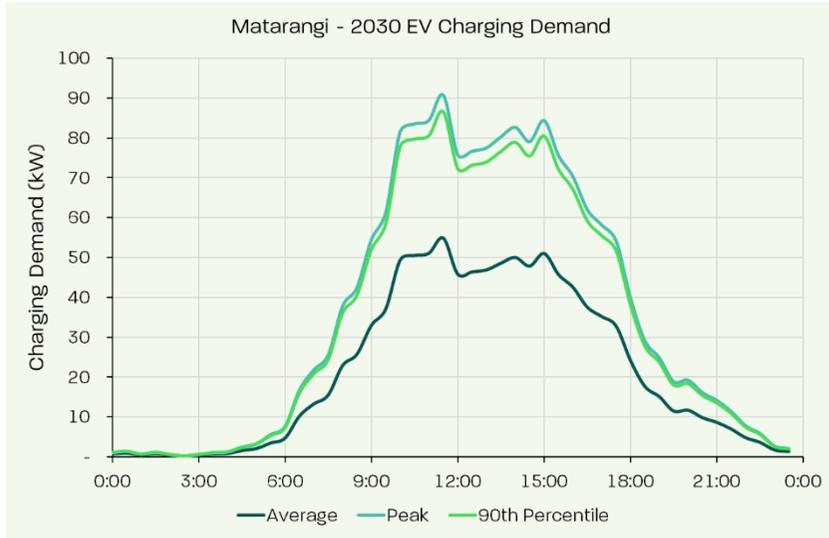
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Papamoa	T4634	200	50	\$42,000	Alice Lane, Papamoa Beach, Papamoa	-37.7117 176.3061	Parking lot on Alice Lane, Papamoa Beach
	TP4386	1000	150	\$85,000	255 The Boulevard, Papamoa Beach, Papamoa	-37.7276 176.3478	New World The Sands
	TP3368	500	50	\$41,000	4 Golden Sands Drive, Papamoa Beach, Tauranga	-37.7181 176.3415	EV charger exists on the car park. Excelsa carpark
	TD5-265	750	50	\$14,000	7 Gravatt Road, Papamoa Beach, Tauranga 3118	-37.6997 176.2841	Papamoa Plaza carpark
	TP761	750	150	\$14,000	7 Gravatt Road, Papamoa Beach, Tauranga 3118	-37.6989 176.2819	Pathlab Papamoa Plaza

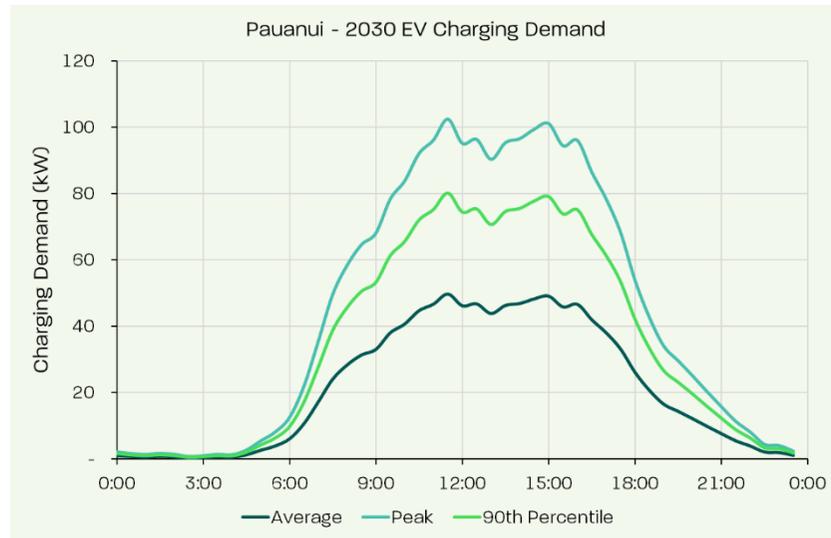
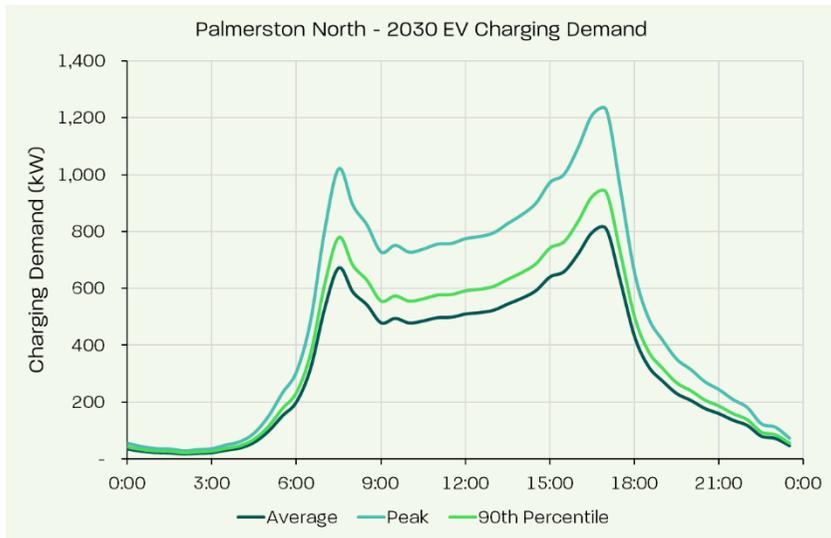
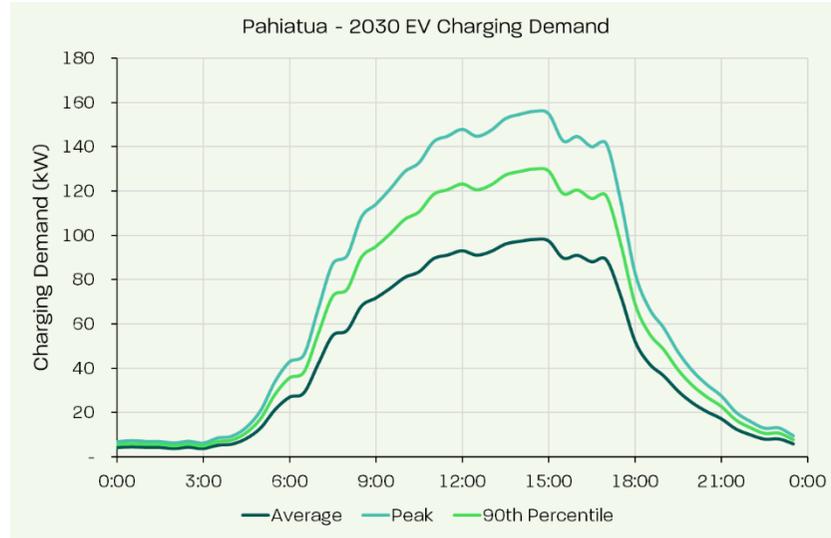
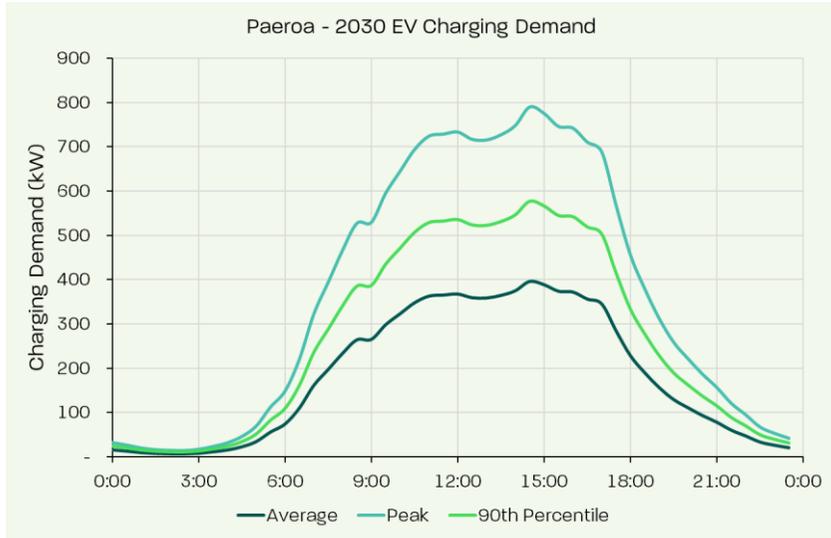
B.7.2 Powerco – 2030 Demand Profile

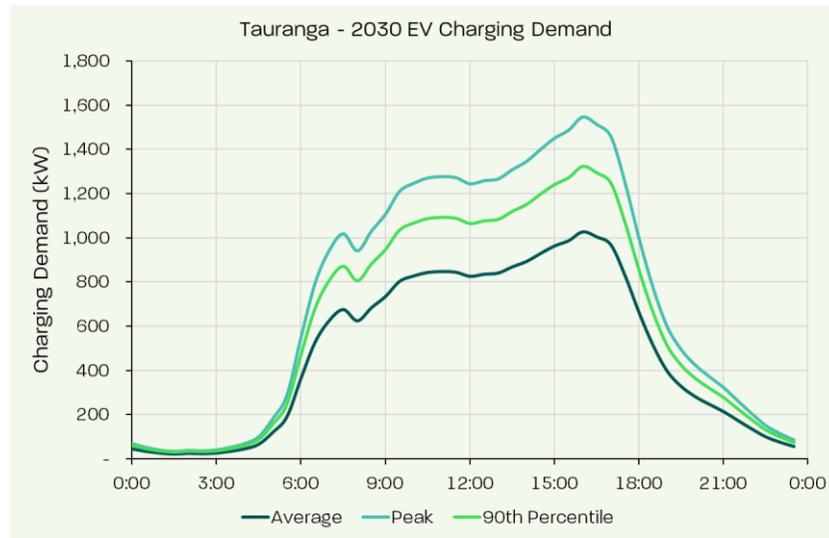
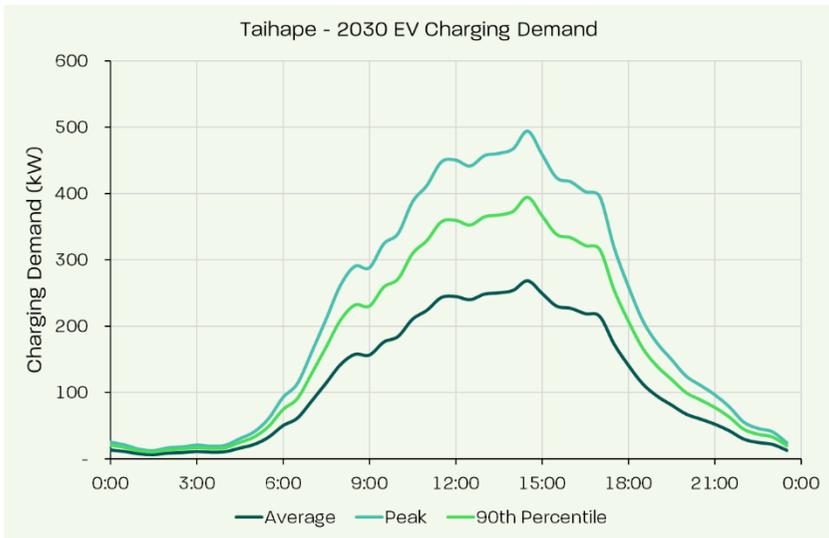
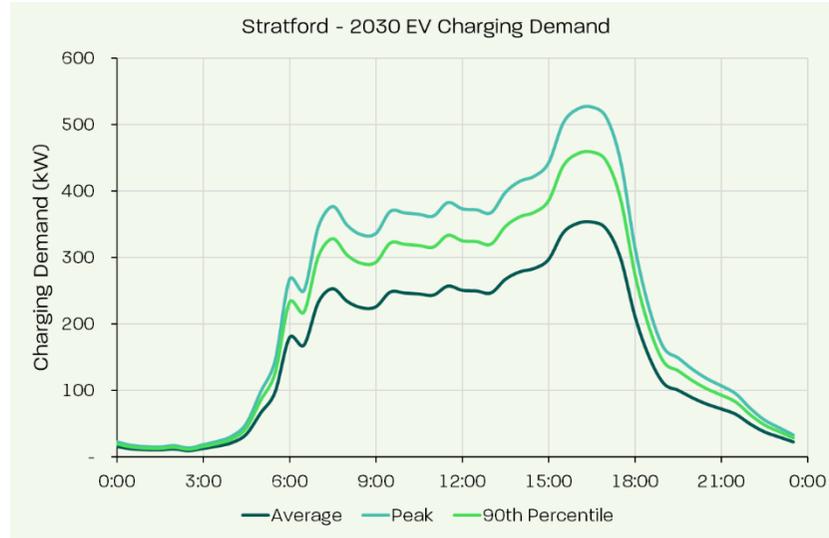
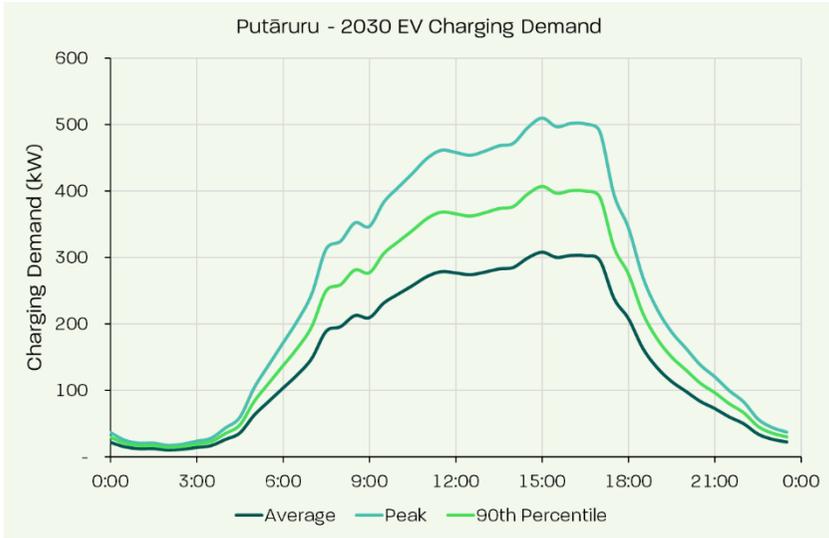


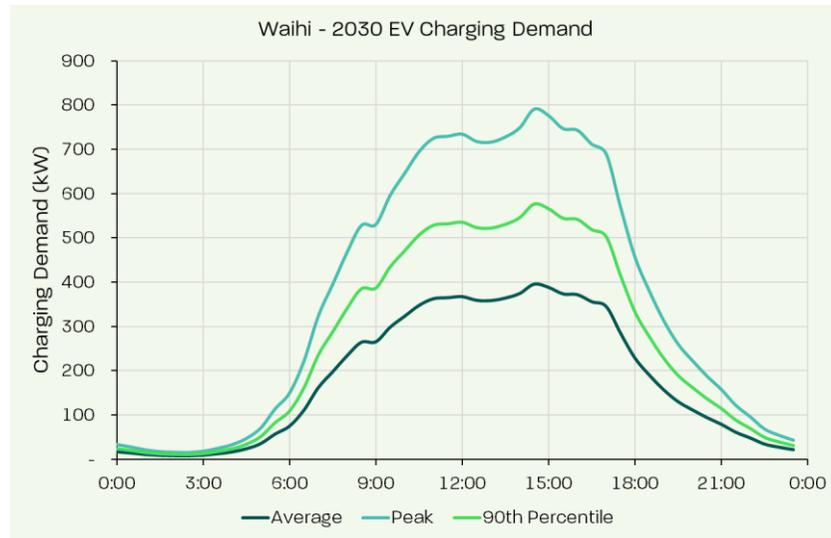
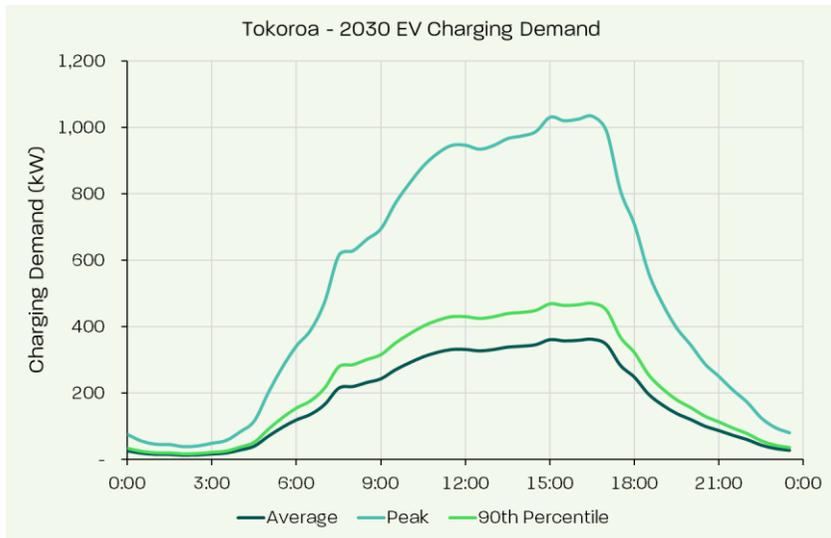
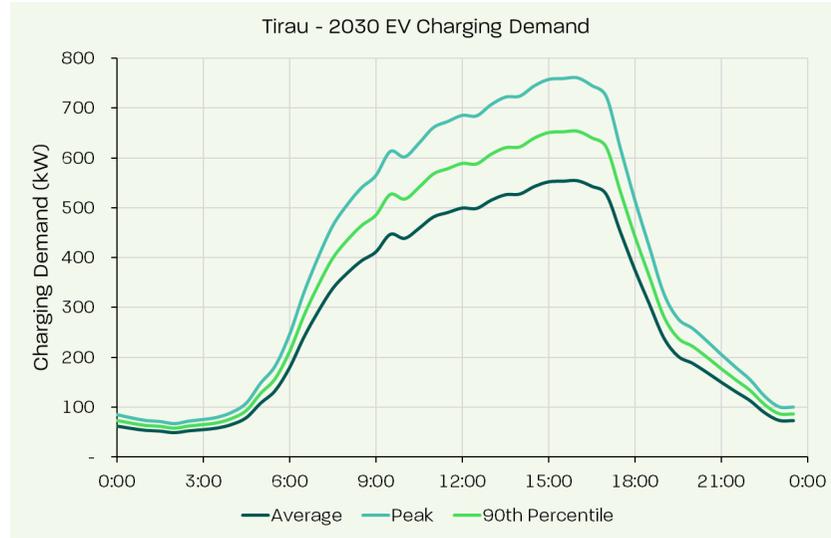
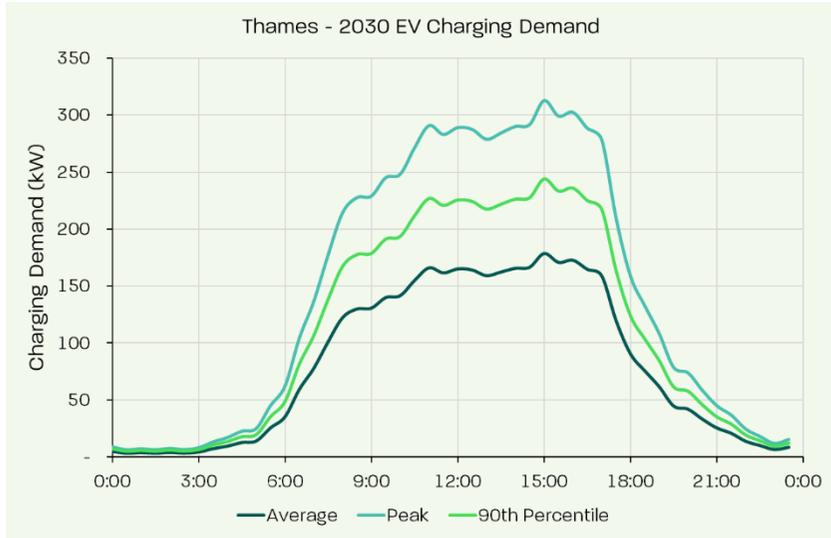


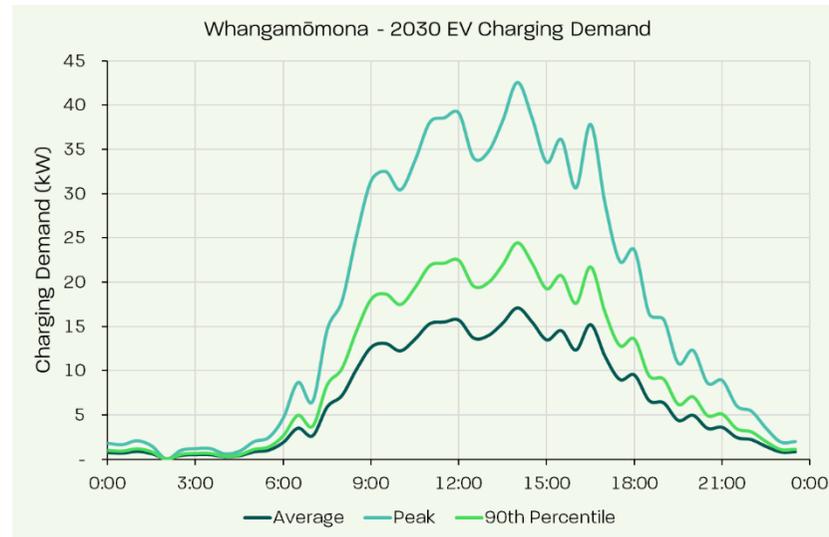
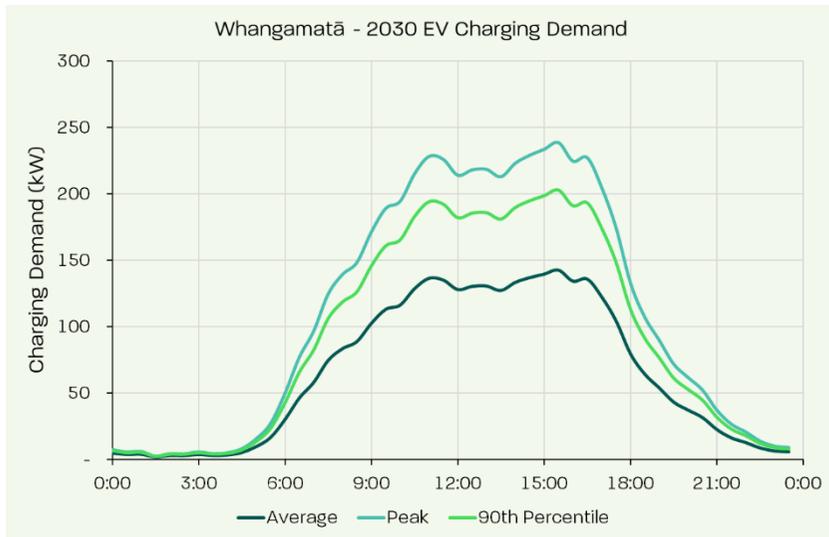
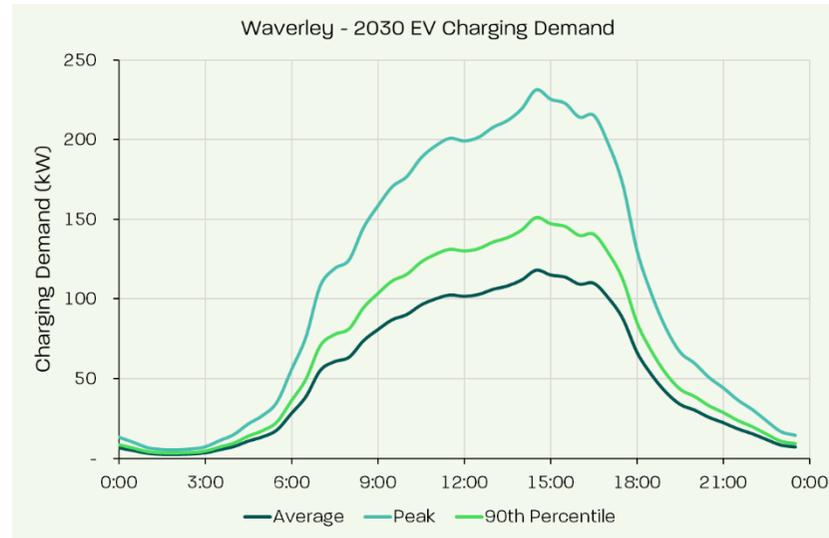
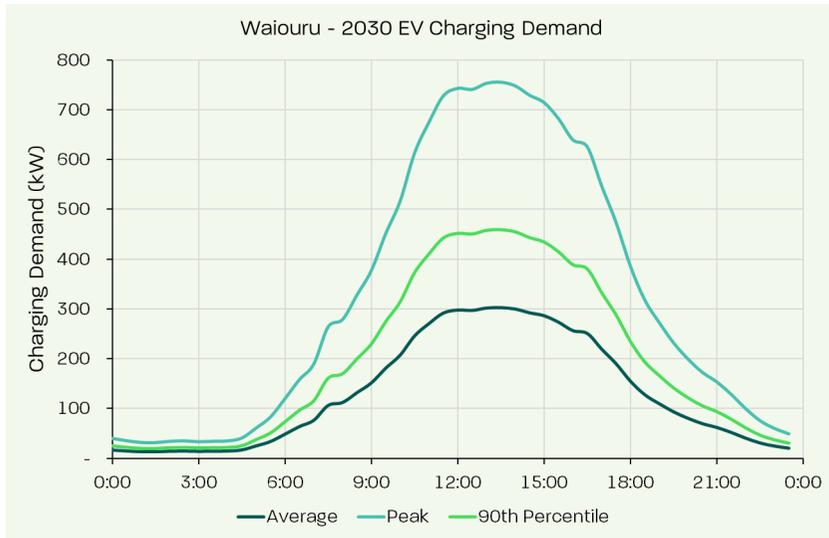


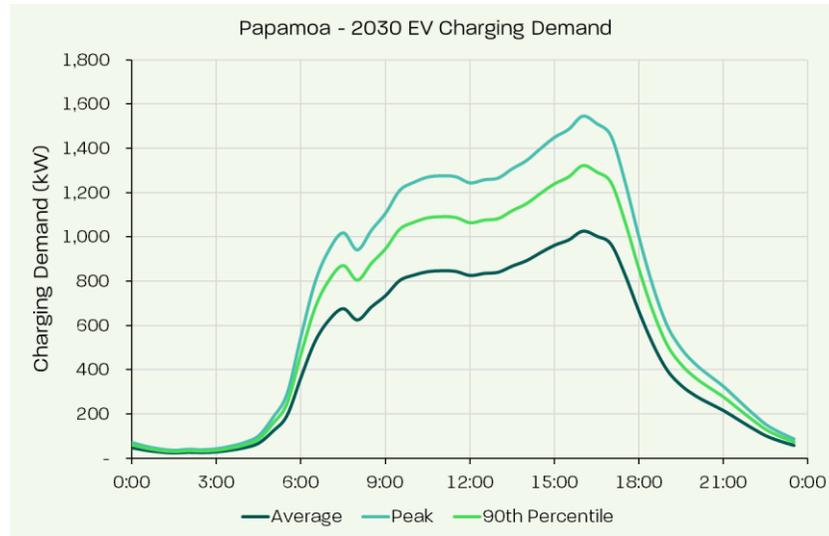
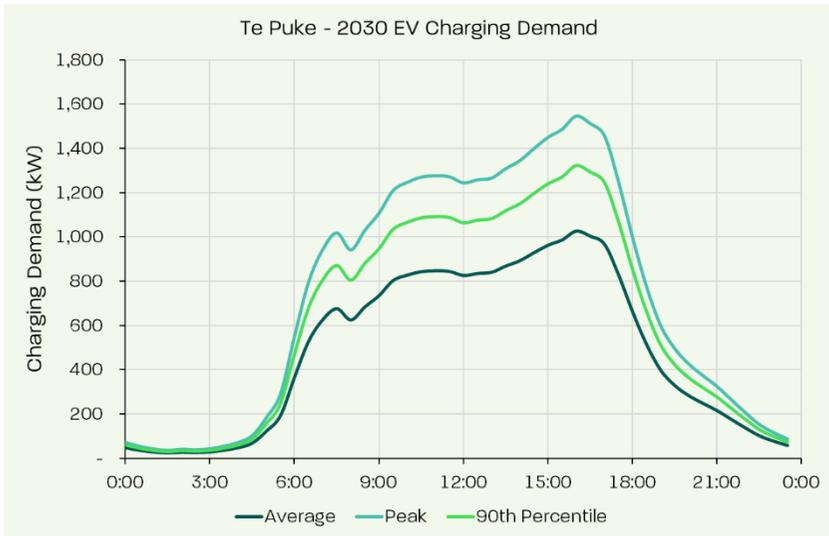
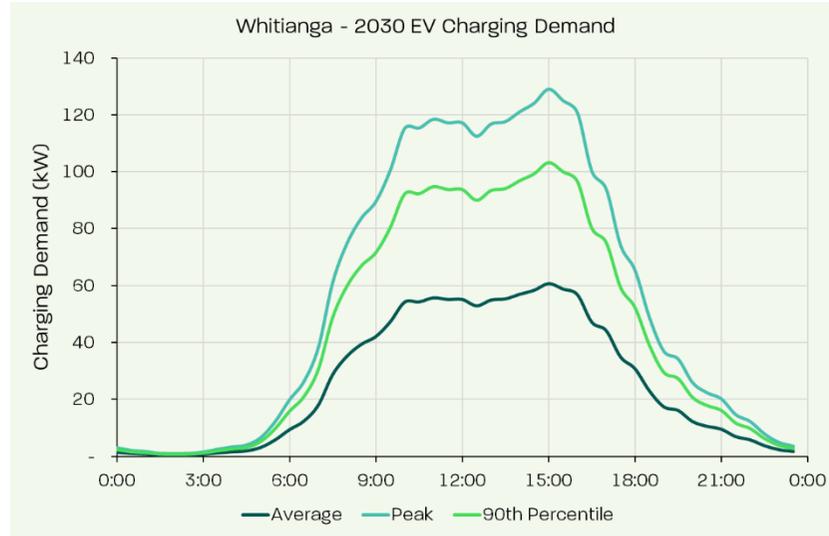
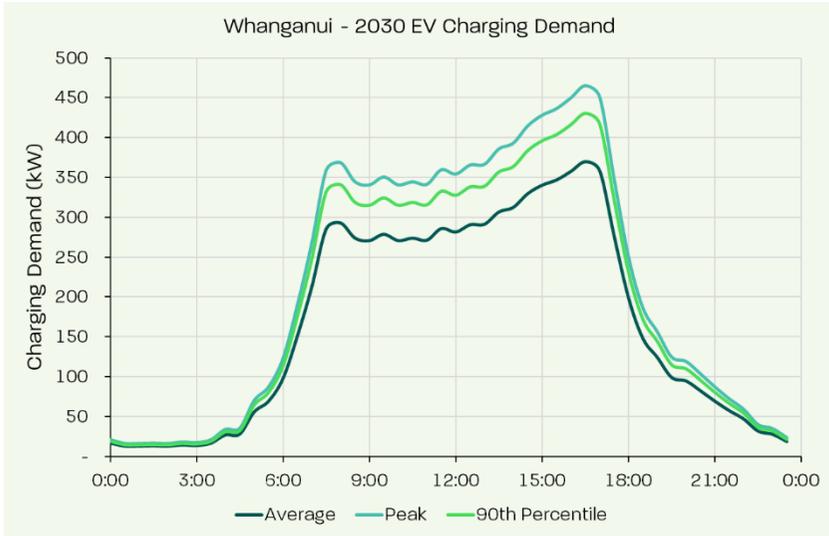












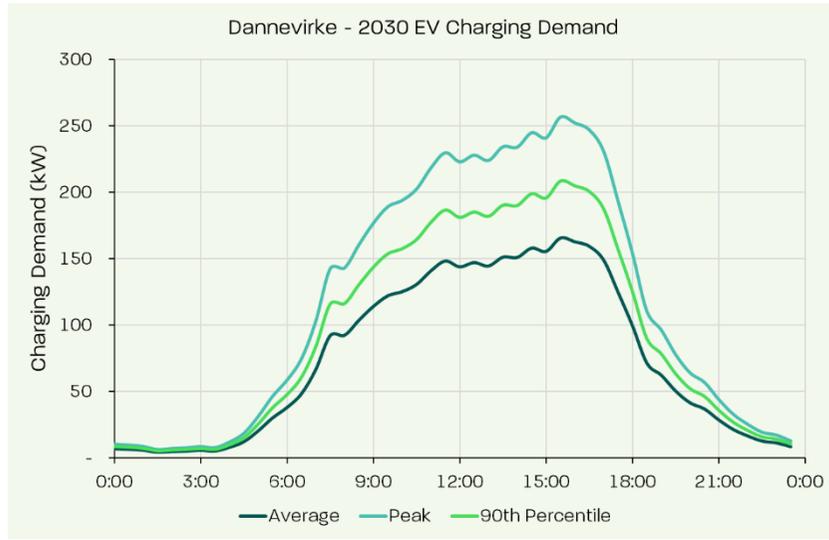
B.8 Scanpower NZ

B.8.1 Scanpower NZ – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Dannevirke	165	257	245	-80	12	3:30:00 PM	1.55	15%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Dannevirke	LT1089	500	350	\$52,000	The Hub	-40.2091 176.1008	This would be the best location as there are already carparks, and its in the middle of the town. There is spare capacity on
	LT1477	200	100	\$15,000	McDonalds / Mobile	-40.2076 176.1061	This would be another great location as there is already a carpark, service station and McDonalds. There is spare
	LT983	300	100	\$15,000	Mangatera Hotel	-40.1917 176.1128	This is not the best location as its on the other end of town. There is some spare capacity however it would only suit a

B.8.2 Scanpower NZ – 2030 Demand Profile



B.9 The Lines Company

B.9.1 The Lines Company – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Mokau	138	334	35	103	299	2:30:00 PM	2.42	25%
National Park	105	244	70	35	174	3:00:00 PM	2.32	25%
Ohakune	157	236	70	87	166	5:00:00 PM	1.50	25%
Otorohanga	274	364	35	239	329	5:00:00 PM	1.33	20%
Taumarunui	81	170	140	-59	30	3:00:00 PM	2.09	20%
Te Kūiti	284	413	903	-619	-490	5:00:00 PM	1.46	20%
Tūrangi	261	561	665	-404	-104	2:00:00 PM	2.15	20%

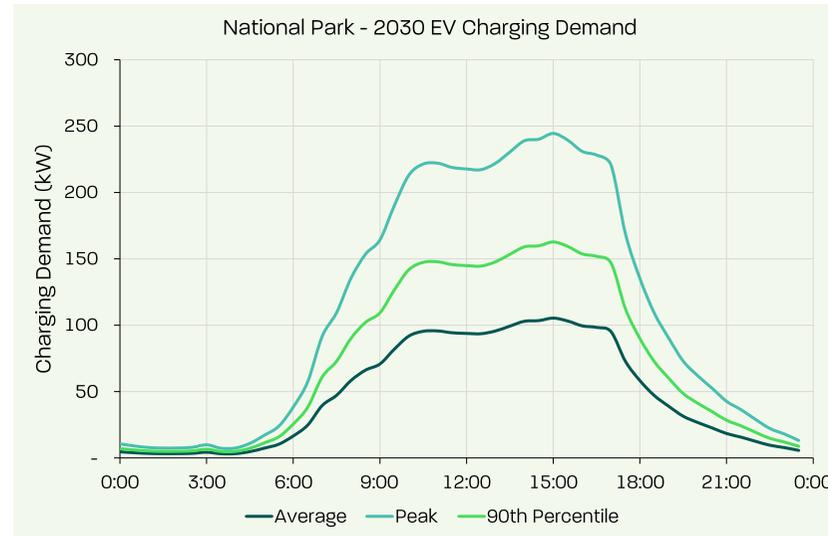
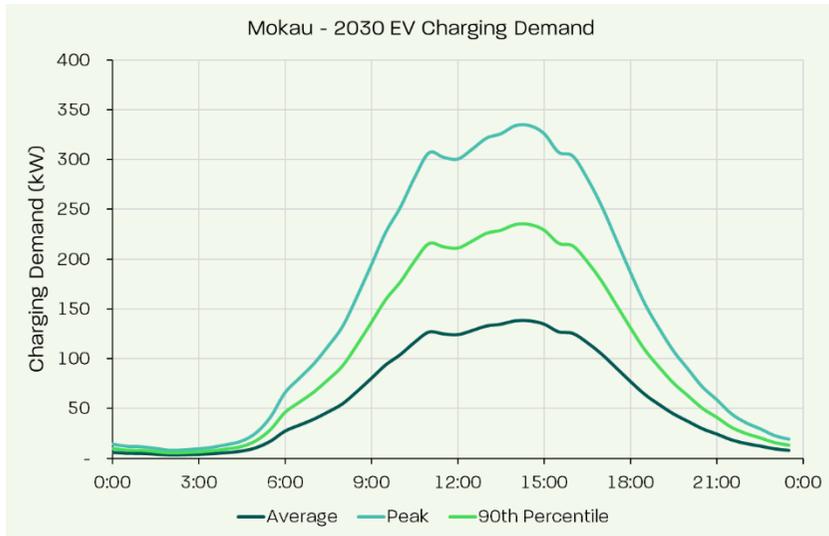
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Mokau	T2154	300	132	\$100,000	Car parking in front of Our Lady of the wayside	-38.6981 174.6192	Car parking available
	T2153	100	51	\$100,000	Car parking in front of Waitomo District council	-38.6976 174.6193	Car parking available
	T2159	100	30	\$60,000	Opposite to Whitebait Inn Mokau	-38.6993 174.6206	Space available for new car parking
National Park	T4344	750	500	\$75,000	Ruapehu Mountain Transport	-39.1757 175.3939	Car parking available, 750m from SH4

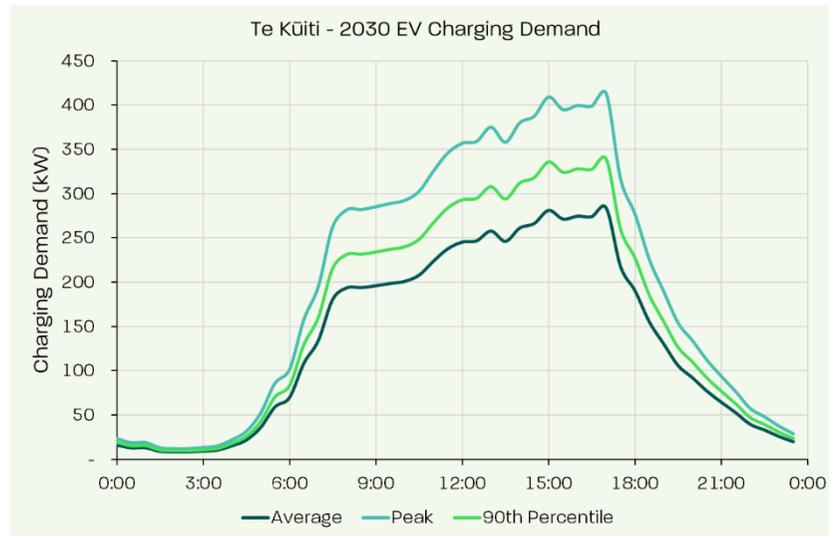
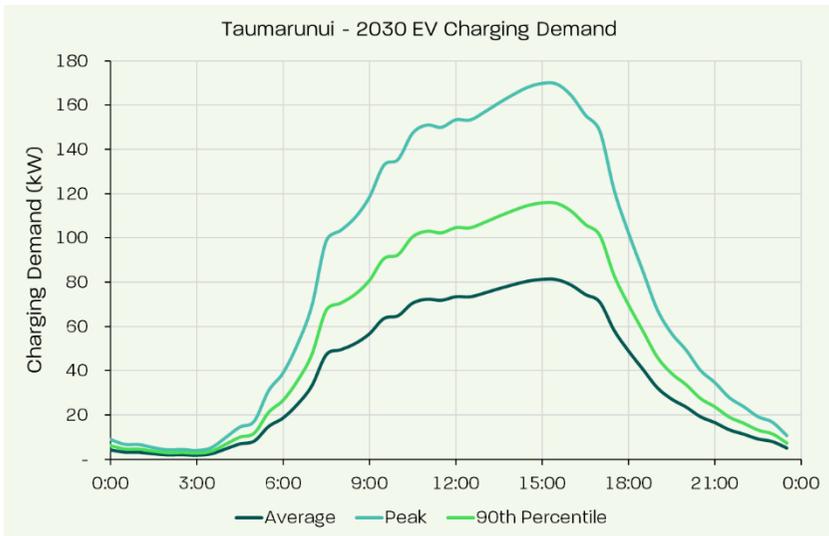
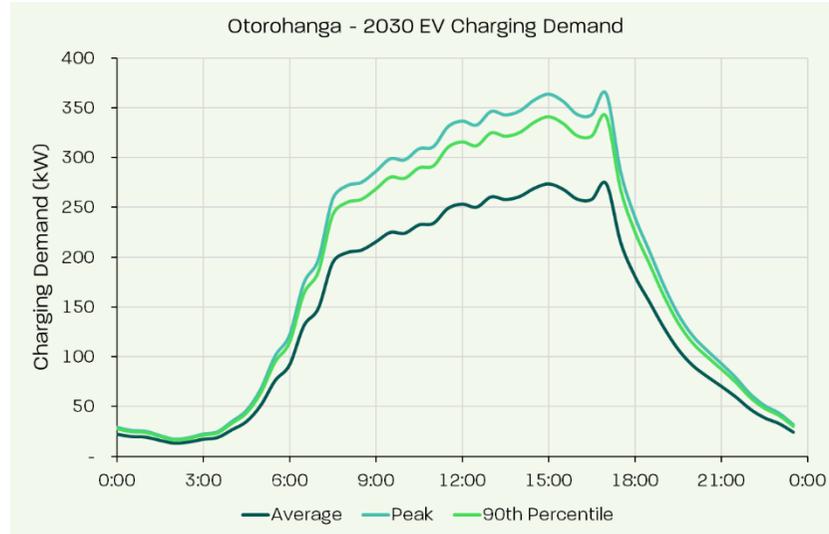
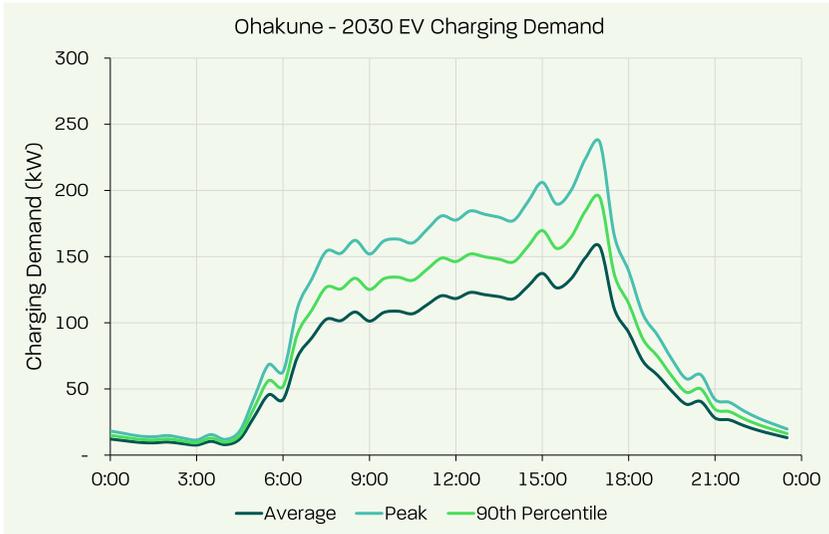
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Ohakune	20L65	500	202	\$75,000	Almost opposite to New world	-39.4174 175.3990	Car parking available
	20K20	300	83	\$200,000	Morre Street car parking	-39.4168 175.3967	Car parking available
	20L51	300	120	\$120,000	30 Ayr Street Ohakune	-39.4174 175.4000	Private car parking
	T4298	100	65	\$170,000	Carrot Adventure Park	-39.4202 175.4035	Car parking available
Otorohanga	T2941	300	132	\$70,000	Pine Street- outside McDonalds	-38.1891 175.2106	car parking available
	T2954	300	98	\$135,000	Jim Barker Memorial Playground- parking	-38.1905 175.2097	car parking available
	T1173	200	169	\$150,000	Front of Trios Main road Diary	-38.1825 175.2223	Parking space available
	T2498	200	155	\$285,000	parking front of fat kiwi café	-38.1883 175.2086	car parking available
	T1019	200	154	\$250,000	22 Huiputea Drive	-38.1892 175.2130	Space available for parking
Taumarunui	01A42	500	222	\$75,000	New World car parking	-38.8830 175.2591	Car parking available
	T4012	500	51	\$140,000	Taumarunui Hospital parking	-38.8883 175.2531	Car parking available
Te Kūiti	T3455	300	156	\$150,000	Near redwood Park	-38.3379 175.1690	Car parking available
	T478	200	179	\$90,000	Near the BP station	-38.3385 175.1661	Need to convert to car parking
	T3074	100	49	\$55,000	Black bull liquor car park	-38.3343 175.1635	Private car parking available

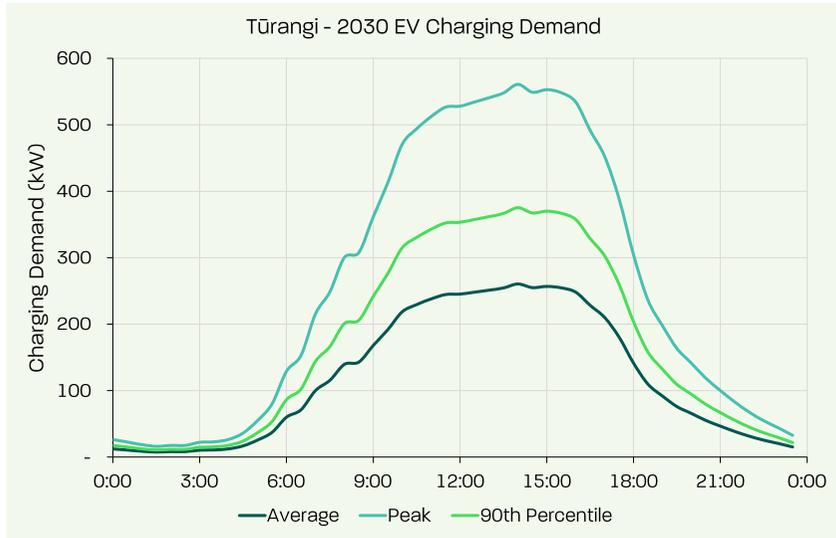


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Tūrangi	10S48	300	79	\$40,000	Near to Z EV charger	-38.9900 175.8102	Car parking available
	11S05	300	181	\$200,000	Z Energy Truck Stop	-38.9986 175.8033	Space available for car parking
	T4005	200	156	\$75,000	Plumbing world car parking	-39.0023 175.8035	Private car parking
	10S14	500	260	\$125,000	Near 154 Taupahi Road Tūrangi	-38.9921 175.8136	Need to convert to car parking
	11S06	300	218	\$355,000	NZ forest manager car parking	-38.9954 175.7998	Car parking available

B.9.2 The Lines Company – 2030 Demand Profile







B.10 Top Energy

B.10.1 Top Energy – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Cape Reinga	41	83	35	6	48	1:00:00 PM	2.02	40%
Coopers Beach	232	364	343	-111	21	5:00:00 PM	1.57	25%
Kaikohe	185	608	0	185	608	4:00:00 PM	3.29	20%
Kaitaia	109	149	105	4	44	5:00:00 PM	1.37	20%
Kawakawa/Moerewa	293	523	35	258	488	4:00:00 PM	1.78	20%
Kerikeri/Waipapa	455	682	158	297	525	4:30:00 PM	1.50	20%
Ōkaihau	122	246	0	122	246	4:30:00 PM	2.02	25%
Opononi	142	209	35	107	174	2:30:00 PM	1.47	40%
Pukenui	98	140	0	98	140	4:30:00 PM	1.43	20%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Cape Reinga	T03277	200	141	\$27,000	GAS Cape Reinga Carpark	-34.5177 172.8397	Cost based on 1x 50kVA EV Charger
Coopers Beach	T05350	300	80	\$27,000	Four Square Mangonui Carpark	-34.9893 173.5367	Cost based on 1x 50kVA EV Charger
	T01252	300	100	\$27,000	Four Square Coopers Beach Carpark	-34.9920 173.5093	Cost based on 1x 50kVA EV Charger
	T04923	300	100	\$27,000	Carpark Mamaru Rd Opposite Taipa Area School	-34.9951 173.4647	Cost based on 1x 50kVA EV Charger
	T00724	200	Upgrade transformer to 300 kVA	\$27,000	GAS Coopers Beach Carpark	-34.9921 173.5025	Cost based on 1x 50kVA EV Charger. Upgrade T00724 to 300kVA

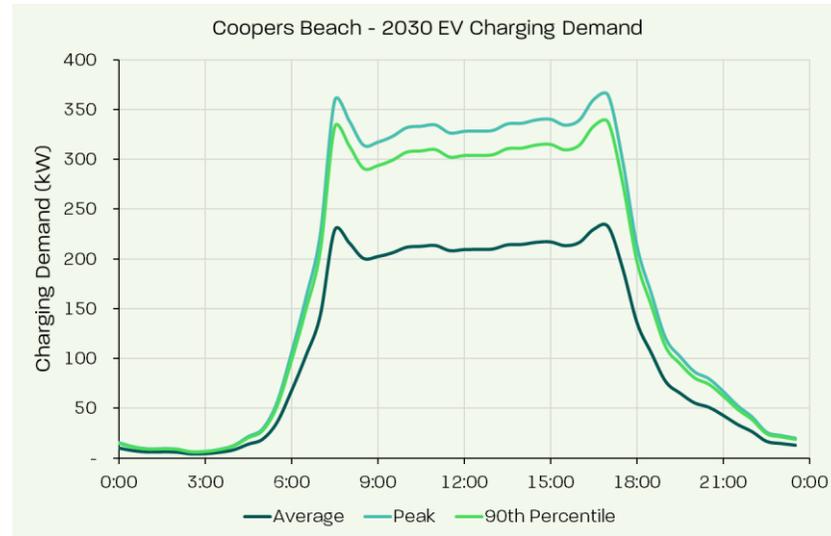
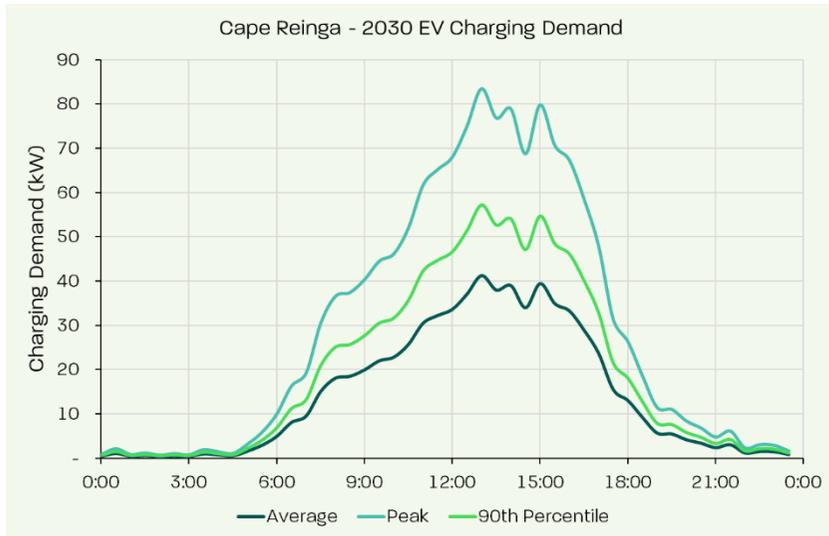


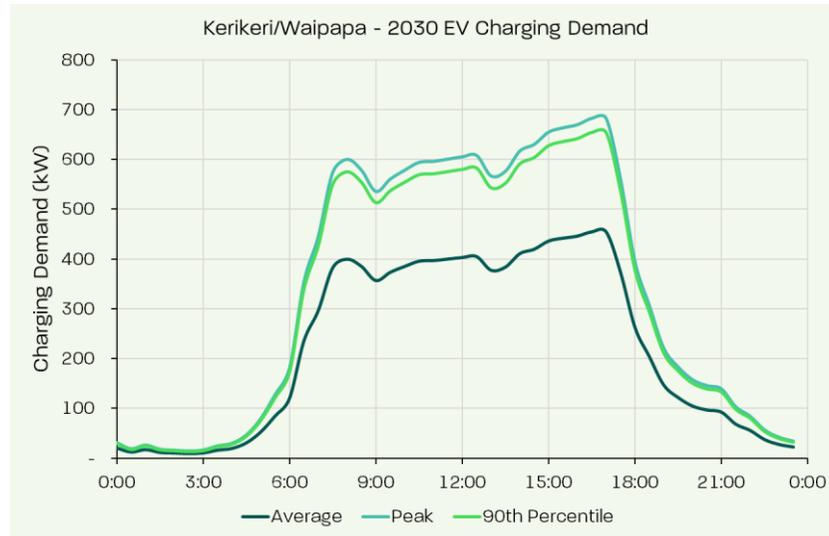
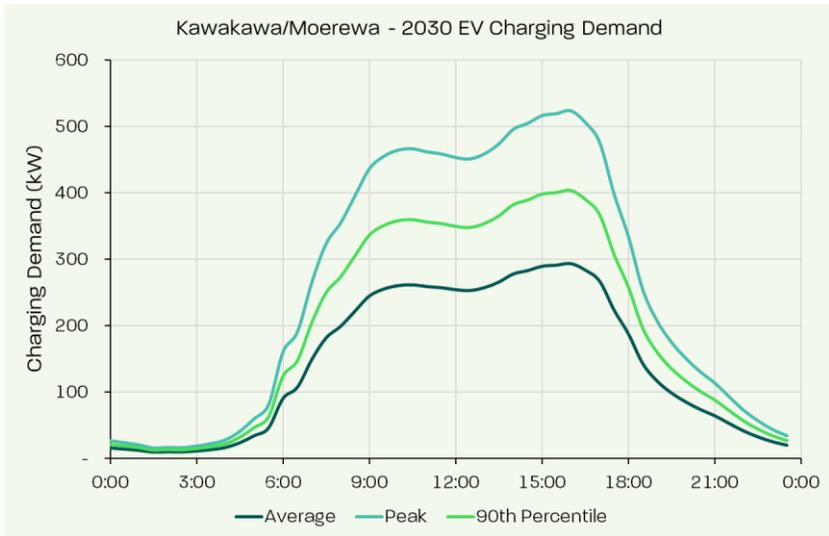
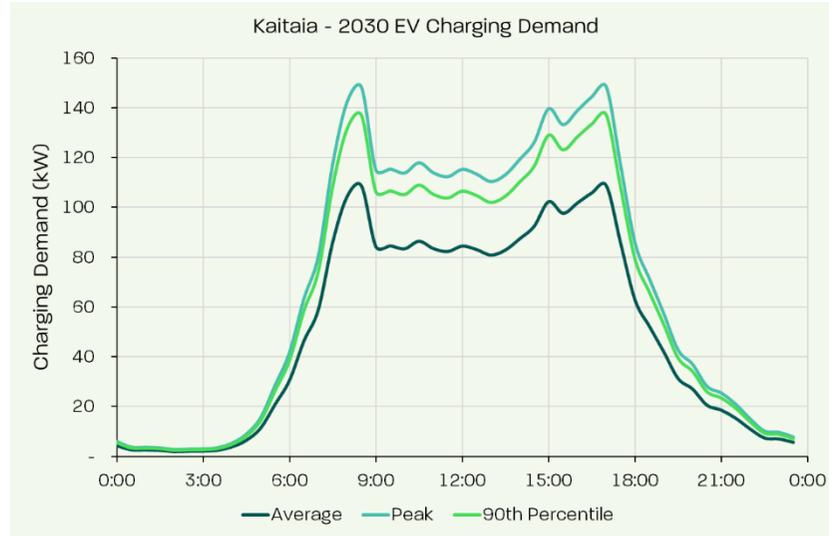
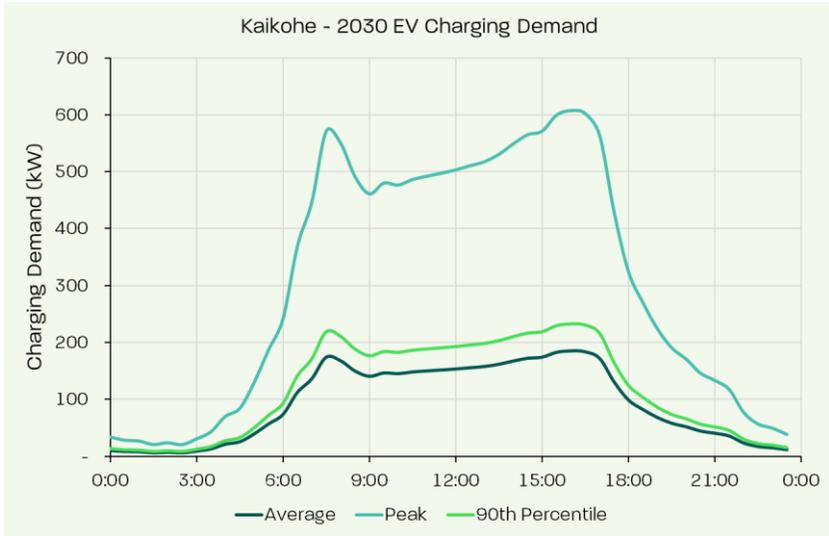
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Kaikohe	T00416	300	97	\$27,000	Z - Service Station Kaikohe Carpark	-35.4059 173.8035	Cost based on 1x 50kVA EV Charger
	T03181	500	297	\$79,000	Opposite Cornerstone Storage	-35.4060 173.8020	Cost based on 3x 50kVA EV Charger
	T09017	500	252	\$53,000	Warehouse & Woolworth Kaikohe Carpark	-35.4107 173.7983	Cost based on 2x 50kVA EV Charger
	T01961	500	200	\$27,000	New World Kaikohe Carpark	-35.4090 173.8008	Cost based on 1x 50kVA EV Charger
	T05707	300	100	\$27,000	Unichem Kaikohe Carpark	-35.4050 173.8046	Cost based on 1x 50kVA EV Charger
Kaitaia	T01959	400	240	\$27,000	East Ln Carpark Kaitaia	-35.1139 173.2655	Cost based on 1x 50kVA EV Charger. Good place to install an EV charger
	T05217	300	106	\$27,000	Awanui Centre Park Carpark	-35.0469 173.2567	Cost based on 1x 50kVA EV Charger. Good place to install an EV charger
Kawakawa/Moerewa	T02750	200	136	\$53,000	Caltex Kawakawa Carpark	-35.3794 174.0643	Cost based on 2x 50kVA EV Charger
	T00509	300	Upgrade transformer to 500 kVA	\$104,000	Carpark Commercial Street Kawakawa	-35.3807 174.0679	Cost based on 4x 50kVA EV Charger. Upgrade T00509 to 500kVA
Kerikeri/Waipapa	T01182	500	132	\$27,000	Homestead Road Carpark	-35.2281 173.9472	Cost based on 1x 50kVA EV Charger
	T09285	500	278	\$53,000	Mitre 10 Waipapa Carpark	-35.2099 173.9173	Cost based on 2x 50kVA EV Charger
	T08668	300	87	\$27,000	McDonalds Kerikeri Carpark	-35.2267 173.9498	Cost based on 1x 50kVA EV Charger
	T00235	500	151	\$27,000	New World Kerikeri Carpark	-35.2265 173.9518	Cost based on 1x 50kVA EV Charger
	T02283	500	201	\$27,000	Hobson Ave Carpark (Opposite Cathay Cinemas)	-35.2289 173.9491	Cost based on 1x 50kVA EV Charger

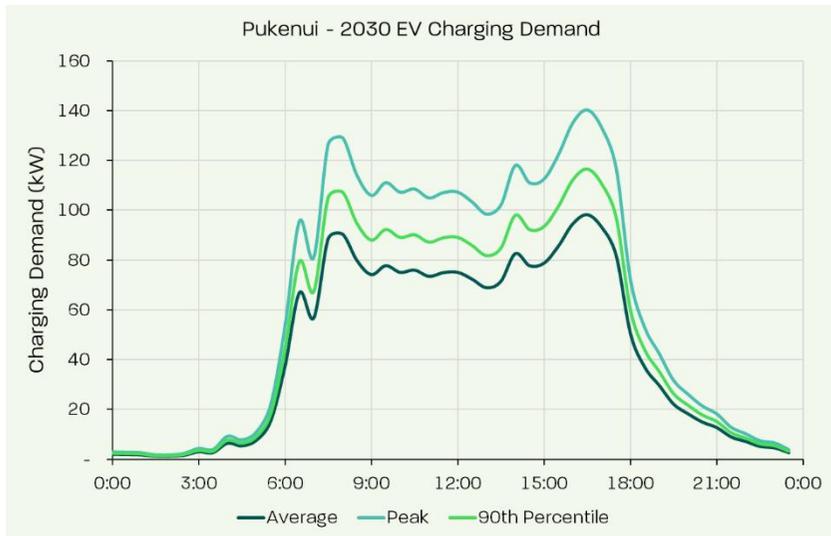
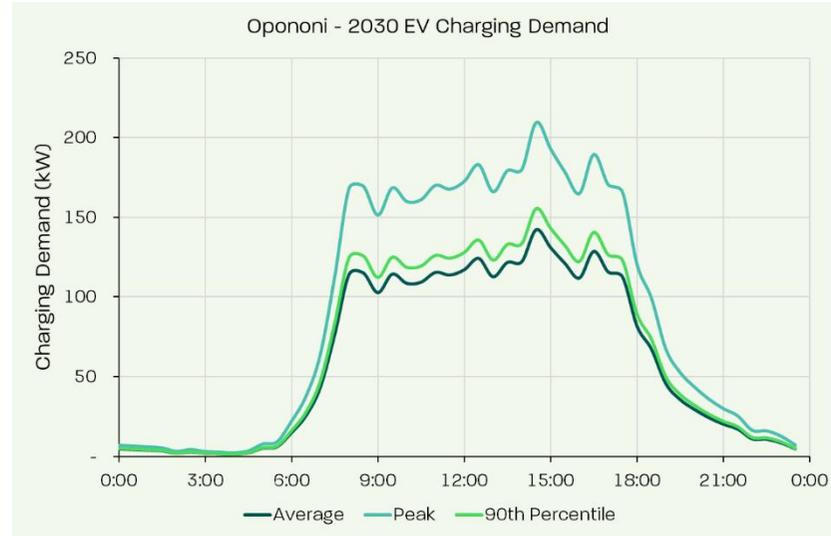
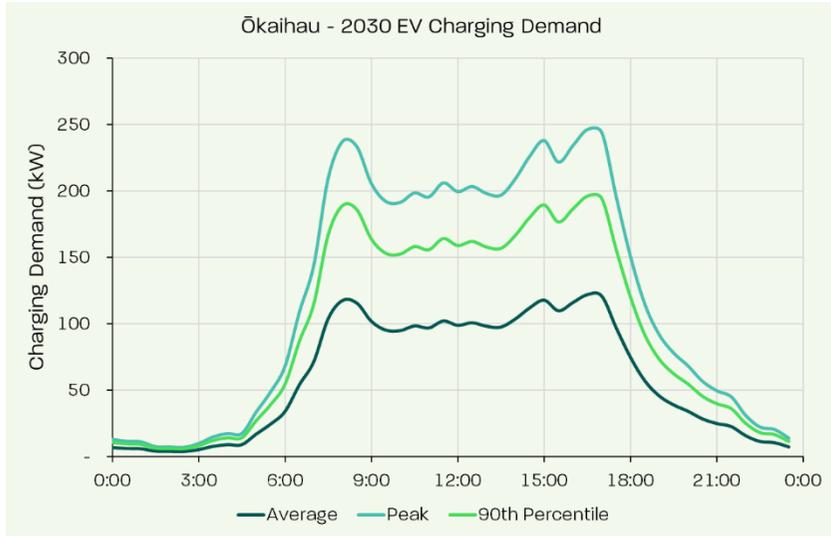


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Ōkaihau	T05592	200	Upgrade transformer to 500 kVA	\$130,000	Okaihau Primary School Carpark	-35.3237 173.7642	Cost based on 5x 50kVA EV Charger. Upgrade T05592 to 500kVA
Opononi	T05900	300	100	\$27,000	Te Kura Kaupapa Maori o Hokianga Opononi	-35.4730 173.4068	Cost based on 1x 50kVA EV Charger
	T08939	300	169	\$53,000	Gas Omapere Carpark	-35.5348 173.3875	Cost based on 2x 50kVA EV Charger
Pukenui	T02554	300	Upgrade transformer to 500 kVA	\$79,000	Four Square Pukenui Carpark	-34.8149 173.1179	Cost based on 3x 50kVA EV Charger. Upgrade T02554 to 500kVA

B.10.2 Top Energy – 2030 Demand Profile







B.11 Unison Networks

B.11.1 Unison Networks – Additional Charging Requirements and Transformer Information

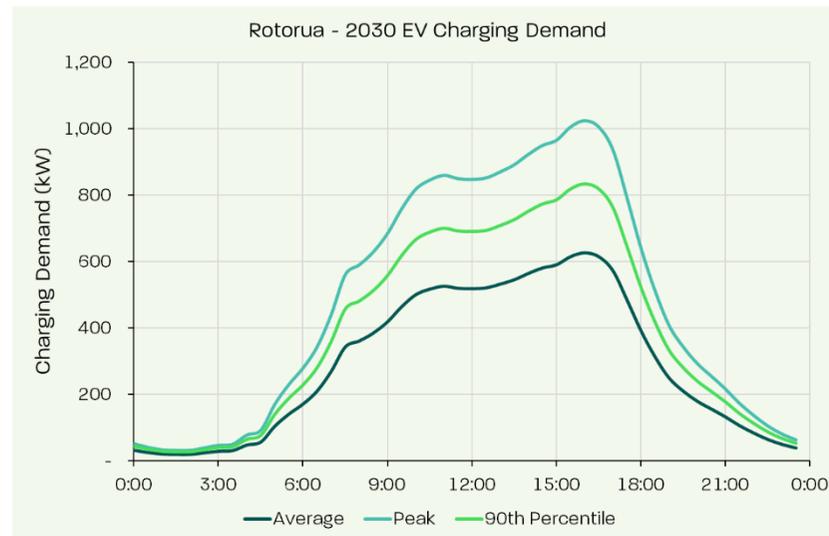
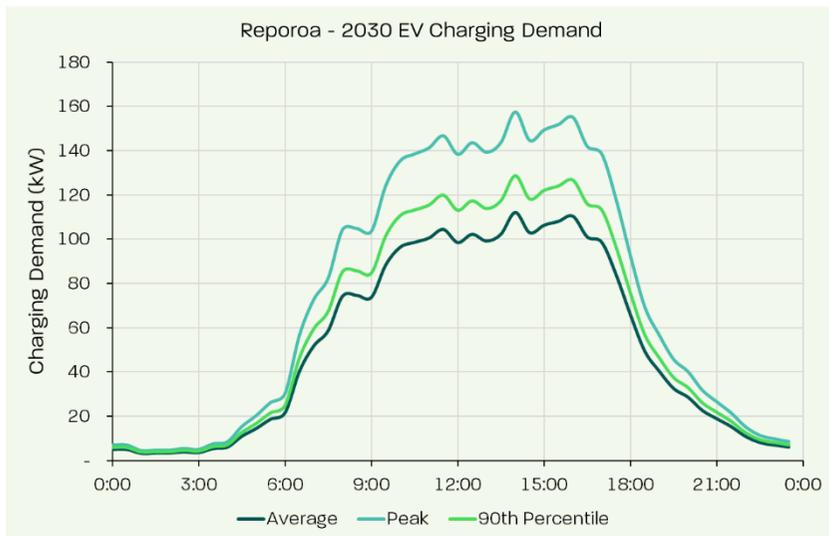
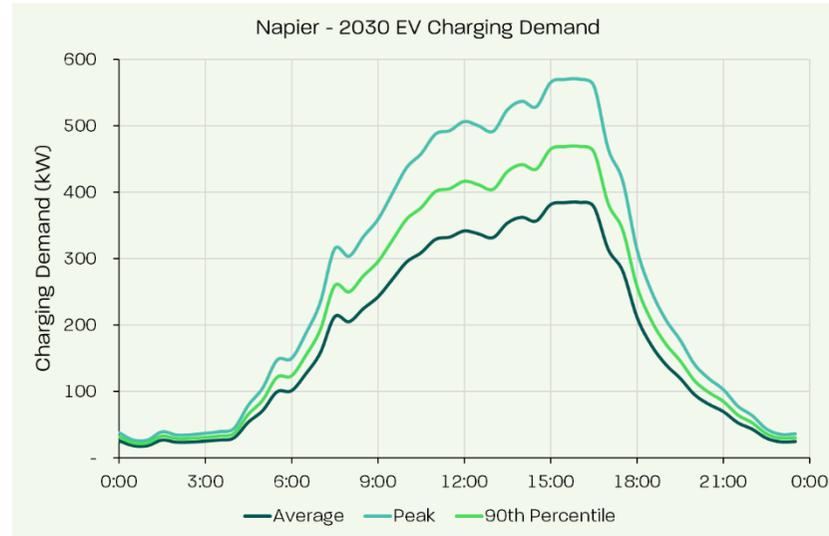
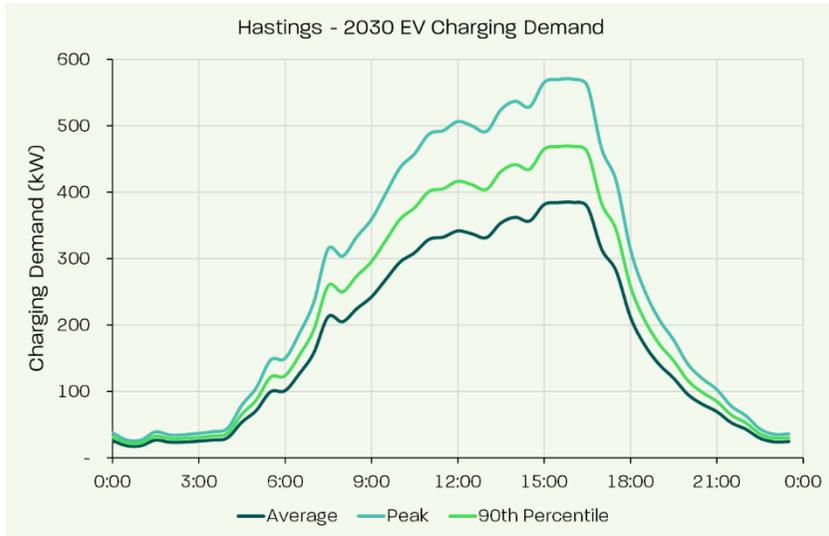
Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Hastings	384	570	140	244	430	4:00:00 PM	1.48	20%
Napier	384	570	602	-218	-32	4:00:00 PM	1.48	20%
Reporoa	112	157	0	112	157	2:00:00 PM	1.41	10%
Rotorua	625	1024	2436	-1811	-1412	4:00:00 PM	1.64	20%
Taupō	499	917	2265	-1766	-1348	3:00:00 PM	1.84	15%
Te Haroto	100	259	70	30	189	2:30:00 PM	2.61	15%
Tutira/Putorino	50	86	35	15	51	3:30:00 PM	1.73	15%
Havelock North	58	85	0	58	85	4:00:00 PM	1.48	20%

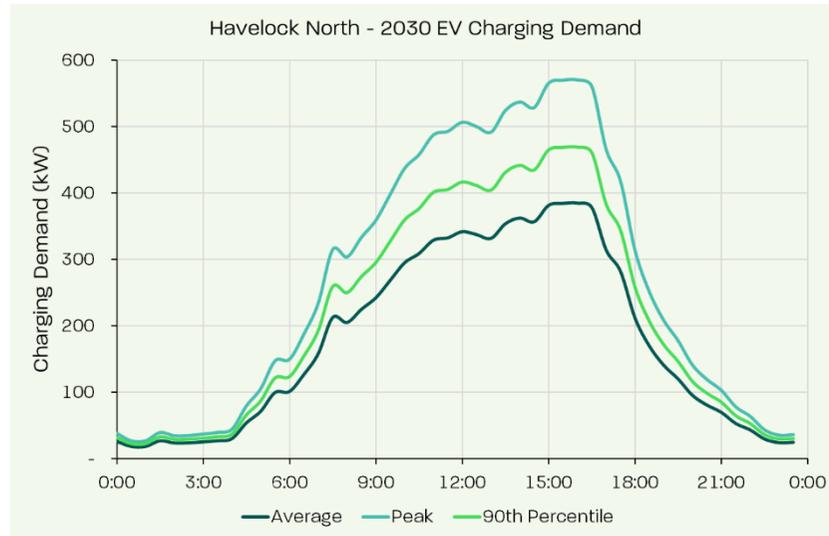
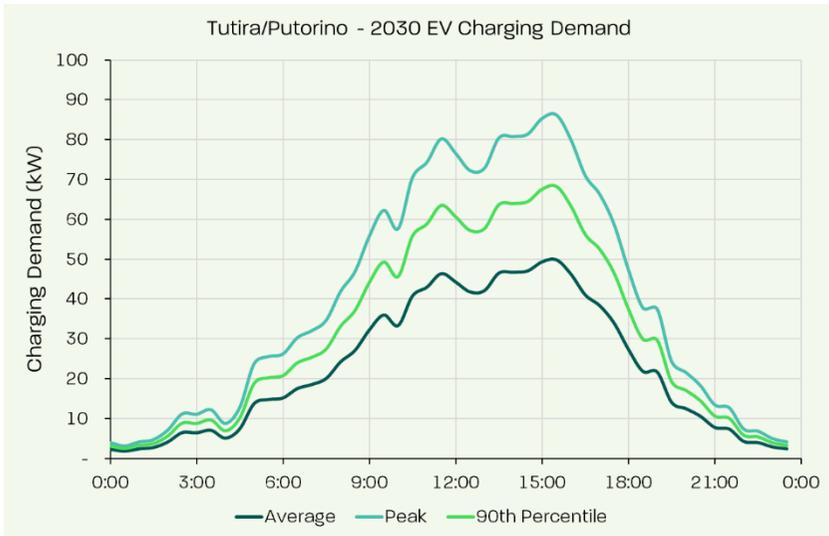
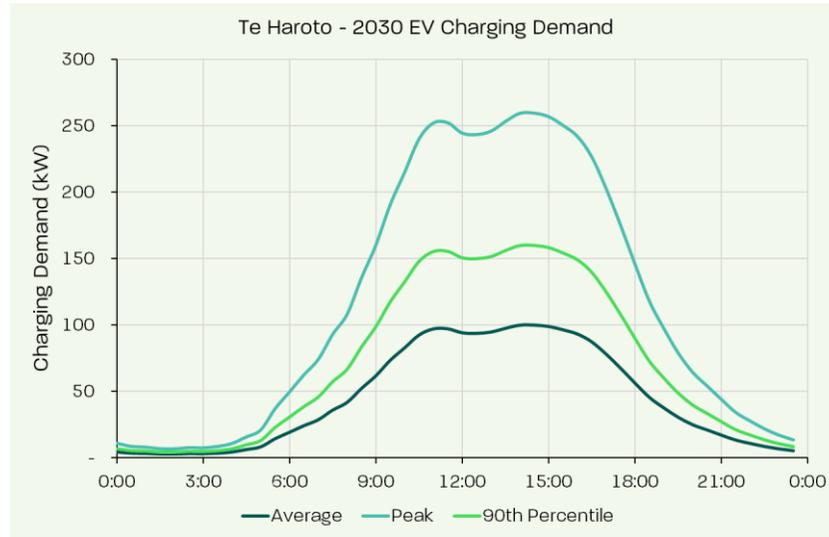
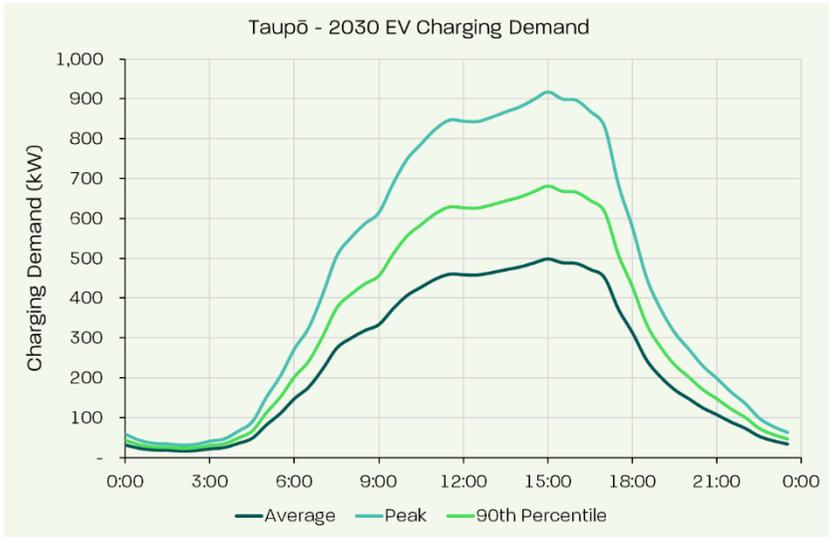
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Hastings	Trans 3978	500	288	\$40,000	Bay Plaza Parking Area	-39.6408 176.8455	Transformer 3978 - 11kV Railway feeder
	Trans 3834	750	400	\$40,000	Woolworths Hastings	-39.6389 176.8431	Transformer 3834 - 11kV Queen feeder
	Trans 5895	500	219	\$120,000	Mitre 10 Hastings parking area	-39.6370 176.8446	Transformer 5895 - 11kV Railway feeder
	Trans 3835	750	317	\$40,000	New World Hastings with Coffee Shop	-39.6443 176.8469	Transformer 3835 - 11kV Karamu feeder
Napier	Trans 5442	200	85	\$100,000	Berry Taste parking area	-39.4234 176.8687	Transformer 5442 - 11kV Bayview Feeder
	Trans 5666	30	New dedicated transformer	\$150,000	Taste of Summer parking area	-39.4102 176.8714	Transformer 5666 - 11kV Bayview feeder. Cost includes recommended new dedicated transformer. 11kV road crossing required.
	Trans 7292	750	200	\$100,000	Shopping complex - Chipmunks Coffee Club etc	-39.5098 176.8784	Transformer 7292 - 11kV Niven feeder

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Reporoa	Trans T3909	200	116	\$100,000	The Bakehouse Café	-38.4297 176.3144	Transformer T3909 - 11kV Ohaaki Tie
Rotorua	Sufficient charging capacity already						
Taupō	Sufficient charging capacity already						
Te Haroto	Trans 1046	50	New dedicated transformer	\$100,000	Next to the main road	-39.2506 176.6831	Transformer 1046 - 11kV Valley feeder
	Trans 5748	30	New dedicated transformer	\$100,000	Next to the main road - not enough room for EV parking	-39.2514 176.6856	Transformer 5748 - 11kV Valley feeder * Only 50kVA and 30kVA transformers in Te Pohue. Will need a new dedicated transformer. No obvious parking areas for EV charging station
	Trans 3677	50	New dedicated transformer	\$100,000	Te Pohue School - Not visible from the main road	-39.2525 176.6833	Transformer 3677 - 11kV Valley feeder
	Trans 1590	30	New dedicated transformer	\$100,000	Next to the main road	-39.1951 176.6542	Transformer 1590 - 11kV Valley feeder
Tutira/Putorino	Trans 830	50	New dedicated transformer	\$100,000	Tutira store - Parking area	-39.2042 176.8821	Transformer 830 - 11kV Ridgemount feeder. Will need dedicated new transformer
Havelock North	Trans 6877	750	250	\$50,000	Havelock North Visitor Centre parking area	-39.6707 176.8764	Transformer 6877 - 11kV Karanema Feeder. Havelock North Visitor Centre
	Trans 4791	300	200	\$80,000	Napier Road parking area	-39.6682 176.8793	Transformer 4791 - 11kV Karanema Feeder. Playground & shops
	Trans 2224	750	364	\$120,000	Napier Road parking area	-39.6692 176.8785	Transformer 2224 - 11kV Karanema Feeder. Close to shops and restaurants



B.11.2 Unison Networks – 2030 Demand Profile





B.12 Vector

B.12.1 Vector – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Helensville	154	224	0	154	224	5:00:00 PM	1.46	15%
Kumeū /Waimauku	424	618	490	-66	128	5:00:00 PM	1.46	15%
Silverdale	651	1076	245	406	831	4:00:00 PM	1.65	10%
Warkworth	312	453	396	-84	57	2:30:00 PM	1.45	15%
Wellsford	312	453	581	-269	-128	2:30:00 PM	1.45	15%
Auckland	2797	4521	9632	-6835	-5111	4:30:00 PM	1.62	20%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Works estimated cost (\$)	Estimated Vector Contribution (\$)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Helensville	6775	500	150	\$83,069		\$83,100	64 Mill Road, Helensville 0800 -- Liberty Beers and	-36.6776 174.4451	
	4389	200	100	\$85,359		\$85,400	167 Parkhurst Road Parakai -- Club Oasis	-36.6596 174.4313	
	1214	500	300	\$104,957		\$105,000	2 Porter Crescent, Auckland 0800 - Carpark behind	-36.6766 174.4514	
	TB4	300	100	\$66,262		\$66,300	26 Commercial Road, Helensville 0800 -- Carpark Area	-36.6780 174.4501	

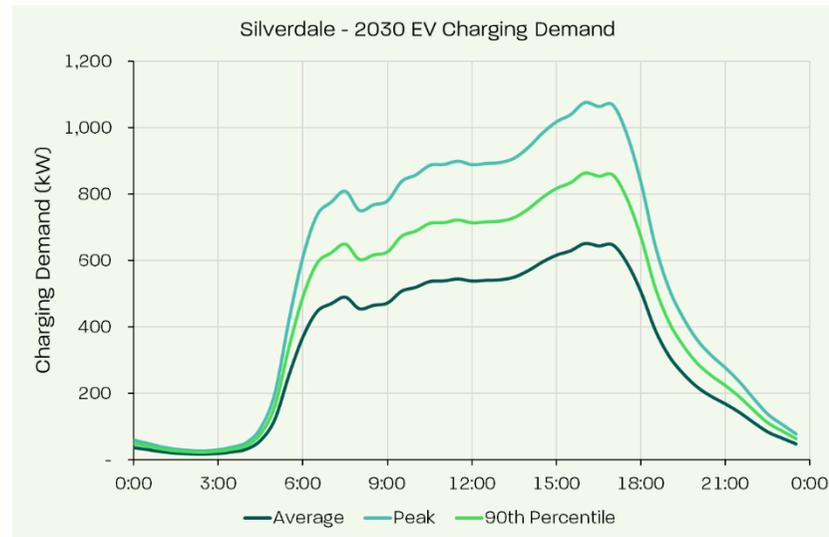
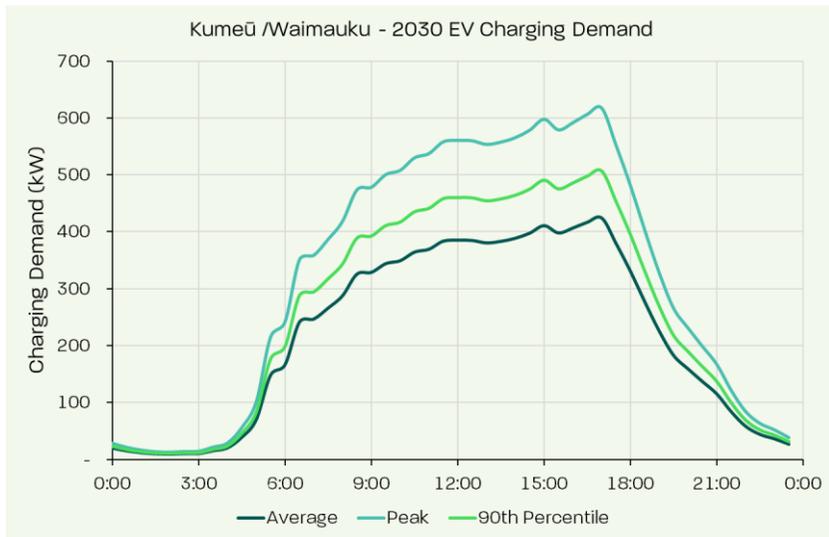
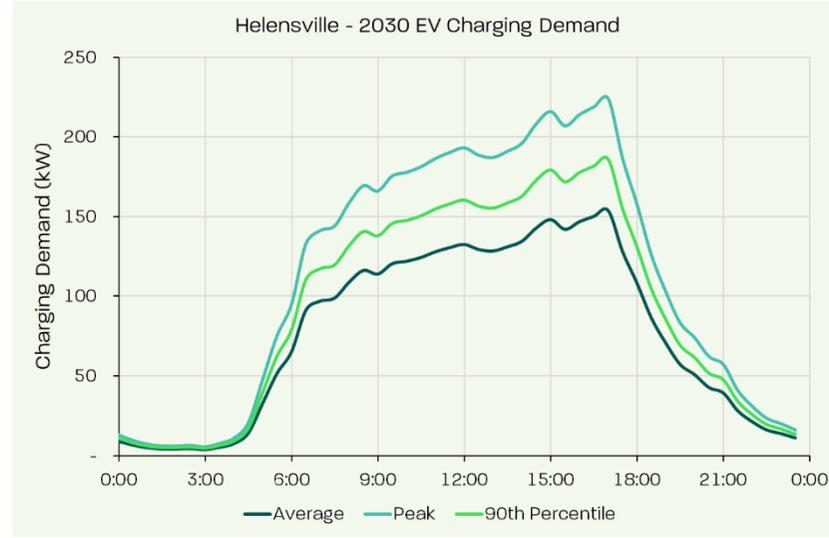
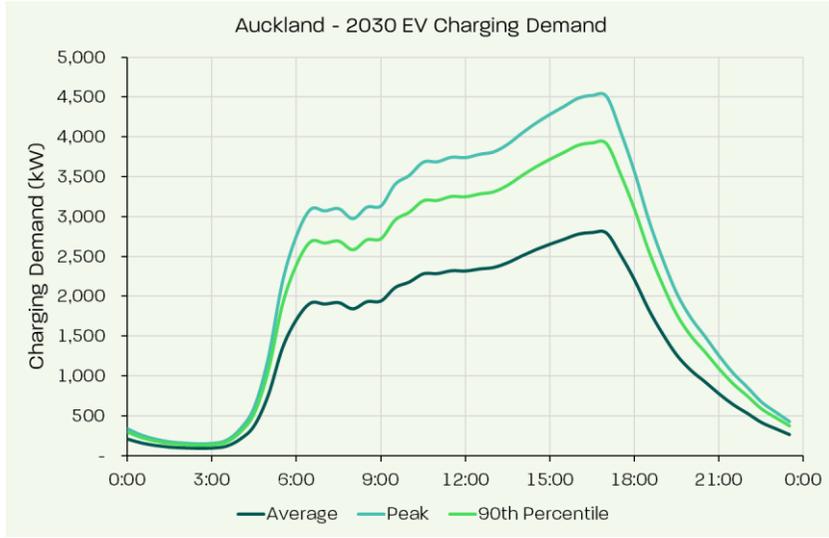
Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Works estimated cost (\$)	Estimated Vector Contribution (\$)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Kumeū /Waimauku	12	500	100	\$68,431		\$68,400	321 Main Road, Huapai 0810 -- Carpark behind The Beer Spot	-36.7728 174.5458	
	N21121	500	300	\$55,757		\$55,800	Carpark by Burger King Kumeu	-36.7755 174.5550	
	N2210	500	100	\$68,924		\$68,900	134-152 Main Road, Kumeū 0810 -- Z - Kumeu - Service Station	-36.7742 174.5521	
	N3453	300	200	\$78,764		\$78,800	92 Main Road, Kumeū 0810 -- Kumeu Village Carpark	-36.7760 174.5558	
	N3925	300	150	\$65,601		\$65,600	332 Main Road, Huapai, Kumeū 0810 -- McDonald's	-36.7720 174.5448	
Silverdale	N22312	750	400	\$125,609		\$125,600	Z Silverdale/Shop s Carpark	-36.6233 174.6686	
	TB2466	500	250	\$73,159		\$73,200	7 Wainui Road, Silverdale 0932 - Car park adjacent to J. A. Russell	-36.6162 174.6787	
	N2037	500	250	\$52,907		\$52,900	1/16 Wainui Road, Silverdale 0932 -- Adjacent to Joy Mart	-36.6152 174.6777	
	7728	300	250	\$75,515		\$75,500	UNIT A/2B Blanc Road, Silverdale 0932 -- Road side parking adjacent to Thrifty Liquor	-36.6207 174.6768	

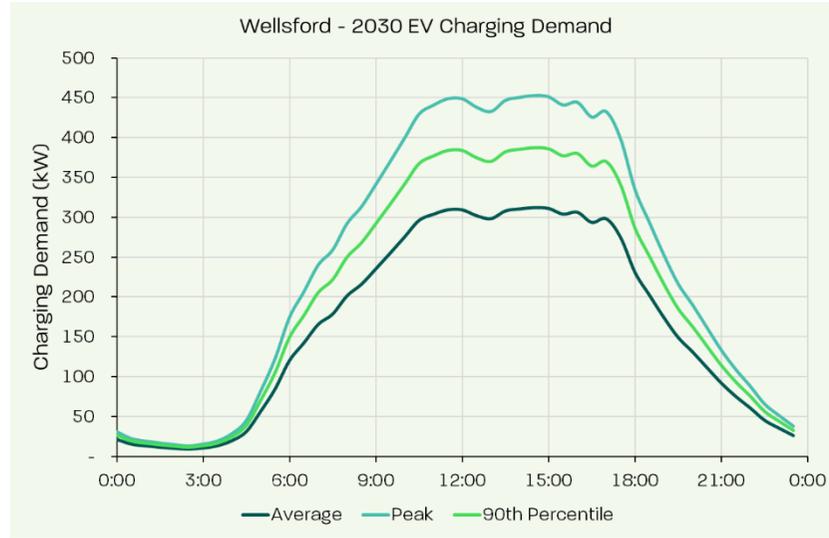
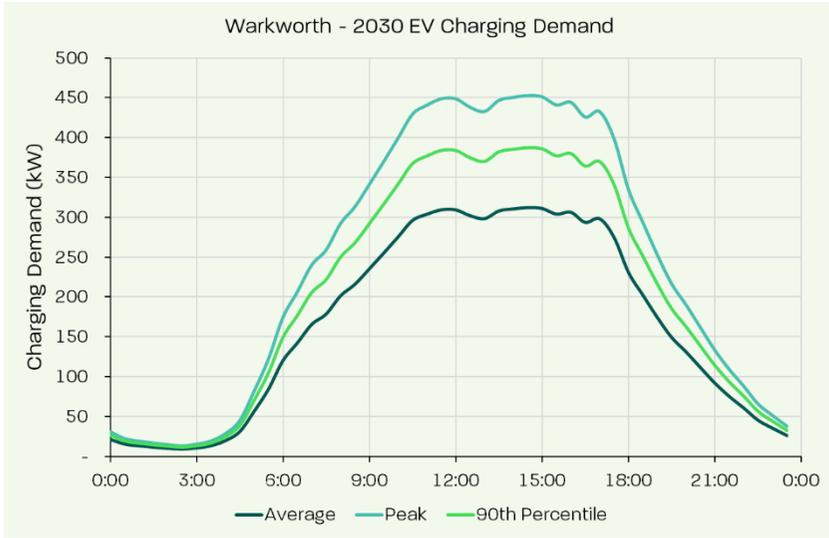


Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Works estimated cost (\$)	Estimated Vector Contribution (\$)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Warkworth	TB6911	500	150	\$67,582		\$67,600	Warkworth Showgrounds/Rugby	-36.3895 174.6499	
Wellsford	No capacity for areas with amenities. Increasing network capacity would require construction of new feeder.								
Auckland	Feeder PAPA K10	NA	1000	\$257,335	\$75,000	\$182,300	Woolworths Takanini Carpark	-37.0482 174.9268	
	Feeder MKAU K18	NA	1000	\$258,974	\$75,000	\$184,000	Westfield Manukau	-36.9931 174.8819	
	Feeder ROCK K09	NA	1000	\$267,670	\$75,000	\$192,700	Woolworths Greenlane	-36.8897 174.7950	
	Feeder CHEV K11	NA	1000	\$279,202	\$75,000	\$204,200	Parr Road North Carpark Point Chevalier	-36.8706 174.7119	
	Feeder HCRE K03	NA	1000	\$256,165	\$75,000	\$181,200	Drill Auckland Bootcamp Onewa Domain Parking	-36.7906 174.7502	



B.12.2 Vector – 2030 Demand Profile





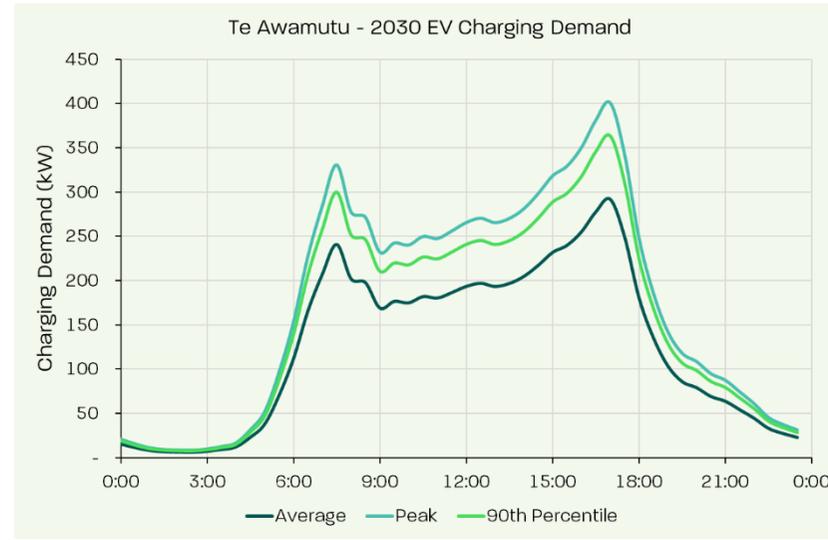
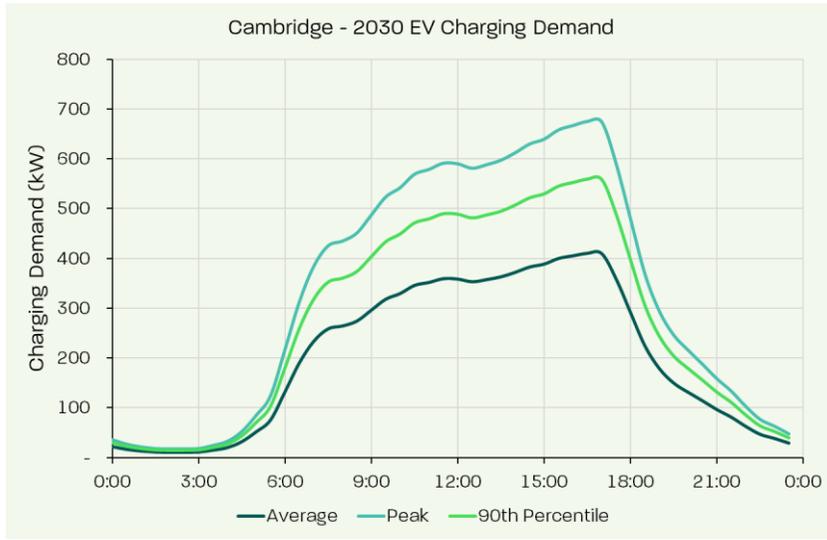
B.13 Waipā Networks

B.13.1 Waipā Networks – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Cambridge	410	674	543	-132	132	4:30:00 PM	1.64	10%
Te Awamutu	292	401	70	222	331	5:00:00 PM	1.37	10%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Cambridge	22556	500	150	\$20,000	Lakewood Area	-37.8904 175.4711	The indicative cost is to run a new LV circuit from the transformer, this includes approx 50m of LV cable and a new pillar.
	20101	500	200	\$35,000	New World Carpark	-37.8939 175.4718	The indicative cost is to run a new LV circuit from the transformer, this includes approx 100m of LV cable and a new pillar.
	20035	300	Upgrade transformer to 500 kVA	\$90,000	Hallys Lane Carpark	-37.8943 175.4682	The indicative cost is to upgrade the transformer to a 500kVA, this will then allow an additional approx 200kVA of capacity, the indicative cost also includes approx 50m of LV cable and a new pillar.
	20049	300	100	\$35,000	Whitaker Street Carpark	-37.8901 175.4676	The indicative cost is to run a new LV circuit from the transformer, this includes approx 100m of LV cable and a new pillar.
	20025	300	150	\$20,000	Perry Aquatic centre	-37.8968 175.4754	The indicative cost is to run a new LV circuit from the transformer, this includes approx 50m of LV cable and a new pillar.
Te Awamutu	11579	200	Upgrade transformer to 300 kVA	\$75,000	Warehouse/Mcdonalds Parking area	-38.0108 175.3271	The indicative cost is to upgrade to a 300kVA transformer which would allow an additional 100kVA of capacity. 50m of cable and a new pillar
	10334	300	100	\$20,000	Pak n save carpark	-38.0071 175.3394	The indicative cost is to run a new LV circuit from the transformer (No viable nearby existing supplies), this includes 50m of cable and a new pillar.
	12615	200	100	\$20,000	Event centre parking/Woolshed parking	-38.0080 175.3251	The indicative cost is to run a new LV circuit from the transformer, this includes 50m of cable and a new pillar.
	10649	300	50	\$10,000	Old bunnings carpark (Scout Lane)	-38.0085 175.3287	The indicative cost is for a new pillar.

B.13.2 Waipā Networks – 2030 Demand Profile



B.14 WEL Networks

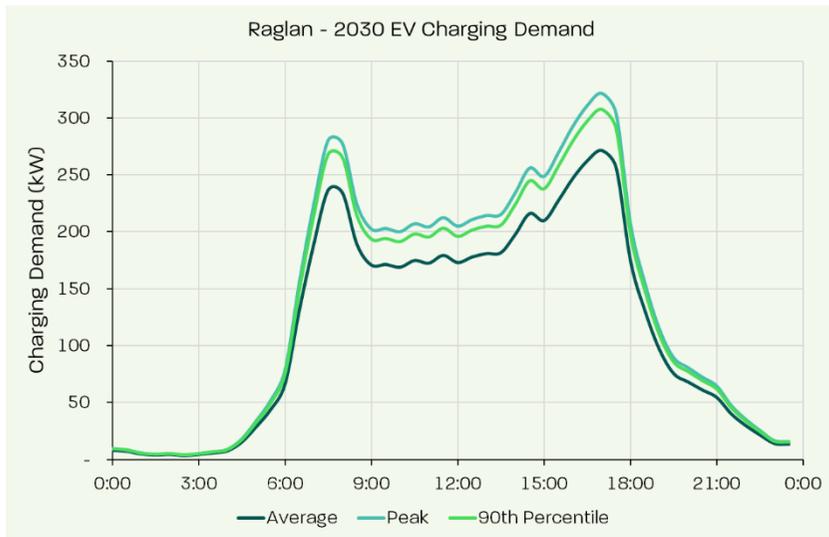
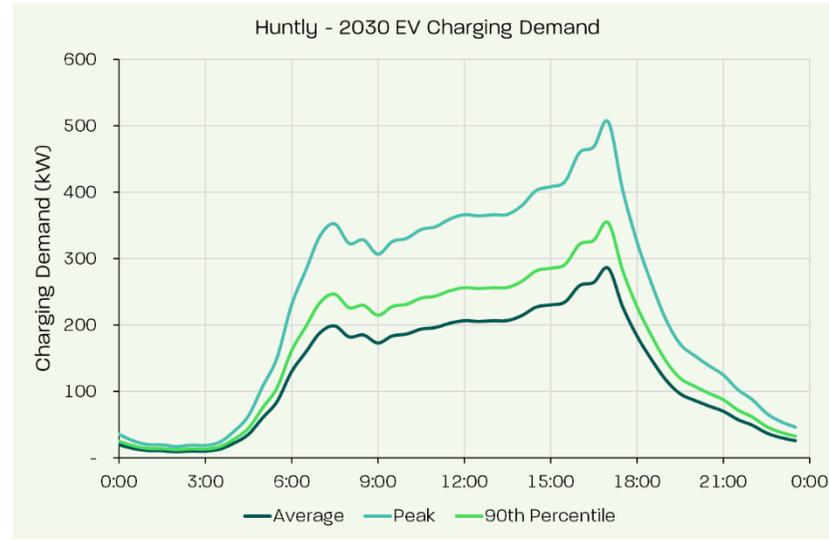
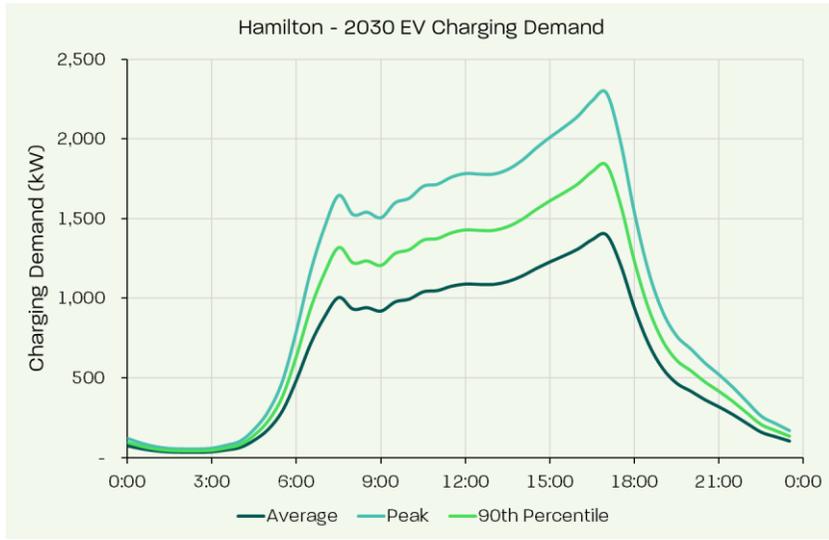
B.14.1 WEL Networks – Additional Charging Requirements and Transformer Information

Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Hamilton	1396	2289	2538	-1141	-248	5:00:00 PM	1.64	20%
Huntly	286	506	0	286	506	5:00:00 PM	1.77	15%
Raglan	271	322	35	236	287	5:00:00 PM	1.19	15%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Hamilton	Sufficient charging capacity already						
Huntly	T5936	500	493	\$50,000	Carpark besides lake recreation area	-37.5674 175.1464	Proximity to lakeside rest and recreation area
	T3767	1000	405	\$48,000	Carparks on north end of George St	-37.5674 175.1574	Proximity to multiple fast food restuarants
Raglan	T7791	500	342	\$20,000	Carparks outside Wairihi Park	-37.7977 174.8721	Exisiting 2 x 180kW chargers less than 50m away
	T6987	300	241	\$1,800	Carparks outside Raglan Garden Club / Café	-37.8235 174.9031	Proximity to SH23



B.14.2 WEL Networks – 2030 Demand Profile



B.15 Wellington Electricity

B.15.1 Wellington Electricity – Additional Charging Requirements and Transformer Information

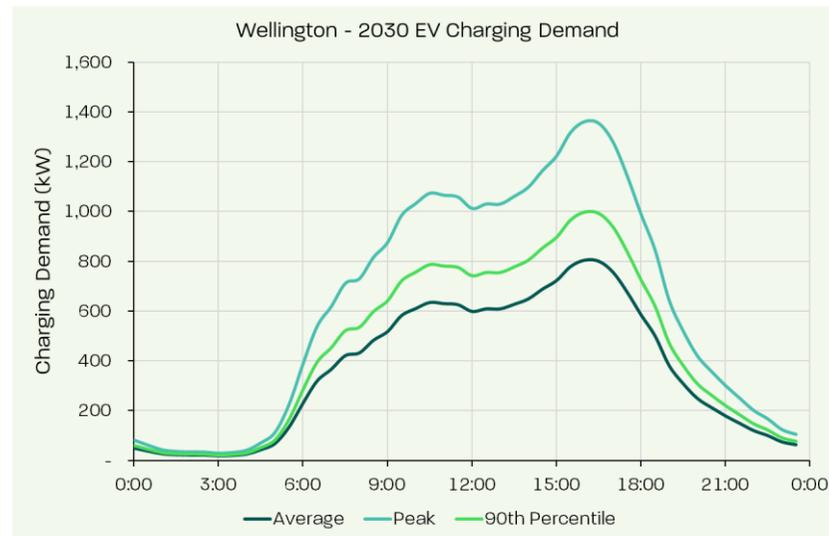
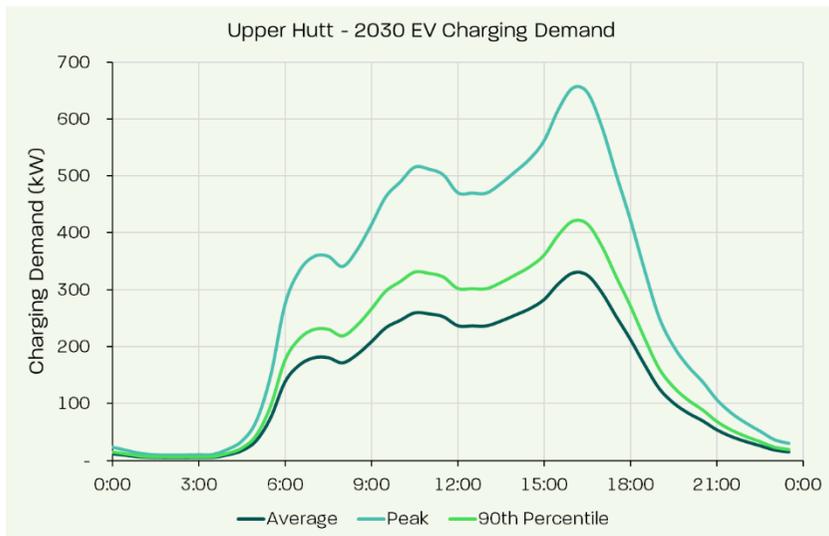
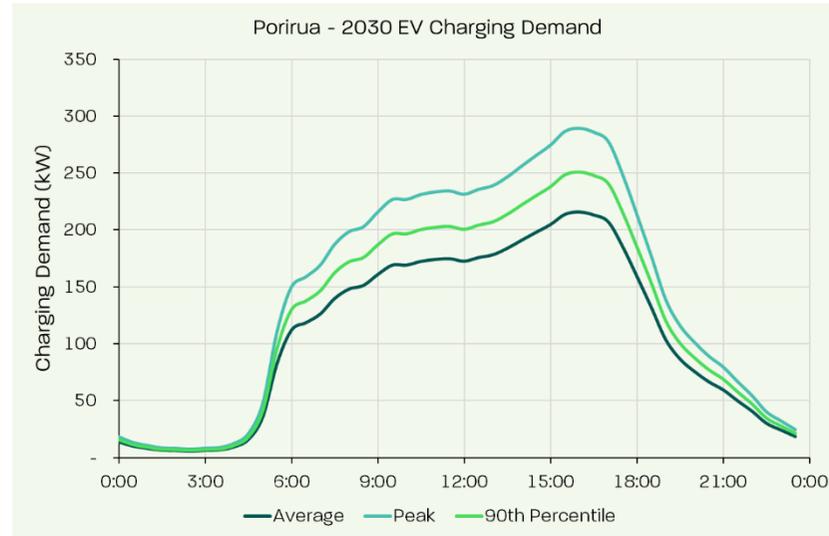
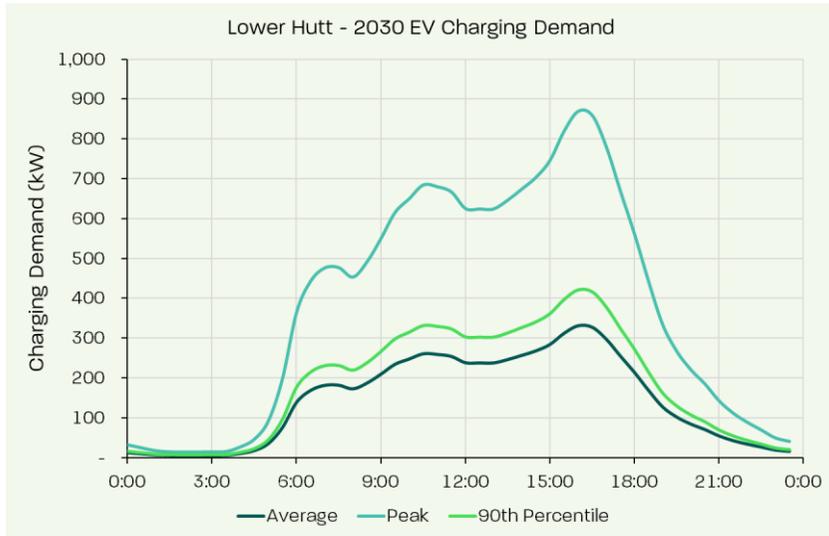
Location	2030 Total Forecasted Demand For Peak Half Hour of Day		Current Charging Capacity >=50 kW	2030 Additional Capacity Needed (Factoring in Current Charging Capacity)		Daily Peak Half Hour	Peak / Avg	Turn-in rate
	Avg (kW)	Peak (kW)		Avg. (kW)	Peak (kW)			
Lower Hutt	330	870	1005	-674	-135	4:00:00 PM	2.63	20%
Porirua	216	289	158	58	132	4:00:00 PM	1.34	15%
Upper Hutt	329	655	88	242	567	4:00:00 PM	1.99	20%
Wellington	806	1362	1418	-612	-56	4:00:00 PM	1.69	20%

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Lower Hutt	Sufficient charging capacity already						
Porirua	S3658 (Trans. TS476)	200	150	\$30,000	17 Paekakariki Hill Road, Pauatahanui	-41.1048 174.9163	Upgrade existing road crossing cable and bring cable dropper down to new service cabinet. May need new intermediary pole, if yes add \$12k
	S3496	500	250	\$40,000	Near residential area, New World Paremata, Mana Train station and BP pump station	-41.0951 174.8685	Cost based on installation of new network cable in existing spare fuseway within substation to a new network cabinet.
	S4703 (Trans. TS1438)	500	200	\$15,000	Woolworths Aotea	-41.1211 174.8669	Substation is out the back so this cost reflects connection of Mains cable into substation, not installation of a point of supply around in the main carpark.
	S3498	600	450	\$25,000	Near shops	-41.0919 174.8676	Based on accessing existing in-ground cable and installing a new cabinet.

Location	Transformer ID	Rated capacity (kVA)	Available capacity (kVA)	Indicative connection cost (\$)	Proposed charging site general location	Proposed charging site coordinates	Comments
Upper Hutt	S1075	750	250	\$26,000	Upper Hutt CBD Parking	-41.1235 175.0708	Further additional capacity may be able to be realised through a transformer upgrade.
	S2559	750	300	\$39,000	Upper Hutt Mall Parking Building	-41.1240 175.0741	Further additional capacity may be able to be realised through a transformer upgrade.
	S2787	500	200	\$26,000	Rimutaka Shops - SH2	-41.1098 175.0972	Further additional capacity may be able to be realised through a transformer upgrade.
	S2058	500	100	\$21,000	Silverstream Village	-41.1470 175.0118	Further additional capacity may be able to be realised through a transformer upgrade.
	S2731	150	50	\$56,000	Aston Norwood Gardens	-41.0819 175.2060	Further additional capacity may be able to be realised through a transformer upgrade and voltage support.
Wellington	Sufficient charging capacity already						



B.15.2 Wellington Electricity – 2030 Demand Profile



Appendix C: Current Charging Capacity by Location

The table below lists the total public journey charging capacity for each location. The recorded capacity was pulled directly from the various data sources. Adjusted capacity includes the following assumptions:

- Maximum output of chargers has been limited to 170 kW to reflect the average maximum charging rate of the top 10 EVs purchased in 2025
- Charging capacities were also reduced by 30% to account for operational faults, inefficiencies and charging behaviour

Table 20: Current Charging Capacity (2025) for Each Location

EDB	Location	Recorded Capacity (kW)	Adjusted Capacity (kW)
1. Central Lines Ltd	Tikokino	-	-
	Waipukurau	50	35
2. Counties Energy	Pōkeno	3,525	1,656
	Pukekohe	300	210
3. Electra	Foxton	100	70
	Levin	875	550
	Ōtaki	100	70
	Paraparaumu	1,425	830
4. Firstlight Network	Gisborne	210	147
	Matawai	50	35
	Te Araroa	-	-
	Te Puia Springs	-	-
	Tolaga Bay	-	-
5. Horizon Energy	Wairoa	350	245
	Awakeri	-	-
	Galatea	50	35
	Kaingarua	-	-
	Kawerau	50	35
	Matata	-	-
	Ōpōtiki	50	35
	Te Kaha	50	35
6. Northpower	Whakatāne	1,350	945
	Dargaville	50	35
	Ruawai	-	-
	Waipu/Ruakākā	50	35
7. Powerco	Whangārei	1,780	1,246
	Bulls	2,200	1,022
	Carterton/Greytown	-	-
	Coromandel	50	35
	Featherston	400	280
	Feilding	50	35
	Hāwera	50	35
	Hunterville	-	-
	Kakatahi	-	-
	Martinborough	-	-
	Masterton	968	594
	Matarangi	-	-
New Plymouth	3,260	1,932	
Ōmokoroa	-	-	
Ōpunake	50	35	



	Paeroa	800	476
	Pahiatua	50	35
	Palmerston North	720	504
	Pauanui	100	70
	Putāruru	280	196
	Stratford	360	238
	Taihape	2,175	1,187
	Tauranga	5,115	2,660
	Thames	450	315
	Tirau	775	543
	Tokoroa	260	182
	Waihi	250	175
	Waiouru	900	546
	Waverley	50	35
	Whangamatā	50	35
	Whangamōmona	-	-
	Whanganui	600	420
	Whitianga	450	315
8. Scanpower NZ	Dannevirke	350	245
9. The Lines Company	Mokau	50	35
	National Park	100	70
	Ohakune	100	70
	Otorohanga	50	35
	Taumarunui	200	140
	Te Kūiti	1,780	903
	Tūrangi	1,100	665
10. Top Energy	Cape Reinga	50	35
	Coopers Beach	510	343
	Kaikohe	-	-
	Kaitaia	150	105
	Kawakawa/Moerewa	50	35
	Kerikeri/Waipapa	225	158
	Ōkaihau	-	-
	Opononi	50	35
Pukenui	-	-	
11. Unison Networks Ltd	Hastings	200	140
	Napier	950	602
	Reporoa	-	-
	Rotorua	4,560	2,436
	Taupō	4,475	2,265
	Te Haroto	100	70
	Tutira/Putorino	50	35
12. Vector	Auckland	16,390	9,632
	Helensville	-	-
	Kumeū /Waimauku	720	490
	Silverdale	350	245
	Warkworth	585	396
	Wellsford	1,350	581
13. Waipa Networks Ltd	Cambridge	775	543
	Te Awamutu	100	70
14. WEL Networks	Hamilton	4,140	2,538
	Huntly	-	-
	Raglan	50	35
15. Wellington Electricity	Lower Hutt	1,525	1,005
	Porirua	225	158
	Upper Hutt	125	88
	Wellington	2,045	1,418

Appendix D: Capacity Distribution of Current Chargers

Figure 12 shows the distribution by capacity of current DC chargers (≥ 50 kW) in the North Island.

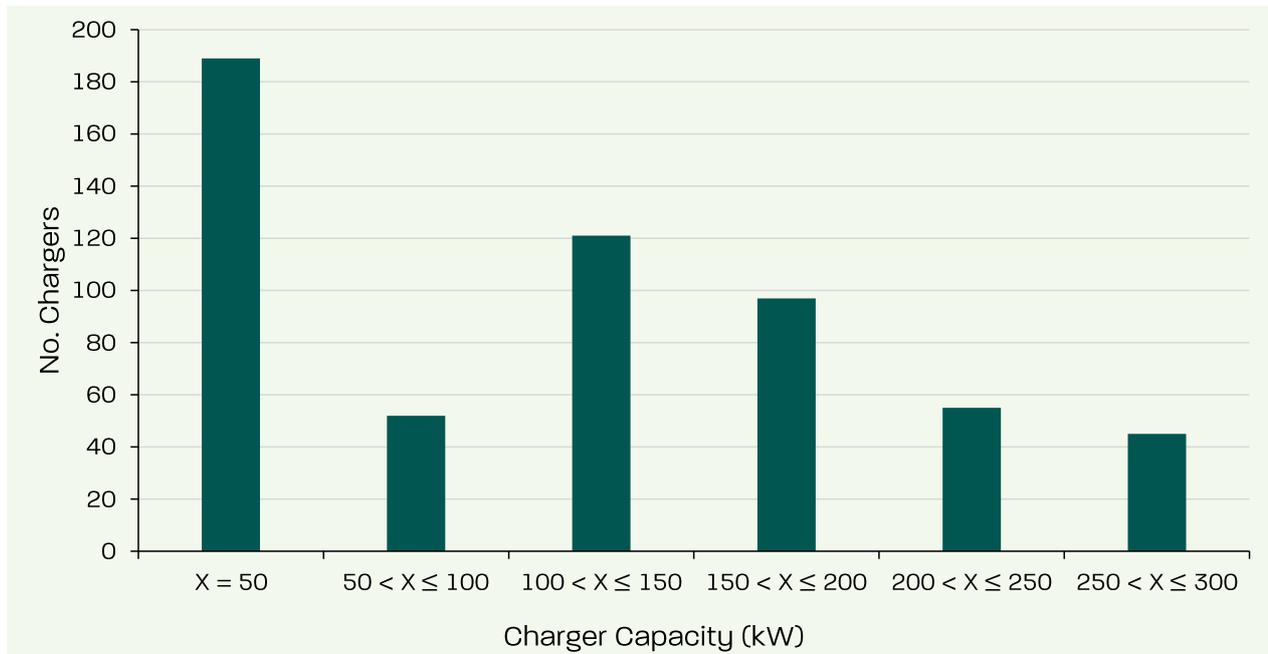


Figure 12: North Island Current Charger Capacity Distribution