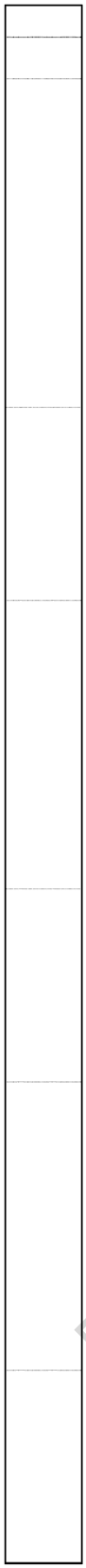
Data Source Key: Telcos Public Website Consumer Su	
Technology	**Availability/Coverage**
Copper	• Spatial data for where copper is available. • Where wholesale services are available: UCLL/UBA/UCLFS/CMAR/commercial/other • Where all cabinets, cell towers etc. are located. • TSO Addresses (sourced from Chorus). • Standby battery capacity available (resilience)
Wireless Broadband (cellular)	• Spatial data for where wireless broadband is available. **RCG/CIP?**
Satellite (Geo/Leo)	• Spatial data for where satellite data is available.

rvey MBNZ Stats NZ Connections	Price (for affordability calculation)
• Absolute number of connections. • Geographical distribution of connections.	• Plan type by land parcel. • Pricing information by land parcel.
	• Price data from public telco websites.
• Absolute number of connections. • Geographical distribution of connections.	• Plan type by land parcel. • Pricing information by land parcel.
	• Price data from public telco websites.
• Absolute number of connections. • Geographical distribution of connections.	• Plan type by land parcel. • Pricing information by land parcel.
	• Price data from public telco websites.

Affordability	Performance
• Pricing and availability data.	• Retailers service plan and price. • Headline speed (cabinet level + each land parcel connected to cabinet). - EIR speed (fixed connection based). - expected speed (telcos). • CIR (min speed). • Outage data (frequency/duration in last 2 years). • Standby battery capacity available.
• Income data from Stats NZ (on a meshblock level).	• MBNZ performance data (24/7 and peak). - Download - Upload - Latency - Outages
• Pricing and availability data.	• Retailers service plan and price. • Headline speed (cabinet level + each land parcel connected to cabinet). - EIR speed (fixed connection based). - expected speed (telcos). • CIR (min speed). • Outage data (frequency/duration in last 2 years). • Standby battery capacity available.
• Income data from Stats NZ (on a meshblock level).	• MBNZ performance data (24/7 and peak). - Download - Upload - Latency - Outages
• Pricing and availability data.	• Retailers service plan and price. • Headline speed (cabinet level + each land parcel connected to cabinet). - EIR speed (fixed connection based). - expected speed (telcos). • CIR (min speed). • Outage data (frequency/duration in last 2 years). • Standby battery capacity available.
• Income data from Stats NZ (on a meshblock level).	• MBNZ performance data (24/7 and peak). - Download - Upload - Latency - Outages

Consumer Experience	Consumer Usage
• Usability data - does it meet consumers need? - can consumers do what they want with their connection? • Reliability data - disconnections / outages • Technology and location data	• Usage - (provision of data, provision of voice)
• Usability data - does it meet consumers need? - can consumers do what they want with their connection? • Reliability data - disconnections / outages • Technology and location data	• Usage - (provision of data, provision of voice)
• Usability data - does it meet consumers need? - can consumers do what they want with their connection? • Reliability data - disconnections / outages • Technology and location data	• Usage - (provision of data, provision of voice)



Fixed Wireless (WISPs)	• Spatial data for where Fixed Wireless (WISPs) is available.
Backhaul	• By node (cabinet or cell site), derived by end user by understanding coverage...
Landline - ask is it VOIP/POTS	
Technology	**Spark**
Copper	Retail copper but getting out. Obligations under TSO.
Wireless Broadband (mobile)	Yes
Satellite (Geo/Leo)	No
Fixed Wireless (WISPs) - 37	No
Backhaul (national or inter-regional?	Yes - Spark Wholesale

• Absolute number of connections. • Geographical distribution of connections.	• Plan type by land parcel. • Pricing information by land parcel.
	• Price data from WISPA website. • Price data from public telco websites.
• Cabinet (ie specific cabinet area) • Cell site • WISP Tower	Highly variable - Backhaul Study, Get info from Chorus questionaire. Do we want it from every provider? **To DISCUSS.**
One NZ	**2Degrees/Vocus**
Yes	Yes
Yes	Yes
No	No
No	No
Yes	Yes - Vocus

• Pricing and availability data.	• Retailers service plan and price. • Headline speed (cabinet level + each land parcel connected to cabinet). - EIR speed (fixed connection based). - expected speed (telcos). • CIR (min speed). • Outage data (frequency/duration in last 2 years). • Standby battery capacity available.
• Income data from Stats NZ (on a meshblock level).	• MBNZ performance data (24/7 and peak). - Download - Upload - Latency - Outages
• **Not applicable**	• Backhaul capacity connected
Chorus	**WISPs(?)**
Yes	No
	No
	No
	Yes
Yes	No

• Usability data - does it meet consumers need? - can consumers do what they want with their connection? • Reliability data - disconnections / outages • Technology and location data	• Usage - (provision of data, provision of voice)
• Not applicable (TBC)	**• Not applicable**
Starlink	**RCG**
No	No
No	Yes
Yes	No
No	No
No	No

Other Backhaul Providers	LFCs	Copper Retail?	Satellite Retail?	Satellite Wholesale? Kacific
No	No	Yes	No	No
No	No	No	No	No
No	No	No	Yes	Yes
No	No	No	No	No
Yes - Kordia	Yes	No	No	No

Unique identifyer	Telco	Technology	Category
1.1	Chorus	Copper	Availabilty/Coverage
1.2	Chorus	Copper	Availabilty/Coverage
1.3	Chorus	Copper	Availabilty/Coverage
1.4	Chorus	Copper	Availabilty/Coverage
1.5	Chorus	Copper	Availabilty/Coverage
1.6	Chorus	Copper	Connections
1.7	Chorus	Copper	Connections
1.8	Chorus	Copper	Price/Affordablity
1.9	Chorus	Copper	Price/Affordablity
1.10	Chorus	Copper	Price/Affordablity
1.11	Chorus	Copper	Price/Affordablity
1.12	Chorus	Copper	Performance
1.13	Chorus	Copper	Performance
1.14	Chorus	Copper	Performance
1.15	Chorus	Copper	Performance
1.16	Chorus	Copper	Performance
1.17	Chorus	Copper	Performance
1.18	Chorus	Copper	Performance
1.19	Chorus	Copper	Performance
1.20	Chorus	Copper	Consumer Experience
1.21	Chorus	Copper	Consumer Experience
1.22	Chorus	Copper	Consumer Experience
1.23	Chorus	Copper	Consumer Usage
2.1	Spark NZ	Wireless Broadband (cellular)	Availabilty/Coverage
2.2	Spark NZ	Wireless Broadband (cellular)	Availabilty/Coverage
2.3	Spark NZ	Wireless Broadband (cellular)	Availabilty/Coverage
2.4	Spark NZ	Wireless Broadband (cellular)	Connections
2.5	Spark NZ	Wireless Broadband (cellular)	Connections
2.6	Spark NZ	Wireless Broadband (cellular)	Price/Affordablity
2.7	Spark NZ	Wireless Broadband (cellular)	Price/Affordablity
2.8	Spark NZ	Wireless Broadband (cellular)	Price/Affordablity
2.9	Spark NZ	Wireless Broadband (cellular)	Price/Affordablity
2.10	Spark NZ	Wireless Broadband (cellular)	Performance
2.11	Spark NZ	Wireless Broadband (cellular)	Performance
2.12	Spark NZ	Wireless Broadband (cellular)	Performance
2.13	Spark NZ	Wireless Broadband (cellular)	Performance
2.14	Spark NZ	Wireless Broadband (cellular)	Performance
2.15	Spark NZ	Wireless Broadband (cellular)	Performance
2.16	Spark NZ	Wireless Broadband (cellular)	Performance
2.17	Spark NZ	Wireless Broadband (cellular)	Performance
2.18	Spark NZ	Wireless Broadband (cellular)	Consumer Experience
2.19	Spark NZ	Wireless Broadband (cellular)	Consumer Experience
2.20	Spark NZ	Wireless Broadband (cellular)	Consumer Experience
2.21	Spark NZ	Wireless Broadband (cellular)	Consumer Usage
3.1	One NZ	Wireless Broadband (cellular)	Availabilty/Coverage
3.2	One NZ	Wireless Broadband (cellular)	Availabilty/Coverage

Description
Spacial data for where copper is available.
Where wholesale services are available: UCLL/UBA/UCLFS/CMAR/commercial/other
Where all cabinets, cell towers etc. are located.
TSO Addresses (sourced from Chorus).
Standby battery capacity available (resilience)
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where wireless broadband is available
Where all cabinets, cell towers etc. are located.
Standby battery capacity available (resilience)
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where wireless broadband is available
Where all cabinets, cell towers etc. are located.

Granularity	Source
Land parcel	Chorus
Land parcel	Chorus
Land parcel	Chorus
Land parcel	Chorus
Cabinet	Chorus
Aggregate	Chorus
?	Chorus
Land parcel	Chorus
Land parcel	Chorus
Plan	Public website
Meshblock	Stats NZ
Address	MBNZ
Land parcel	Chorus
Cabinet/Land parcel	Chorus
Land parcel	Chorus
Land parcel	Chorus
Land parcel	Chorus
Cabinet/Land parcel?	Chorus
Cabinet	Chorus
Region	Consumer Survey
Region	Consumer Survey
Address?	Consumer Survey
?	Chorus
Land parcel	Spark NZ
Land parcel	Spark NZ
Cabinet	Spark NZ
Aggregate	Spark NZ
?	Spark NZ
Land parcel	Spark NZ
Land parcel	Spark NZ
Plan	Public website
Meshblock	Stats NZ
Address	MBNZ
Land parcel	Spark NZ
Cabinet/Land parcel	Spark NZ
Land parcel	Spark NZ
Land parcel	Spark NZ
Land parcel	Spark NZ
Cabinet/Land parcel?	Spark NZ
Cabinet	Spark NZ
Region	Consumer Survey
Region	Consumer Survey
Address?	Consumer Survey
?	Spark NZ
Land parcel	One NZ
Land parcel	One NZ

3.3	One NZ	Wireless Broadband (cellular)	Availabilty/Coverage
3.4	One NZ	Wireless Broadband (cellular)	Connections
3.5	One NZ	Wireless Broadband (cellular)	Connections
3.6	One NZ	Wireless Broadband (cellular)	Price/Affordablity
3.7	One NZ	Wireless Broadband (cellular)	Price/Affordablity
3.8	One NZ	Wireless Broadband (cellular)	Price/Affordablity
3.9	One NZ	Wireless Broadband (cellular)	Price/Affordablity
3.10	One NZ	Wireless Broadband (cellular)	Performance
3.11	One NZ	Wireless Broadband (cellular)	Performance
3.12	One NZ	Wireless Broadband (cellular)	Performance
3.13	One NZ	Wireless Broadband (cellular)	Performance
3.14	One NZ	Wireless Broadband (cellular)	Performance
3.15	One NZ	Wireless Broadband (cellular)	Performance
3.16	One NZ	Wireless Broadband (cellular)	Performance
3.17	One NZ	Wireless Broadband (cellular)	Performance
3.18	One NZ	Wireless Broadband (cellular)	Consumer Experience
3.19	One NZ	Wireless Broadband (cellular)	Consumer Experience
3.20	One NZ	Wireless Broadband (cellular)	Consumer Experience
3.21	One NZ	Wireless Broadband (cellular)	Consumer Usage
4.1	2degrees	Wireless Broadband (cellular)	Availabilty/Coverage
4.2	2degrees	Wireless Broadband (cellular)	Availabilty/Coverage
4.3	2degrees	Wireless Broadband (cellular)	Availabilty/Coverage
4.4	2degrees	Wireless Broadband (cellular)	Connections
4.5	2degrees	Wireless Broadband (cellular)	Connections
4.6	2degrees	Wireless Broadband (cellular)	Price/Affordablity
4.7	2degrees	Wireless Broadband (cellular)	Price/Affordablity
4.8	2degrees	Wireless Broadband (cellular)	Price/Affordablity
4.9	2degrees	Wireless Broadband (cellular)	Price/Affordablity
4.10	2degrees	Wireless Broadband (cellular)	Performance
4.11	2degrees	Wireless Broadband (cellular)	Performance
4.12	2degrees	Wireless Broadband (cellular)	Performance
4.13	2degrees	Wireless Broadband (cellular)	Performance
4.14	2degrees	Wireless Broadband (cellular)	Performance
4.15	2degrees	Wireless Broadband (cellular)	Performance
4.16	2degrees	Wireless Broadband (cellular)	Performance
4.17	2degrees	Wireless Broadband (cellular)	Performance
4.18	2degrees	Wireless Broadband (cellular)	Consumer Experience
4.19	2degrees	Wireless Broadband (cellular)	Consumer Experience
4.20	2degrees	Wireless Broadband (cellular)	Consumer Experience
4.21	2degrees	Wireless Broadband (cellular)	Consumer Usage
5.1	RCG	Wireless Broadband (cellular)	Availabilty/Coverage
5.2	RCG	Wireless Broadband (cellular)	Availabilty/Coverage
5.3	RCG	Wireless Broadband (cellular)	Availabilty/Coverage
5.4	RCG	Wireless Broadband (cellular)	Connections
5.5	RCG	Wireless Broadband (cellular)	Connections
5.6	RCG	Wireless Broadband (cellular)	Price/Affordablity
5.7	RCG	Wireless Broadband (cellular)	Price/Affordablity

Standby battery capacity available (resilience)
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where wireless broadband is available
Where all cabinets, cell towers etc. are located.
Standby battery capacity available (resilience)
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where wireless broadband is available
Where all cabinets, cell towers etc. are located.
Standby battery capacity available (resilience)
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.

Cabinet	One NZ				
Aggregate	One NZ				
?	One NZ				
Land parcel	One NZ				
Land parcel	One NZ				
Plan	Public website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel	One NZ				
Cabinet/Land parcel	One NZ				
Land parcel	One NZ				
Land parcel	One NZ				
Land parcel	One NZ				
Cabinet/Land parcel?	One NZ				
Cabinet	One NZ				
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?	One NZ				
Land parcel	2degrees				
Land parcel	2degrees				
Cabinet	2degrees				
Aggregate	2degrees				
?	2degrees				
Land parcel	2degrees				
Land parcel	2degrees				
Plan	Public website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel	2degrees				
Cabinet/Land parcel	2degrees				
Land parcel	2degrees				
Land parcel	2degrees				
Land parcel	2degrees				
Cabinet/Land parcel?	2degrees				
Cabinet	2degrees				
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?	2degrees				
Land parcel	RCG				
Land parcel	RCG				
Cabinet	RCG				
Aggregate	RCG				
?	RCG				
Land parcel	RCG				
Land parcel	RCG				

5.8	RCG	Wireless Broadband (cellular)	Price/Affordablity
5.9	RCG	Wireless Broadband (cellular)	Price/Affordablity
5.10	RCG	Wireless Broadband (cellular)	Performance
5.11	RCG	Wireless Broadband (cellular)	Performance
5.12	RCG	Wireless Broadband (cellular)	Performance
5.13	RCG	Wireless Broadband (cellular)	Performance
5.14	RCG	Wireless Broadband (cellular)	Performance
5.15	RCG	Wireless Broadband (cellular)	Performance
5.16	RCG	Wireless Broadband (cellular)	Performance
5.17	RCG	Wireless Broadband (cellular)	Performance
5.18	RCG	Wireless Broadband (cellular)	Consumer Experience
5.19	RCG	Wireless Broadband (cellular)	Consumer Experience
5.20	RCG	Wireless Broadband (cellular)	Consumer Experience
5.21	RCG	Wireless Broadband (cellular)	Consumer Usage
6.1	Starlink	LEO Satellite	Connections
6.2	Starlink	LEO Satellite	Connections
6.3	Starlink	LEO Satellite	Connections
6.4	Starlink	LEO Satellite	Price/Affordablity
6.5	Starlink	LEO Satellite	Price/Affordablity
6.6	Starlink	LEO Satellite	Price/Affordablity
6.7	Starlink	LEO Satellite	Price/Affordablity
6.8	Starlink	LEO Satellite	Performance
6.9	Starlink	LEO Satellite	Performance
6.10	Starlink	LEO Satellite	Performance
6.11	Starlink	LEO Satellite	Performance
6.12	Starlink	LEO Satellite	Performance
6.13	Starlink	LEO Satellite	Performance
6.14	Starlink	LEO Satellite	Performance
6.15	Starlink	LEO Satellite	Performance
6.16	Starlink	LEO Satellite	Consumer Experience
6.17	Starlink	LEO Satellite	Consumer Experience
6.18	Starlink	LEO Satellite	Consumer Experience
6.19	Starlink	LEO Satellite	Consumer Usage
7.1	TBC	GEO Satellite	Connections
7.2	TBC	GEO Satellite	Connections
7.3	TBC	GEO Satellite	Connections
7.4	TBC	GEO Satellite	Price/Affordablity
7.5	TBC	GEO Satellite	Price/Affordablity
7.6	TBC	GEO Satellite	Price/Affordablity
7.7	TBC	GEO Satellite	Price/Affordablity
7.8	TBC	GEO Satellite	Performance
7.9	TBC	GEO Satellite	Performance
7.10	TBC	GEO Satellite	Performance
7.11	TBC	GEO Satellite	Performance
7.12	TBC	GEO Satellite	Performance
7.13	TBC	GEO Satellite	Performance
7.14	TBC	GEO Satellite	Performance

Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where satellite data is available.
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where satellite data is available.
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).

Plan	Public website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel	RCG				
Cabinet/Land parcel	RCG				
Land parcel	RCG				
Land parcel	RCG				
Land parcel	RCG				
Cabinet/Land parcel?	RCG				
Cabinet	RCG				
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?	RCG				
	Starlink				
Aggregate	Starlink				
?	Starlink				
Land parcel	Starlink				
Land parcel	Starlink				
Plan	Public website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel	Starlink				
Cabinet/Land parcel	Starlink				
Land parcel	Starlink				
Land parcel	Starlink				
Land parcel	Starlink				
Cabinet/Land parcel?	Starlink				
Cabinet	Starlink				
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?					
Aggregate					
?					
Land parcel					
Land parcel					
Plan	Public website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel					
Cabinet/Land parcel					
Land parcel					
Land parcel					
Land parcel					
Cabinet/Land parcel?					

7.15	TBC	GEO Satellite	Performance
7.16	TBC	GEO Satellite	Consumer Experience
7.17	TBC	GEO Satellite	Consumer Experience
7.18	TBC	GEO Satellite	Consumer Experience
7.19	TBC	GEO Satellite	Consumer Usage
8.1	WISPs	Wireless Broadband (WISP)	Availabilty/Coverage
8.2	WISPs	Wireless Broadband (WISP)	Availabilty/Coverage
8.5	WISPs	Wireless Broadband (WISP)	Connections
8.6	WISPs	Wireless Broadband (WISP)	Connections
8.7	WISPs	Wireless Broadband (WISP)	Connections
8.8	WISPs	Wireless Broadband (WISP)	Price/Affordablity
8.9	WISPs	Wireless Broadband (WISP)	Price/Affordablity
8.10	WISPs	Wireless Broadband (WISP)	Price/Affordablity
8.11	WISPs	Wireless Broadband (WISP)	Price/Affordablity
8.12	WISPs	Wireless Broadband (WISP)	Price/Affordablity
8.13	WISPs	Wireless Broadband (WISP)	Performance
8.14	WISPs	Wireless Broadband (WISP)	Performance
8.15	WISPs	Wireless Broadband (WISP)	Performance
8.16	WISPs	Wireless Broadband (WISP)	Performance
8.17	WISPs	Wireless Broadband (WISP)	Performance
8.18	WISPs	Wireless Broadband (WISP)	Performance
8.19	WISPs	Wireless Broadband (WISP)	Performance
8.20	WISPs	Wireless Broadband (WISP)	Performance
8.21	WISPs	Wireless Broadband (WISP)	Consumer Experience
8.22	WISPs	Wireless Broadband (WISP)	Consumer Experience
8.23	WISPs	Wireless Broadband (WISP)	Consumer Experience
8.24	WISPs	Wireless Broadband (WISP)	Consumer Usage
1.24	Chorus	Backhaul	Availabilty/Coverage
1.25	Chorus	Backhaul	Connections
1.26	Chorus	Backhaul	Connections
1.27	Chorus	Backhaul	Connections
1.28	Chorus	Backhaul	Price/Affordablity
1.29	Chorus	Backhaul	Performance
2.23	Spark NZ	Backhaul	Availabilty/Coverage
2.24	Spark NZ	Backhaul	Connections
2.25	Spark NZ	Backhaul	Connections
2.26	Spark NZ	Backhaul	Connections
2.27	Spark NZ	Backhaul	Price/Affordablity
2.28	Spark NZ	Backhaul	Performance
3.22	One NZ	Backhaul	Availabilty/Coverage
3.23	One NZ	Backhaul	Connections
3.24	One NZ	Backhaul	Connections
3.25	One NZ	Backhaul	Connections
3.26	One NZ	Backhaul	Price/Affordablity
3.27	One NZ	Backhaul	Performance
9.1	Vocus	Backhaul	Availabilty/Coverage

Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Spacial data for where wireless broadband is available
Where all cabinets, cell towers etc. are located.
Spacial data for where satellite data is available.
Absolute number of connections.
Geographical distribution of connections.
Plan type by land parcel.
Pricing information by land parcel.
Price data from public telco websites.
Price data from WISPA.
Income data from Stats NZ (on a meshblock level).
MBNZ performance data (24/7 and peak).- Download- Upload- Latency- Outages
Retailers service plan and price.
Headline speed (cabinet level + each land parcel connected to cabinet).
EIR speed (fixed connection based).
Expected speed (telcos).
CIR (min speed).
Outage data (frequency/duration in last 2 years).
Standby battery capacity available.
Usability data- does it meet consumers need?- can consumers do what they want with their connection?
Reliability data - disconnections / outages
Technology and location data
Usage - (provision of data, provision of voice)
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected

Cabinet					
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?					
Land parcel	WISP				
Land parcel	WISP				
	WISP				
Aggregate	WISP				
?	WISP				
Land parcel	WISP				
Land parcel	WISP				
Plan	Public website				
Plan	WISPA website				
Meshblock	Stats NZ				
Address	MBNZ				
Land parcel	WISP				
Cabinet/Land parcel	WISP				
Land parcel	WISP				
Land parcel	WISP				
Land parcel	WISP				
Cabinet/Land parcel?	WISP				
Cabinet	WISP				
Region	Consumer Survey				
Region	Consumer Survey				
Address?	Consumer Survey				
?	WISP				
Node	Chorus				
Cabinet	Chorus				
Cell site	Chorus				
WISP Tower	Chorus				
	Chorus				
Node	Chorus				
Node	Spark NZ				
Cabinet	Spark NZ				
Cell site	Spark NZ				
WISP Tower	Spark NZ				
	Spark NZ				
Node	Spark NZ				
Node	One NZ				
Cabinet	One NZ				
Cell site	One NZ				
WISP Tower	One NZ				
	One NZ				
Node	One NZ				
Node	Vocus				

9.2	Vocus	Backhaul	Connections
9.3	Vocus	Backhaul	Connections
9.4	Vocus	Backhaul	Connections
9.5	Vocus	Backhaul	Price/Affordablity
9.6	Vocus	Backhaul	Performance
10.1	Kordia	Backhaul	Availabilty/Coverage
10.2	Kordia	Backhaul	Connections
10.3	Kordia	Backhaul	Connections
10.4	Kordia	Backhaul	Connections
10.5	Kordia	Backhaul	Price/Affordablity
10.6	Kordia	Backhaul	Performance
11.1	Northpower	Backhaul	Availabilty/Coverage
11.2	Northpower	Backhaul	Connections
11.3	Northpower	Backhaul	Connections
11.4	Northpower	Backhaul	Connections
11.5	Northpower	Backhaul	Price/Affordablity
11.6	Northpower	Backhaul	Performance
12.1	Enable	Backhaul	Availabilty/Coverage
12.2	Enable	Backhaul	Connections
12.3	Enable	Backhaul	Connections
12.4	Enable	Backhaul	Connections
12.5	Enable	Backhaul	Price/Affordablity
12.6	Enable	Backhaul	Performance
13.1	Tuatahi	Backhaul	Availabilty/Coverage
13.2	Tuatahi	Backhaul	Connections
13.3	Tuatahi	Backhaul	Connections
13.4	Tuatahi	Backhaul	Connections
13.5	Tuatahi	Backhaul	Price/Affordablity
13.6	Tuatahi	Backhaul	Performance

Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected
Connections by cabinet (ie specific cabinet area)
Cell site
WISP Tower
Highly variable - Backhaul Study
Backhaul capacity connected

Cabinet	Vocus				
Cell site	Vocus				
WISP Tower	Vocus				
	Vocus				
Node	Vocus				
Node	Kordia				
Cabinet	Kordia				
Cell site	Kordia				
WISP Tower	Kordia				
	Kordia				
Node	Kordia				
Node	Northpower				
Cabinet	Northpower				
Cell site	Northpower				
WISP Tower	Northpower				
	Northpower				
Node	Northpower				
Node	Enable				
Cabinet	Enable				
Cell site	Enable				
WISP Tower	Enable				
	Enable				
Node	Enable				
Node	Tuatahi				
Cabinet	Tuatahi				
Cell site	Tuatahi				
WISP Tower	Tuatahi				
	Tuatahi				
Node	Tuatahi				

Field
End-user location
Coverage of available plans
Plan connected
Voice/Broadband
Residential/Business
Bundle
Antenna installed (FWA only)
TSO/Non-TSO (Chorus only)
Traffic
Voice
Number of faults
Duration of faults
Cell site location
Coverage (3G/4G/5G) – mobile
Coverage (3G/4G/5G) – FWA with antenna
Capacity of backhaul (cell site)
Technology of backhaul (cell site)
Hours of battery backup installed
Satellite coverage
Backhaul technology
Backhaul capacity
Standby battery capacity installed
Fixed network cabinet name
Technologies available
Wholesale plans offered
Regulated service L1/L2?
Headline speed
EIR
CIR
Number of cabinet faults
Duration of cabinet faults
Number of cell site faults
Duration of cabinet faults

Description (Data Dictionary)
Location of end-user as per 'location information'
Coverage map of each available retail plan
The plan(s) currently connected at that location
Voice only, voice and broadband bundle, naked broadband
Business or residential customer
If the current plan has been sold as a bundle, and what type of bundle the plan is sold with e.g. electricity, Netflix
Whether an external antenna has been installed for FWA (Yes/No)
Monthly data (GB) used by end-user (if providing monthly data) or average monthly data use over the last 12 months by end
Monthly voice minutes used by end-user (if providing monthly data) or average monthly data use over the last 12 months by
Total number of reported faults for the last two years
Total duration in minutes of reported service outages due to faults for the last two years
Location as per 'location information'
Aligned with CIP methodology (Polygons – Vector format)
Aligned with CIP methodology (Polygons – Vector format)
Gbps
Fibre, DMR etc
Total time site expected to keep working if power goes down
Polygons – Vector format
For each ground station
Capacity available to each ground station
Total time site expected to keep working if power goes down
Only for active cabinets - leave blank if none
eg fibre, VDSL, ADSL, Broadband IP
eg fibre 100, hyperfibre, UBA etc
Regulated services are anchor service (L2), DFAS and PONFAS (L1), UCLL (L1) and UBA (L2)
Sync speed for copper, PIR for fibre services
Excess information rate
Committed Information Rate
Total number of reported faults in the last 2 years that were not reported against individual end-users (eg backhaul faults, e
Duration of reported faults in the last 2 years that were not reported against individual end-users (eg backhaul faults, equipr
Total number of reported faults in the last 2 years that were not reported against individual end-users (eg backhaul faults, e
Duration of reported faults in the last 2 years that were not reported against individual end-users (eg backhaul faults, equipr

Data Format Req'd	Priority	Reason
	1	Key to reporting on location-based data
	1	Copper review and AMR
	1	Copper review and AMR
	2	Advice and possibly AMR
	2	AMR
	2	AMR
	2	Advice and AMR
	1	Copper review, AMR and advice
l-user	1	AMR
y end-user.	2	AMR
	2	AMR
	2	AMR
	1	Copper review, AMR, advice
	1	AMR, advice
	1	Copper review, AMR, advice
	3	AMR, advice
	3	AMR, advice
	3	AMR, advice
	1	Copper review, AMR
	3	Advice
	3	Copper review, AMR, advice
	3	Advice, AMR
	1	Copper review, AMR, advice
	1	Copper review
	1	Copper review
	1	Copper review
	2	AMR, advice
	2	AMR, advice
	2	AMR, advice
quipment faults)	2	AMR, advice
ment faults)	2	AMR, advice
quipment faults)	2	AMR, advice
ment faults)	2	AMR, advice

Use
All
Knowing where copper plans are connected will be key to analysis for the review
TSO is a voice-only obligation currently
Separate bus and res reporting
Commentary on the trends in the way telco services are sold
For comparing coverage maps with EU site performance
If we manage to connect copperand TSO reviews with MBIE
Reporting on traffic, comparisons between technologies
Reporting on voice traffic trends
Comparison of technologies and fault rates
Comparison of technologies and fault rates
Part of coverage analysis
Mobile coverage commentary
Part of coverage analysis
Mobile coverage commentary
Mobile coverage commentary
Resilience summaries
Part of coverage analysis
Resilience summaries
Coverage analysis
Resilience summaries
Coverage analysis and resilience summaries
Coverage analysis
Coverage analysis
Coverage analysis
Speed analysis
Speed analysis
Speed analysis
Resilience and downtime analysis
Resilience and downtime analysis
Resilience and downtime analysis
Resilience and downtime analysis

Competition analysis, where connections are, what they are connected to, allows us to use location data to compare with ot
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Services that end-users have that are not available
Infrom advice on the TSO review. Spark do not know where the TSO boundary is. Chorus now have some information.
Comparison between copper and fixed wireless - Competition analysis. Are they substitutes? Urban Fibre vs other technolog
Feeds into other metrics we are capturing. Backhaul, resilience. Co-location of fixed wireless. Where multiple MNOs same si
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Feeds into other metrics we are capturing. Backhaul, resilience. Co-location of fixed wireless. Where multiple MNOs same si
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.
Help us with the copper review analysis. We know what regulated servis are actually there.

Granularity
her data collected. Comparison to income data. Who is paying for what and the price they are paying. What is avai
Will need a list of sites with stop sells. Indication of when this will change (planned date) and reason.
At address level
At address level
Address point
By Address
Address point
Address point
What is available - Land parcel
te.
Don't consider a service available where there is a stop sell.
Test at the workshop
Don't consider a service available where there is a stop sell.
te.
Don't consider a service available where there is a stop sell.
Don't consider a service available where there is a stop sell.
Address point
Address point
Address point

Comment
lable. Close economic substitutes. Ehat else is available. Plans and featurs, data caps, key features. Are the alterna
Either option - needs to be full month if only joined in June. Average for last three months
Does the tower have a stop-sell?
Does the tower have a stop-sell? Question for the workshop - how do we do this? Remaining capacity

	Field
tive attract	Plans available
	Price of plans available
	Technology of plans available
	Set-up fees
	Plan term
	Plan upload/download speeds
	Data allowance

RSP Plans offe
Description (Data Dictionary)
List of plans available
Prices of plans available ex-GST and not including variable components (usage or additional discretionary equipment charge
E.g. Fibre, HFC, ADSL, VDSL, 4G Fixed Wireless, 5G Fixed Wireless, Satellite, CMAR
Initial fees paid an end-user when they entered into the plan ($NZD, ex GST) e.g. Installation costs
Term of plan offered
Advertised download speed of the broadband plan (Mbps)
Monthly data allowance (GB)

ered

Data Format Req'd	Priority	Reason
	1	Copper review
s etc)	2	Advice and possibly AMR
	1	Copper review and AMR
	2	Advice and possibly AMR
	2	AMR
	2	Advice and AMR
	2	Advice and AMR

Use
Availability of services
A dimension of affordability for AMR (?) and advice to policy makers
Knowing where copper plans are available will be key to analysis for the review
A dimension of affordability for AMR (?) and advice to policy makers
Analysis of demand and comparisons between Cu and fibre and FWA services
Analysis of demand and comparisons between Cu and fibre and FWA services

Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.

Close economic substitutes. What options consumers have. Coverage is the first step of the analysis. Stop-sells vs coverage.

Price or average (POA)

Don't consider a service available where there is a stop sell.

Don't consider a service available where there is a stop sell.

ID	Term	Definition / Data Parameters
D01	Network coverage	Whether an end-user has the ability to connect to the relevant network. Cellular networks will have separate coverage information for mobile (ie handheld) and fixed (house antenna) coverage.
D02	Retail coverage	Whether an end-user has the ability to purchase retail services on an available network.
D03	Connections	Number of working connections to a voice or broadband (voice and broadband connections to the same land parcel count as one connection.
D04	Price	The retail price of the connected service. Will include the connection fee payable for the service (one-off) and the ongoing rental (monthly).
D05	Affordability	We will collect data on service connected and its price and household income. Household income will be sourced from the Department of Statistics and will likely be at a meshblock level, so each household in the block will be assigned the average meshblock. Users of the data will then be able to calculate affordability based on their own criteria.
D06	Performance	Service performance can be impacted by different components of the broadband network, starting with the devices in the home and ending with the world wide web. The main factors that affect the performance of the connections are: a.Headline download speed (EIR); b.Headline upload speed (EIR) c.Minimum download speed under congested conditions (CIR); and d.Latency e.Outage profile (frequency/duration of outages in last 24 months).
D07	Consumer experience (satisfaction/quality)	The overall user experience of consumers broadband connection. Consumer satisfaction with the service they are getting from their broadband/mobile provider. Typically measured by surveys e.g. Overall satisfaction with their service, quality of their service, number of problems with the service they have experienced over the past two years.
D08	Consumer usage	The amount of data that a consumer uses over a defined period of time (Usually per month).
D09	Granularity of data	All data will be based on a 'per premises' view. Data that is collected on a per cabinet or per cell site basis will be able to be attributed to the individual premises in their coverage area.
D10	Currency of data	We will specify the date which we will require data to be 'as at'. This will not always be possible.
D11	Resilience	

Comments
Note: coverage is relevant whether a customer is connected or not.
Agree definition of resilience (David Quaid - lifted from acts / rule book Investigate what other agencies are capturing in this space now, that we may draw on Incorporate findings from the resilience project David Quaid - ensure two projects are aligned philosophically

D12	Investment	
D13		

Hard to get data on, what do we want to report on, what do we want to know - have to ask the questions in the right way.

ID
A01
A02
A03
A04

Assumption
All data that comcom is currently in possession is not required for this study as is either out of date or not at the required level of granularity. It used to 'sanity check' the data collected as part of the study, but will not be used explicitely for this study. Therefore, no permission is required to be sought to use the data.
Data that we have received AND is publicly available is OK to use for this study, without seeking explicit permission from the source.
List of providers we will seek data from = AMR list + additional RSPs from FedFarmers survey - any RSP with less than 1% market share. TO BE VALIDATED.

UFONE

Vital NZ

vGRID
Layerx Cloud Limited

Velocitynet Ltd

Morepork Online Ltd
A Kiwi-based internet service provider supported by our team of night owls

Inspire Net Ltd

WombatNET

Accelerate Wireless ltd
A locally owned and operated wireless ISP in sunny Marlborough

Kordia Ltd

Voyager Internet Ltd

Xtreme Networks
Xtreme Networks is a Wellington owned and operated ISP and Data Centre

Compass Communications Ltd

RexNetworks Limited

Primo Wireless

Enhanced Solutions Ltd

martinborough.net.nz
xDSL, Fibre and Rural Wireless Service Provider

WheroNet Ltd
Rural wireless internet to South Auckland and North Waikato

MediaTribe Limited

WIZwireless Ltd

TrustPower

InternetNZ

Prodigi Technology Services Ltd

Ezykonect Rural Broadband

DTS Ltd

New Zealand Technology Group

The Connectivity Group (TCG)

Gravity Internet Ltd

ccelerate Wireless
muri
oNet Broadband
onnecta
ountryNet
zykonect
ull Flavour
ecko Broadband
isborne.net.nz
ravity Internet Ltd
spire
iwi Wifi
ghtwire
ATnet
etSpeed
rimo
exNetworks
trataNet
PNET.NZ
ltimate Broadband
nifone
elocityNet

TCF
NZ TELECOMMUNICATIONS FORUM INC

BROADBAND LANDLINE MOBILE DIGITAL LIVING COMPLAINTS

Consumers > About Us > Member Brands

Member Brands

Member Brands

2degrees
Bigpipe
ELECTRIC KIWI
flip
kordia
NOW
Skinny

'anna Internet

'heroNet

'ifi Connect

'ireless Dynamics

'ireless Nation

'IZwireless

'ombatNet

)nder Wireless

'less

elan

Party	Draft Sent	box.com sent	Final Sent	Received	Via	Date received
2degrees	20-Jun	29-Jun		No		
Chorus	20-Jun	29-Jun		No		
Compass (ISPANZ)	20-Jun			No		
Contact Energy				No		
Enable	22-Jun	29-Jun		No		
Gravity (ISPANZ)	20-Jun			No		
Inspire Net (ISPANZ)	20-Jun			No		
Kordia (ISPANZ)	20-Jun			No		
Lightwire (WISP)	20-Jun			No		
MyRepublic				No		
Northpower	22-Jun	29-Jun		No		
Nova Energy				No		
NowNZ				No		
Sky Broadband				No		
Spark	20-Jun	29-Jun		No		
Starlink	20-Jun	29-Jun		No		
Trustpower (ISPANZ)	20-Jun			No		
Tuatahi First Fibre	22-Jun	29-Jun		No		
Vector	28-Jun			No		
Vital (ISPANZ)	20-Jun			No		
Vocus (2 Degrees)	20-Jun			No		
One NZ	20-Jun	29-Jun		No		
Voyager (ISPANZ)	20-Jun			No		
Warehouse				No		
Wireless Nation (WISPA)	20-Jun			No		
WOi				No		
WISPA	20-Jun	29-Jun				
ISPANZ	20-Jun	29-Jun				
Unifone	20-Jun					
Ultimate Broadband	20-Jun					
Stratanet	20-Jun					
Go Wifi - sells products, not services?	20-Jun					
WizWireless	20-Jun					
Telco2 (out of scope?)	20-Jun					
Yrless	20-Jun					
Waimawharf (in scope?)	20-Jun					
Uber Group	20-Jun					
Primo	20-Jun					
KiwiWifi	20-Jun					
Ashley Communications	20-Jun					
BP Computers (in scope?)	20-Jun					
Rex Networks	20-Jun					
Blast Internet NZ	20-Jun					
Purelink	20-Jun					
Wireless Dynamics	20-Jun					
Mercury	28-Jun	29-Jun				

Checked	Satisfactory	Followed up
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
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No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA
No	No	NA

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