APPENDIX 1: EVC INFRASTRUCTURE DEVELOPMENT METHODOLOGY – (UPDATED 9.11.21)

Aim: to inform Part Two of the EVC strategy, with a view to arriving at a consolidated long list of future EVC sites across various asset groups. Focus on network coverage [addressing any gaps in the existing network], with network expansion [expansion of existing provision on existing sites] to follow. Focus on equity.

Infrastructure should be split into three distinct themes, with a default charger type/composition per theme:

Theme 1 – charging on the move [rapid [50kw] – 90mins to 2 hours to fully charge]

This theme should provide rapid chargers at/on/near the public road network [and as that relates to car ferry routes].

The assumption is that users will utilise these chargers while 'on the move' for a 'top up', therefore these should be in the fastest charging category.

Theme 2 – destination charging [fast [22kw] – charge in 4 hours; slow [7kw] – charge in 7 hours]

This theme should provide fast chargers at locations where users are likely to leave their cars for an extended period of time such as long stay off-street car parks, with the default charger in these locations being fast.

Slow chargers may be considered for transport hubs/park and ride facilities where users are likely to leave their vehicles overnight.

Theme 3 – residential charging [slow [7kw] – charge in 7 hours]

This theme should provide overnight charging capability for residential housing which lacks on street parking, either retrospectively [likely responsibility of RSLs] or through planning gain.

Theme 1 – charging on the move

Addressing any gaps in the existing network to provide for one rapid charger **every 25 – 35 mins** [HiTRANS/Strathclyde University methodology for the FASTER project recommend the figure of 30mins to ensure driver confidence], as an aspiration, while acknowledging that this may not be appropriate for every setting:

- Sites should be at/on/near existing settlements with local amenities, with a view that the network development should bring consequential economic development gains e.g. EV users utilise local shops, cafes etc. while their car charges.
- Sites should be in Council ownership/control
- Consideration of grid capacity and associated cost barriers.
- Sites should have the potential for future expansion.

- Delivery prioritised in tranches according to the existing road and pier hierarchy
- Sites not in Council ownership can be considered if necessary to fill a network gap. Bringing these into Council ownership would be preferable.

Therefore the strategic priorities for site identification and delivery should be as below:

Gaps every 25-35 minutes	
Hierarchy	**Priority rating**
A roads Principal car ferry ports [mainland side]	1
B roads Principal car ferry ports [island side] Car ferry ports [mainland side]	2
C roads Car ferry ports [island side]	3
U roads	4

Note: this is a theoretical methodology at this point – it is unlikely that significant gaps will exist further down the priority rating/hierarchy.

Theme 2 – destination charging

This theme should provide for charging infrastructure where users are likely to leave their cars for an extended period of time.

- Sites should be in Council ownership as part of existing medium-long stay parking provision
- Sites not in Council ownership can be considered if necessary to fill a network gap. Locating chargers at site within Council ownership would be preferable.

At least one fast charger		
Hierarchy	**Coverage**	**Priority rating**
Towns 1,000 – 2,000	One car park	1
Principal ferry ports [mainland side]	All	
Rail park and rides	All	
Airport [mainland]	All	

Towns 2,000 to 5,000	25% of off-street car parks [largest to smallest or as appropriate for local needs]	2
Principal ferry ports [island side]	All	
Ferry ports [mainland side]	All	
Towns 5,000 to 10,000	50% of off-street car parks [largest to smallest or as appropriate for local needs]	3
Ferry ports [island side]	All	
Towns of greater than 10,000	All off-street car parks	4
Island airports	All	

Theme 3 – residential charging

This theme will need to be explored further to see if there are any residential areas with a lack of on-street parking which are within Council ownership.

At present it is anticipated that the Council will have little if any involvement in providing residential charging infrastructure as the requirement for this is likely to be on RSL owned sites.

Future planning policy should reflect the need for residential EV provision.

Note for all themes: *in developing the consolidated long lists consideration will need to be given to suitable delegated infrastructure cost barriers relative to the particular location and likely future usage. These barriers or cost ranges are likely to become clear once sites are selected and cost estimates can be prepared.*