

**DOCKETED**

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**Automated Transit Networks (ATNs) â€™ innovative technology key to carbon neutrality**

*Additional submitted attachment is included below.*



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Docket #: 22-ERDD-02 Project Title: Climate Innovation Program  
Subject: Automated Transit Networks (ATNs) – innovative technology key to carbon neutrality

Although advanced transit is not mentioned in Climate Innovation Program materials, LoopWorks asks “How quickly can we move this open-source demonstration project along?”

Automated Transit Networks (ATNs) are clean technology innovations in the early development stage that could scale up to become a major factor in achieving carbon neutrality by 2045. Since the technology has been viable for nearly 50 years, ATN projects should be eligible for funding that validates its potential for commercial scaling.

“Advanced Transit” means a publicly available transit system with these 3 characteristics:

- 1) [Vehicles](#) powered by renewable energy running on dedicated right-of-way – whether [guideways](#), rails, or roads – that is separated from road traffic;
- 2) Off-line [stations](#) that vehicles can bypass to efficiently maintain rapid speeds;
- 3) Fully automatic control to ensure equitable distribution of service along with [increased safety and security](#).

“Network system” means one that covers an area rather than a linear series of stations, and comes in two types, those that require a transfer to another vehicle and those that don’t.

“Personal Rapid Transit (PRT)” means an advanced transit system with cabs that can accommodate up to 5 riders.

“Group Rapid Transit (GRT)” means an advanced transit system with vehicles that can accommodate 6 or more riders.

ATNs can help meet the state’s clean energy and climate goals faster and at lower cost than traditional mass transit options. ATNs represent a technological advancement that enables the state to:

- Meet its GHG reduction goals on an accelerated timeframe and at a lower cost.
- Be more resilient against climate change impacts.

So, how do Automated Transit Networks (ATN), especially Personal Rapid Transit (PRT), mesh with the CIP’s [Technology Prioritization Criteria](#)? Here we briefly address each, while our [website](#) offers far more background.

- Decarbonization Potential\* - Whether measured as a percentage reduction in the actual area served, or the industry potential of [gigaton reductions](#), ATNs may be our best investment in cities and metropolitan areas.

- **Climate Resiliency Potential\*** - While the generally elevated [guideways](#) of ATNs offer some flooding resilience, the addition of solar panels and batteries opens the option of a stand-alone/turnkey system. ATNs run on renewable electric energy sources, while using energy [more efficiently than EVs](#), and providing [improved public transit service](#).
- **Leverage and Attract Federal Funding\*** - Once this demonstration project is operational, its open-source architecture can be promptly duplicated elsewhere using recently-created federal infrastructure funding programs.
- **Not Adequately Addressed by Other Funding Programs\*** - After hours of searching, LoopWorks found no other state or federal programs that extend eligibility to both ATN technology and non-profit corporations.
- **Technology Breakthrough Potential** – Whether used to replace commuter rail or pedestrian overcrossings, ATNs are a [disruptive technology](#) that can [dramatically boost ridership](#) of existing transit – a goal transit agencies have pursued unsuccessfully for decades.
- **Benefits to Front-line Communities** – ATN technology can be adapted to a [wide range of topologies](#) and [conditions](#), making it a viable transportation solution for front-line communities.
- **Capital Available to Scale** – ATNs, which can be [profitable](#) with a service area of just 10 square miles, can 1) start small and grow over time, 2) be built in many locations in parallel, and 3) cumulatively create a [\\$1T industry](#).
- **Policy Alignment** - Health and Safety Code section 44272(a) authorizes the California Energy Commission (CEC) to develop and deploy innovative transportation technologies to help attain the state’s climate change policies. ATNs fit the objective!
- **SB 100 Scale-up** – While ATNs don’t supply electricity, they reduce the amount of electricity used for transportation – making the goal of SB 100 more attainable.
- **Reliability/Zero-Emission Flexible Resources** – In addition to running on electricity from various renewable sources, back-up batteries (especially when combined with solar panels) enable an ATN to operate for limited periods without a grid connection.
- **CARB Scoping Plan** – ATNs can precipitate significant reductions in fossil fuel combustion as their service areas expand, and more residents/workers choose to use it.
- **ZEV Mandate** - While ATNs don’t supply electric passenger vehicles to individuals, they reduce the demand/need for them – making the ZEV Mandate more attainable.

**LoopWorks answers Stakeholder Questions:**

- *What criteria should the CEC use to evaluate eligible technologies?*

LoopWorks supports the [Technology Prioritization Criteria](#) outlined above, especially those metrics with asterisks.

- *What is your top-priority technology topic where you believe the most funding and emphasis should be placed because it could have the most significant impact (and why)?*

LoopWorks asserts that PRT is the top-priority technology for reasons stated above.

- *What important gaps are not being addressed by other funding programs?*

No other state or federal funding programs support the early development and scale-up of ATN technology.

- *What other suggestions would you like the CEC to consider in the development of this program?*

Since ATN technology has been viable for nearly 50 years, yet apparently no mention of it has been made in CEC documents, LoopWorks recommends jump-starting the technology. A \$6M grant to perform final design and engineering for the [Milpitas PRT project](#) is warranted – especially in light of our rapidly-worsening Climate Crisis.

Sincerely,

Rob Means, LoopWorks Secretary

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