Podcar City

Great Success at the Podcar City Conference

- San Jose, November 30th - December 1st 2023

What's in this newsletter?

Get involved

We would love for you as a major stakeholder and interested party to have the opportunity to use this event in the best way possible. Please contact us if you have any questions or want to get involved.

See our sponsor packages at podcarcity.org

Thank You!

The 2023 Podcar City Conference in San Jose was a fantastic success, and we were delighted to see so many people attending, both in person and virtually. For anyone who wants to relive the experience, the conference was recorded and is now available, along with previous conferences, at YouTube.com/@podcarcity.

There is also a great article in the San José Spotlight, San Jose Hosts a Futuristic Vision of Mass Transportation.

Visit the Podcar City website to view the conference program and learn about our sponsors.

Time for the ATC - Automated Transit Communities!

Seminars and outreach for 2024 have recently started. Visit pages 2-3 to learn about the ATC and its purpose and how we expect it to evolve over the next years. The first activity is a seminar in Gällivare, the mining capital of Europe north of the Arctic Circle.

- Christer Lindström
CEO 4Dialog and
Podcar City


Photo by: B. Sakura Cannestra

Automated Transit Communities

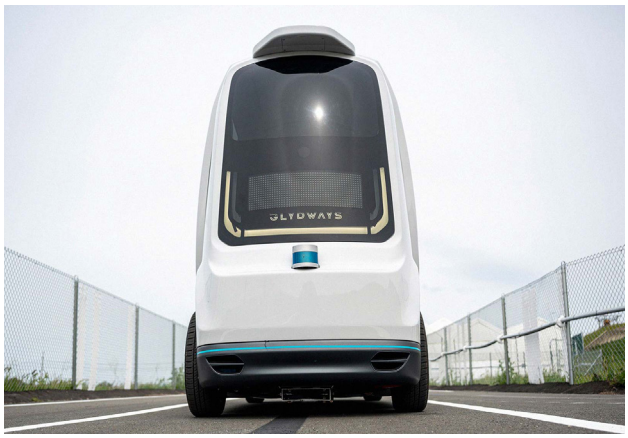
Rethinking Public Transit

Public transit systems have undergone incremental improvements over the centuries, evolving from trams to heavy rail and from horse-driven wagons to modern bus systems. However, there has been a lack of paradigm change in the way we share mobility. The Automated Transit Communities (ATC) initiative aims to address this by rethinking public transit and embracing transformative change.

Guiding Principles for Future Mobility

The ATC framework is built upon a set of guiding principles aimed at defining the future of mobility. These include:

- **Technology that improves everyone's access to good mobility:** ATC seeks to create transit solutions that are inclusive and accessible to all members of society, regardless of socioeconomic status or physical ability.
- **Cost-effective service:** The transit systems of the future should be financially sustainable and affordable for both the rich and the poor.
- **Safe, quick, and efficient transport:** Safety is paramount, and transit systems should provide fast and reliable service to commuters.
- **Quiet with limited vibration:** Minimizing noise pollution and vibrations enhances the comfort and livability of urban environments.



We Can Do Better

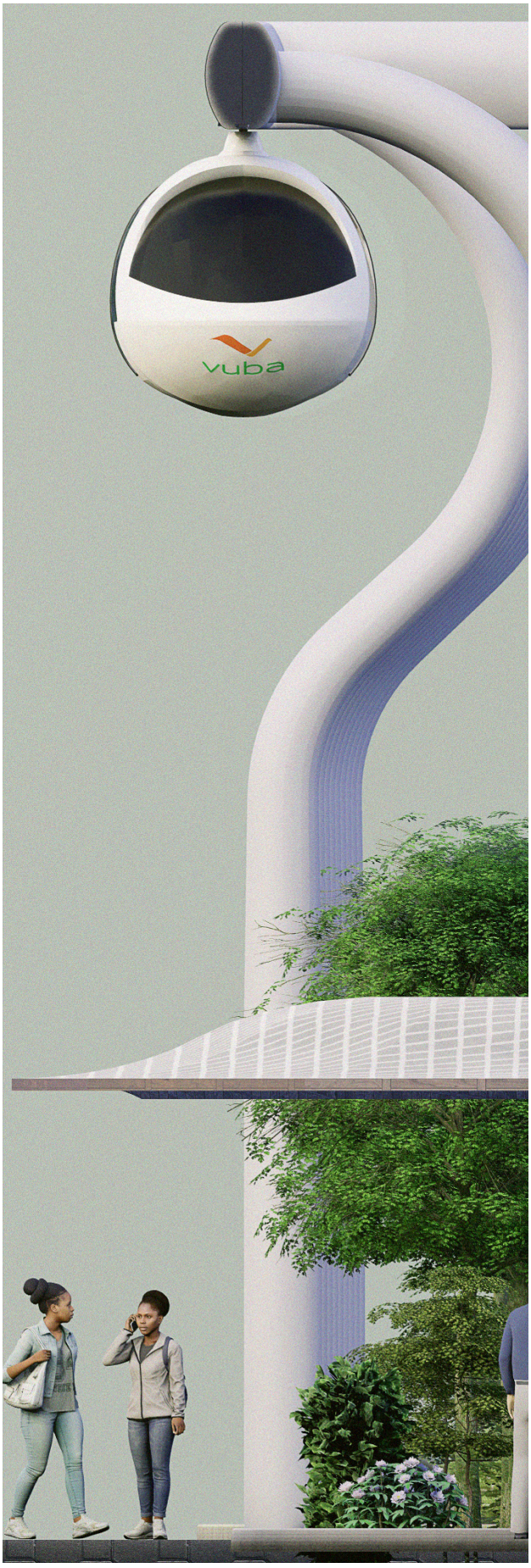
The core philosophy of the ATC initiative is encapsulated in the belief that "We Can Do Better." Recognizing the limitations of existing transit systems, the ATC initiative is committed to fostering innovation and improvement in transit technology and infrastructure. By challenging conventional norms and embracing new ideas, ATC seeks to shape the future of transit for the better.

- **Minimal use of surface space:** Efficient land use is essential for preserving green spaces and promoting biodiversity in urban areas.
- **High energy efficiency per passenger**: Transit systems should utilize renewable energy sources and prioritize energy efficiency to minimize environmental impact.
- **Flexible infrastructure:** Transit solutions should be adaptable to various geographical and topographical conditions, providing seamless connectivity across diverse landscapes.
- **Resilience to climate change:** Climate adaptation is crucial, and transit systems must be designed to withstand the challenges posed by increasingly severe weather events.
- **Improves quality of life:** Ultimately, transit solutions should enhance the overall quality of life and promote sustainable development in urban and rural areas alike.

Embracing Change & Shaping the Future of Transit

The ATC initiative calls for collaboration and innovation among stakeholders in the transit sector. By fostering partnerships between researchers, policymakers, and industry leaders, ATC seeks to create safer, more efficient, and equitable transit systems. Through collective effort and a shared vision for the future, we can shape a transit landscape that is inclusive, sustainable, and resilient.

For more information, visit www.automatedtransitcommunities.net/



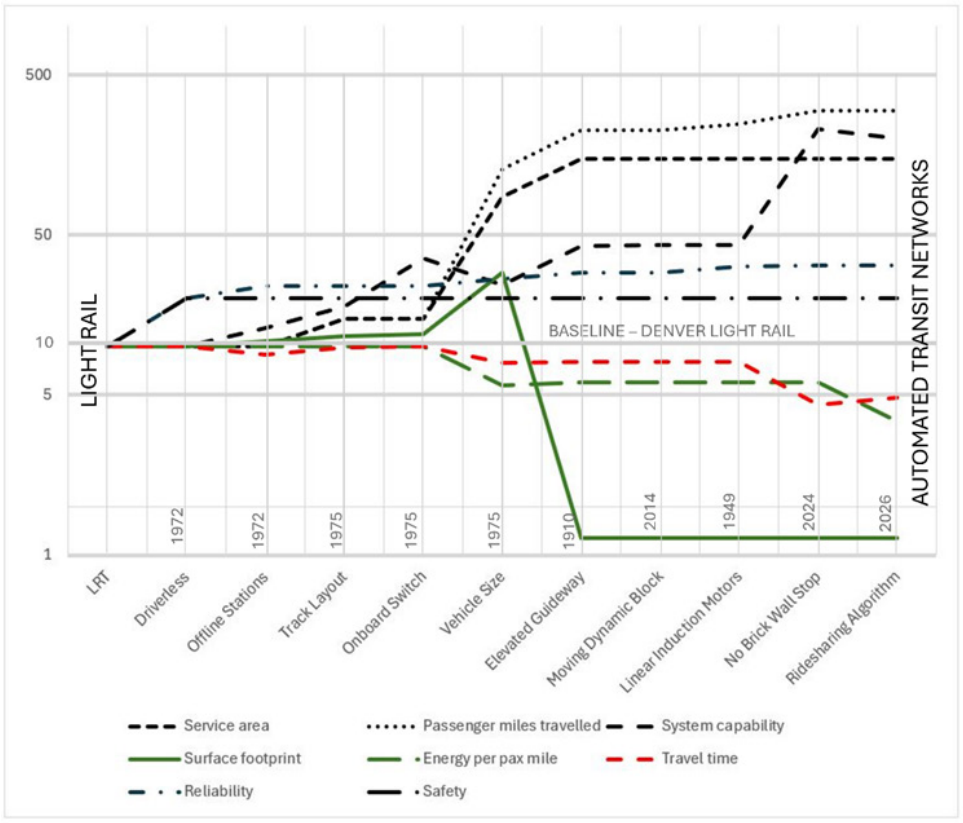
How can automated transit networks be better than light rail or bus rapid transit?

A Path to Urban Mass Rapid Transit Improvement

Most people do not understand what makes automated transit networks (ATN) so much better than legacy public transportation modes. This article summarizes a study based on the existing Denver, Colorado light rail transit (LRT) system. The study investigates ten changes that could be made to LRT that progressively and collectively turn into ATN. The point of the study is to show that many improvements are being made in public service that when collectively applied, promise to dramatically improve urban mass transit.

Analyzing the Impact of Proposed Changes

The analysis begins by assuming a $2B LRT project with the characteristics of the Denver LRT system and then investigating the impacts of the improvements without changing the capital costs. The impact of each improvement on key transit characteristics such as waiting and travel times is investigated and quantified. The graph below shows the preliminary results, which need to be fine-tuned but clearly indicate what can happen. The graph assumes every light rail attribute is normalized to the base value of 10. As improvements are made, the new attribute values are normalized at the same rate.



30 X More passenger miles
20 X More system capability
15 X More service area

3 X More reliable
2 X Safer

Half the travel time
One third the energy

One tenth the surface space

An attribute that gets a new normalized rate of 25 would then be 2.5 times better than existing light rail. Note that the vertical scale is logarithmic.

The green lines relate to climate impacts. The red line is for travel time, which we also want to reduce. All the black lines are outcomes we want to increase. The dates indicate when an improvement first went into public service. The impact on each key characteristic by 2026 is listed on the right side. All characteristics except system capability, explained below, should be readily understood.

Assessing System Capability and Future Implications

System capability is a measure of the ability of the system to meet the community's public transit needs. It equals maximum line capacity times average speed times percent of the community living in walking distance at full buildout. The percentage of the community within a half-mile walking distance at full buildout is calculated based on Denver's experience and plans. Denver has decided its light rail is built out to the extent feasible. Only eighteen percent of the population is within walking distance of a station. This is a significant problem. Denver is planning an extensive bus rapid transit system. When it is fully built out, only sixty six percent of the population will be within walking distance of a station – better, but by a system with inferior service quality and still leaving one third of the population with poor service. The fact is that light rail and bus rapid transit simply do not fit well into the suburban environment while ATN can, as shown in the illustration above.

Author:
Peter Muller
P.E., ATRA President

Want to learn more about us and what we do?

Please visit www.advancedtransit.org.

Advancing Sustainable Urban Mobility with SolarSkyways™

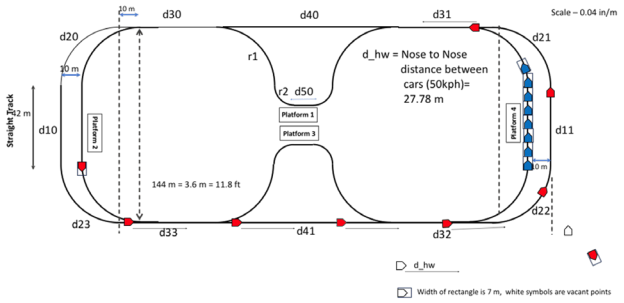
Podcar networks (whether operational or on the drawing board) are electric, presumably powered from their local utility. Yet antiquated grids, climate change and fossil fuel generation compel podcar developers to seek reliable, sustainable alternatives. The usual advice for the solar option is to outsource it virtually from distant large arrays. But this in turn leads to single points of failure, defeating the resiliency needed for a vital city-wide service.

Spartan Superway, an ongoing decade-long student initiative at San José State University, resolved this dilemma with a solar canopy above guideways, inspired by Swenson Solar's parking lot installation (see below). Professor Burford Furman, a team of Spartan Superway graduates, and sponsor Swenson Solar have joined forces with Transit Control Solutions and RodzMas Design as **Solar Skyways™**

– bringing together the requisite technologies for net-zero high-capacity podcar networks.

The three distinct advantages; Sustainability, Safety, and Scalability.

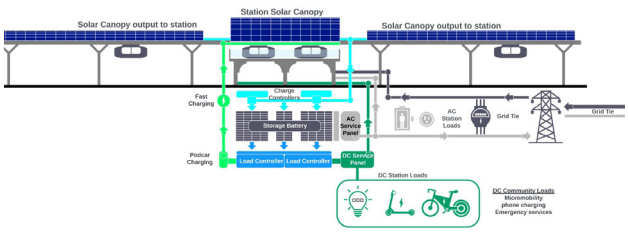
- **Sustainability** is achieved with a solar canopy installed continuously above the guideway to deliver power to every station, each of which in turn becomes a microgrid energy hub, charging podcars directly and channeling surplus energy to storage, adding local neighbourhood supply and support to the local grid as needed.
- **Passenger safety** is achieved with RodzMas robust mechanical design and TCS advanced control systems. Elevated guideways offer pedestrian safety whereas robust podcar service minimizes automobile traffic.
- **Scalability** means low-cost stations and guideways, plus advanced vehicle controls that maximize capacity, employing sophisticated navigation software proven with a platoon of small-scale cars on an engineered track.



Community Development Support

The Solar Skyways™ team offers a comprehensive suite of engineering services to guide podcar developers and communities through the process of design, entitlements, team building, strategic alliances, finance, construction, commissioning, and operating solar-powered podcar networks.

Please visit www.solarskyways.com for more information.



Author:
Ron Swenson
CEO: Solar Skyways

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- We are very proud to introduce our sponsors!

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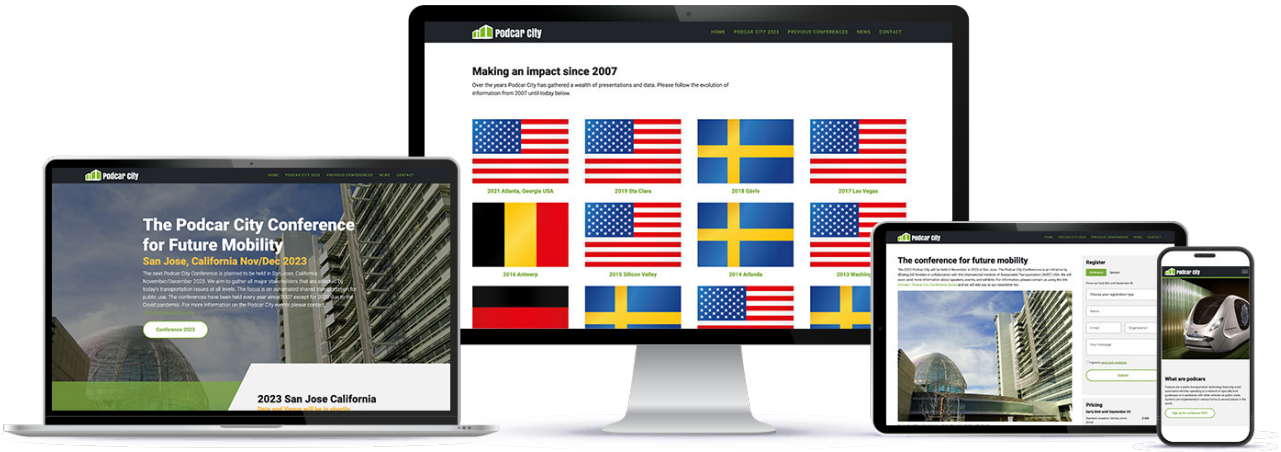

Our vision

We believe that there is something better beyond the horizon. What is there out there that can make a considerable change in how we get around in everyday life that is safer, more convenient, available for all, and affordable for both ourselves and the environment? Podcar City is a series of gatherings looking into short- and long-term ideas to solve this question. Come join us in finding a better way to develop our common future - together.

The Podcar City Conferences have been ongoing Since 2007 In Sweden, the US, Germany, and Belgium.