

Infrastructure

network, power, radio, etc

- [Internet](#)

Internet

From August 7th, 2026, we have temporary unplugged Verizon, to smoke test if NYC Mesh is good enough to serve the community. Special attention will be given to coworkers, as a crucial source of income to the space.

Ridgewood Commons provides free wired and wireless internet access, courtesy of [NYC Mesh](#). The network buildout and maintenance has been the result of many contributors over the years. This snapshot of understanding and opinions is an invite for discussion, disagreement, and reflection.

I hope to build our resilience and have fun maintaining our network. Contribute by [looking at current tasks](#).

Why write this?

because micro's memory of conversations is poor

to help [RC Tech Admin](#) more safely and swiftly respond to changing community internet needs to improve the resiliency of the space, and extend that resiliency to our neighbors

How we help each other

Folks with **interests and expertise beyond technical** can share their values, so we can maintain a network that reflects those values.

Folks with technical interest or expertise can **help demystify what the internet is**, making it knowable and malleable.

How to get involved

Reach out to [RC Tech Admin](#), directly or indirectly. Introduce yourself when you see someone messing with big loops of wire or electronics with blinking lights. I'm probably gonna do office hours, using a tool a community member made to help find a good time for us to do so.

The network

We operate one semi-public network for use in the space. Access over wifi ssid `RidgewoodCommons` is the advertised way to connect in the space, complete with silly-hard-to-say-aloud password with qr code. NYC Mesh is the **volunteer community** maintaining our connection to the rest of the internet. Neighbors sharing wifi with each other, [really well documented operations](#) complete with

security considerations. Reading some of the writing on that wiki directly motivated me to fill out this page.

RidgewoodCommons (Testing)

We donate \$0/month to [NYC Mesh](#), a volunteer-run, community organized internet service provider. I gushed above about what the org does. Currently we are upgrading our connection to the wider mesh, and asking folks to try it out but that it is unstable. If you are interested reach out, we will announce when we are more confident in taking on more testers.

The mess of electronics mounted on the southeast (right) wall under the projector screen is the inside half of our network. The outside half is up on the roof, which connects us to the wider mesh and eventually to the internet.

If you connect to [RidgewoodCommons](#) your device will receive a DHCP address by the raspberry pi in [10.70.127.1/24](#). This pi on the wall network **peers** with a omnitik on the roof network over a protocol called BGP.

This means the board in the basement is a complete, literal example of how the internet works. If you think this is cool, then you are cool. ☐☐

location	model	service	notes	power	cost
wall	Wayru Miner Comfast WA933	RidgewoodCommons access point	OpenWRT nightly (comfast 933 patches) 48V PoE	18W	300
wall	Netgear GS308EP manual	10.70.127.9 VLAN port mapping PoE+	60W PoE+ 30W/port max	6W	80
wall	Raspberry Pi 4 Model B PoE+ Hat	DHCP 10.70.127.1/24 Mesh 10.69.2.154/32 Web Server	Arch Linux Arm linux-rpi kernel ipv4 forwarding	15W	145
wall	RPi 7" touchscreen	hypno-animation	~/fb16/build/bin/t estLines	1W	40
roof	Mikrotik Omnitik	Mesh peer 10.69.2.54/32 [future] switch + wds??	PoE + switch, bird 24V/48V PoE	18W	120
roof	Ubiquiti Litebeam AC Gen 2	5Ghz gateway to vernon	disabled	7W	75

roof	AF60-LR	60Ghz gateway to vernon	main uplink 24V/48V PoE	22W	270
root	sqsq 5 ac	router offload for omnitik?	24V PoE	7W	50
basement	Ubiquiti Unifi UAP-AC Pro	RidgewoodCommonsBasement access point		6W	70

VLAN

To have our own network, the pi is the dhcp server and router. The pi only has 1 ethernet port, so we use a vlan to create a second virtual cable. **Ports 2 and 7 are the special ones.**

port	mode	pvid (primary vlan id)	vlan memberships
1	trunk	1	1U
2	trunk	1	1U, 52T
3	trunk	1	1U
4	trunk	1	1U
5	trunk	1	1U
6	trunk	1	1U
7	access	52	52U
8	trunk	1	1U

[ridgewood-commons-mesh-inside.jpg](#)[nycmesh-roof-install](#)

Technical Details

A ton of random things to know

Router Setup

```
/etc/sysctl.d/10-enable-ipv4-forwarding.conf
net.ipv4.forward = 1
```

Peering with the roof

```
[root@alarm ~]# birdc show ospf neighbors
```

```
BIRD 3.2.0 ready.
```

```
ospf1:
```

```
Router ID Pri State DTime Interface Router IP
```

```
10.69.2.54 1 Full/PtP 38.928 end0.52 10.69.2.54
```