Wirelessly Powering the Silver Line
Buses of the future

Abstract
Urban public transportation in the city of Boston has recently been expanded to include a rapid bus service between Logan Airport and downtown. The Silver Line is partially electrified and the buses have the potential to be made into completely electric vehicles. This project seeks to determine if an emerging technology, resonant magnetic coupling, could be used to electrically power the silver line. Wireless electricity is more efficient than batteries, safer and more aesthetically pleasing than overhead wires, and less polluting than current diesel infrastructure. Implementing wireless technology on the Silver Line could yield a dramatic reduction in emissions across multiple paricipates and demonstrate a dynamic pilot program applicable to other mass transit systems around the world.

Blueprints for the future
A bus will have 9 receiving coils. This insures maximum efficiency of 90% at all times. A transmitting coil will be activated when a bus approaches. A minimum of 3 coils are transmitting to the bus at all times.

Emissions

CO₂

CO

NOₓ

Particulate Matter

Profit/Running Cost Comparison

Running Costs Per Day (in USD)

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