

# Do you care about your air?

## A case study of EPA's community co-designed air monitoring network in the Latrobe Valley



Environment  
Protection  
Authority Victoria



# Hazelwood mine fire

---



# Impacts and improvements



# Community decisions

---

Remit: What is the best way to monitor the air quality in the Latrobe Valley, with the resources EPA has allocated until 2020?



# The co-design panel

---



# The process



## Options for PM<sub>2.5</sub> monitors



Environment  
Protection  
Authority Victoria



Type of monitor	Accuracy	Data available on web	Runs on solar batteries	Easily moved	Cost rating	Maintenance	Break down of costs		
							To purchase	To set up supporting infrastructure	To maintain and operate per year
<b>Partisol</b> 	☆☆☆☆	✗	✗	✗	\$ \$	\$ \$ \$ \$	\$10k	\$5-10k	\$30k
<b>BAM</b> 	☆☆☆	✓	✗	✗	\$ \$ \$	\$ \$ \$	\$30-50k	\$30-70k	\$10k
<b>Optical</b> 	☆☆	✓	✓	✓	\$ \$	\$	\$15k	\$5-10k	\$1-5k
<b>Smoke sensor</b> 	☆	?*	✓	✓	\$	\$	\$2-5k	\$5-10k	\$1-5k

\*A question mark symbol (?) indicates the item is untested at this stage.

\*\*Note that all costs are approximate.

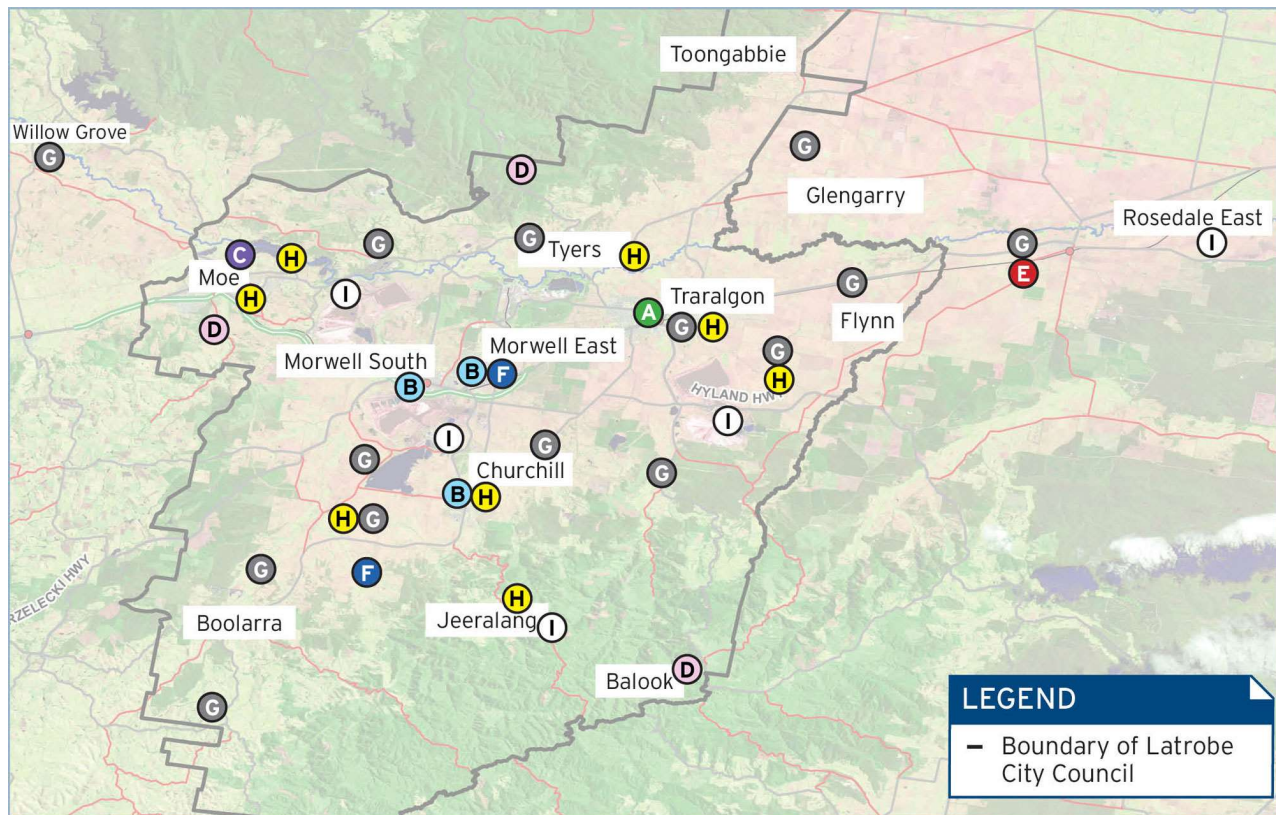
# A co-designed approach

---

<https://www.youtube.com/watch?v=ChnrYIAQxgQ>



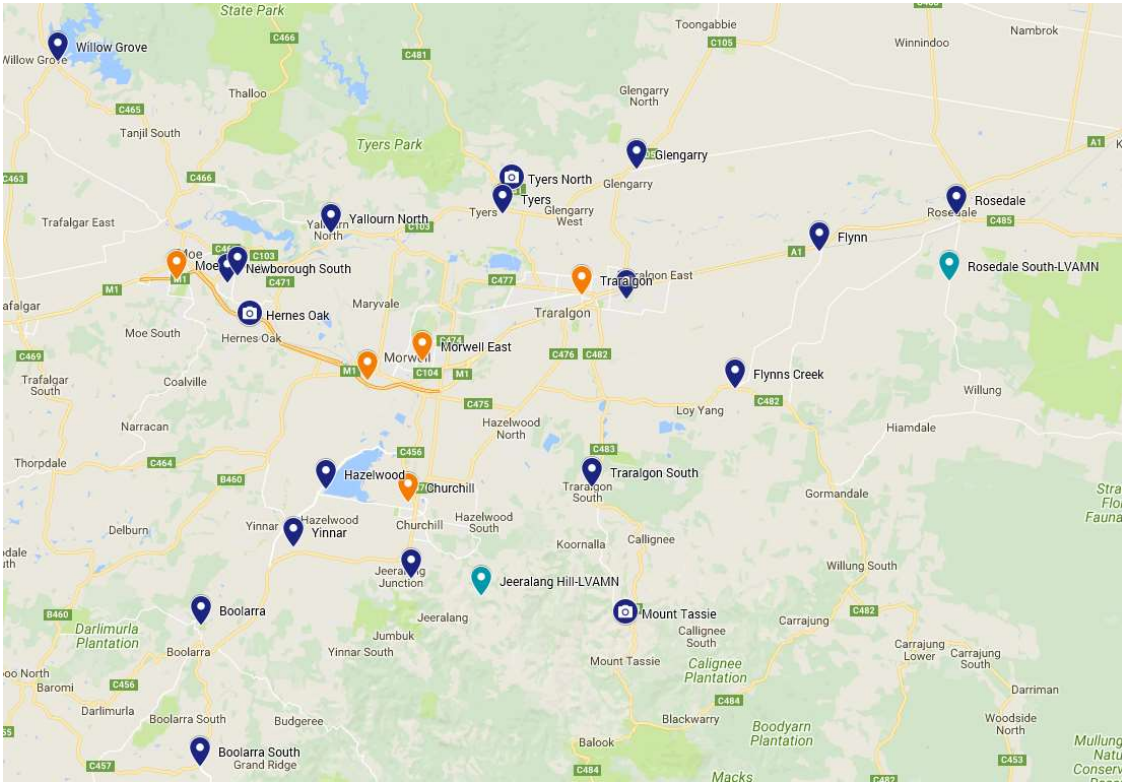
# What the community designed



Type of monitor or station	Locations	Quantity	Colour and code
Permanent EPA air monitoring station*	Traralgon	1	A
Existing EPA air monitoring station to remain in current location*	Morwell East, Morwell South, Churchill	3	B
Existing EPA air monitoring station in new location*	Moe station moved north	1	C
Camera (to monitor smoke and dust)	Refer to map	3	D
PM <sub>2.5</sub> (fine particle) optical monitor – portable	Refer to map	1	E
PM <sub>10</sub> (dust) optical monitor – portable	Refer to map	2	F
Smoke sensor – portable	Refer to map	14	G
Low-cost gas sensor – portable	Refer to map	8	H
Industry air monitor	Refer to map	5	I



# The Latrobe Valley network

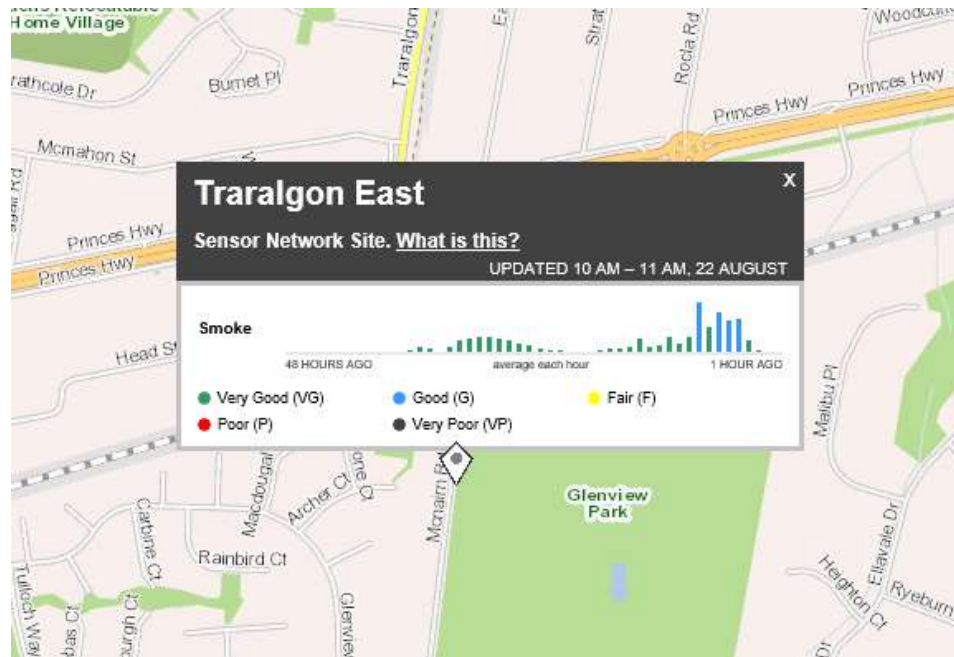


Location	New Monitoring Devices
Mount Tassie	Air quality camera
Boolarra South	Smoke sensor
Rosedale	PM <sub>2.5</sub> and Smoke sensor
Traralgon East	Smoke, SO <sub>2</sub> , CO, O <sub>3</sub> and NO <sub>2</sub> sensors
Flynns Creek	Smoke, SO <sub>2</sub> and CO sensors
Glengarry	Smoke sensor
Tyers	SO <sub>2</sub> sensor
Hernes Oak	Air quality camera
Jeeralang Junction	SO <sub>2</sub> sensor
Newborough	SO <sub>2</sub> , CO, O <sub>3</sub> and NO <sub>2</sub> Sensors
Newborough South	PM <sub>2.5</sub> and SO <sub>2</sub> Sensor
Traralgon South	Smoke Sensor
Tyers North	Smoke Sensor and air quality camera
Flynn	Smoke Sensor
Hazelwood	Smoke Sensor
Willow Grove	Smoke Sensor
Yallourn North	Smoke Sensor
Boolarra	Smoke Sensor
Yinnar	PM <sub>10</sub> and Smoke Sensor

Location	Existing Monitoring Devices
Churchill	PM <sub>2.5</sub> , Smoke sensor
Moe	PM <sub>2.5</sub>
Morwell East	PM <sub>2.5</sub> , PM <sub>10</sub> , CO, SO <sub>2</sub> , Visibility Reduction
Morwell South	PM <sub>2.5</sub> , CO, NO <sub>2</sub> , O <sub>3</sub> , SO <sub>2</sub> , Visibility Reduction
Traralgon	PM <sub>2.5</sub> , CO, NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub> , SO <sub>2</sub> , Visibility reduction

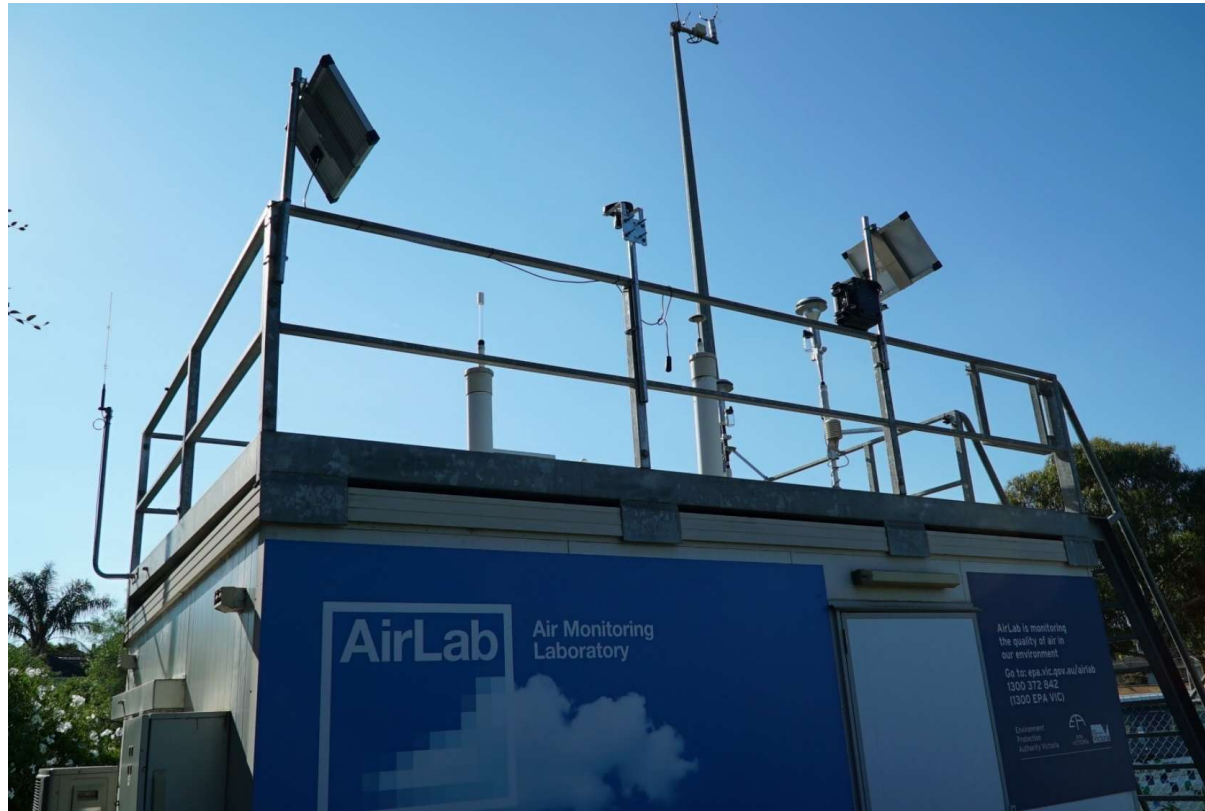
Location	Industry Owned Monitoring Devices
Jeeralang Hill	SO <sub>2</sub> , NO, NO <sub>2</sub> , NO <sub>x</sub> , O <sub>3</sub> , PM <sub>10</sub>
Rosedale South	SO <sub>2</sub> , NO, NO <sub>2</sub> , NO <sub>x</sub> , O <sub>3</sub> , PM <sub>10</sub> , Visibility reduction

# Smoke sensors are installed



# Complications along the way

---





# What's next

Feedback: there are things we don't know. Can we budget for that?







# Thank you