



Parallel Ventilation System for Bus Cabins

Tech ID: 34237 / UC Case 2025-686-0

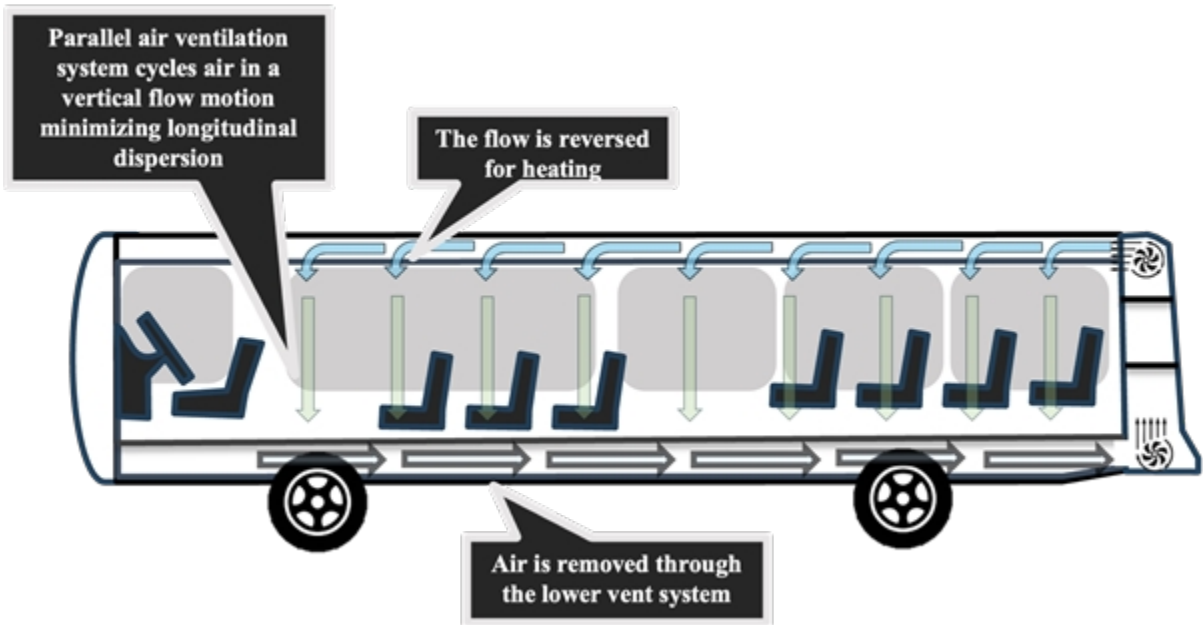
FULL DESCRIPTION

Background

The pandemic highlighted the significant risk of airborne disease transmission within enclosed public spaces, leading to a dramatic decline in public transit ridership and increased health concerns for operators. There is a critical need for a cost-effective, verifiable, retrofit solution to ensure passenger and driver safety in public transit systems. Additionally, the existing ventilation systems need improvement to enhance air quality inside cabins to reduce exposure to air pollutants.

Technology

Prof. Heejung Jung and his team have developed a novel, integrated clean air system designed to dramatically reduce airborne contaminants and pathogens inside public transportation systems. The system allows for the continuous purification of cabin air providing an unprecedented level of safety and assurance for passengers and transit authorities.



A schematic illustration of the parallel bus cabin air ventilation system - in contrast to current ventilation systems where air travels along the length of the bus and so do air borne pathogens and pollutants.

ADVANTAGES

- Proven to significantly reduce the concentration of airborne particles.
- Utilization of readily available components enables an affordable upgrade to existing HVAC systems in buses.
- Creates a safer environment for passengers, drivers and other transit employees.

SUGGESTED USES

- Public transit buses
- School buses
- Shuttle transport

STATE OF DEVELOPMENT

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OTHER INFORMATION

KEYWORDS

air filtration, public transit safety,
pathogen transmission, clean air, hvac
retrofit, aerosol mitigation, public
transit, vehicle air purifier,
environmental health

CATEGORIZED AS

- **Environment**
 - Other
 - Remediation
 - Sensing
- **Transportation**
 - Alternative Propulsion
 - Automotive
 - Other
 - Personal

RELATED CASES

2025-686-0

The system has been successfully tested and validated in both lab settings and operational public transit buses, demonstrating a high degree of real-world effectiveness.

RELATED MATERIALS

► [Protecting Transportation Employees and the Traveling Public from Airborne Diseases](#)

PATENT STATUS

Patent Pending

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