

# Methane gas identified as cause of Joburg CBD explosion

An investigation has found that methane gas was the cause of the explosion that rocked the Johannesburg city centre last month. This is according to the City of Johannesburg's Floyd Brink who briefed the media on Wednesday, 2 August.



Source: [@SAGovnews/Twitter](#)

The explosion killed one person, injured several others, caused infrastructure damage and disrupted services in the area.

“Methane is lighter than air, so usually methane...will go up. It travelled up all along the service tunnel from an unknown source to the crest of the tunnel near the Von Brandis Street. There were always questions around why did we not see any fire...if you look at the low explosive level, there's a threshold of between 5% and 15%. If it's between 5-15%, it will be an explosion, anything above 15% will then create a fire.

“This one was between the threshold of between 5-15%, therefore it was an explosion. As we flew...our drones into those tunnels, we could not pick up any indication of black scorch from a fire,” he said.

Brink added that the investigation ruled out several other suspected causes – including that the explosion was caused by a gas leakage, illegal mining or negligence.

## Rehabilitation and reconstruction costs

The city manager said repair work to rehabilitate and reconstruct the area is currently estimated to stand at more than R100m.

“Our rough estimate at this point currently sits around R178m and that is based on work that has been done, but it’s based on preliminary designs.”

“That is preliminary to look at what it will cost us for the road, what it will cost us for any other infrastructure damages and also to reconstruct that particular tunnel,” Brink said.

He revealed that following the explosion, the City of Johannesburg spent close to R4m on “professional experts, services, the cordoning off of the site, technology that we’ve used and the provision of temporary relief”.

Brink said the city has learnt several lessons following the explosion, with plans coming to avoid future reoccurrence.



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## Upgraded tunnel designs

“The tunnel designs will be upgraded based on current international codes for tunnels to reduce the risk of severity for these types of explosions. We will also introduce continuous gas detection, alarms, sensors and monitors for all staff working in the tunnels.

“As we move forward to reconstruct and to upgrade these particular areas, we would need to upgrade to ensure that we use technology. Our tunnels designs will be based on international relevant standards... that focuses specifically on tunnels and explosion prevention with accidental combustible gas release in tunnels and/or cavities,” he said.

Brink emphasised that the work to secure the tunnel will not only be concentrated on Lillian Ngoyi Street but other projects will also commence at other streets in the area to “look at gas detection and any other issues”.

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