Metro Train Regenerative Braking

**What**
- Regenerative braking available since 1980s
- Cheaper and more reliable than mechanical brakes
- Little or no energy reused to reaccelerate train to avoid damage to Sub-Station

**Why**
- About 50% of train’s energy can be recycled – if done properly
  - ~$115M savings in NYC
  - ~350,000 tons of CO₂ avoided annually
  - ~20% IRR for installed flywheel

**How**
- Store 1MW – 90 seconds storage
- 1,000,000 full charge/discharge cycles in 20 years
- Ability to continuously operate at full power
- Prevent motor from overheating rotor
- Charge/discharge rate 10x-100x faster than batteries

Helix Power Flywheel is Best Solution