


PODCAR CITY & ADVANCED TRANSIT

November 8-10 2017

Las Vegas, Nevada 

www.podcarcity.org

Conference Newsletter

AUGUST

#1

2017

In this issue:

- * Smart cities, Smart transit, Smart energy
- * Podcar Industry update August 2017
 - Ultra Fairwood in \$800 million UAE contract
 - Helsinki goes SAV
 - Supraways & Autotren expansion
- * What is PRT/GRT/ATV?
- * UIDC joins Podcar City 2017
- * Martin Lowson Award
- * A New Transportation Paradigm
- * Self driving cars - more congestion
- * Complete overview - shared mobility
- * Program update July
- * Registration, Hotels & Venue

Welcome to the Podcar City Conference 2017 - Las Vegas, USA.
The 2017 theme is Smart cities, Smart transit, Smart energy.

As more and more cities realize the hard limitations of the car and the issues it creates with noise, pollution and land use, decision makers are looking into alternatives - sustainable, efficient and adding enhancement to the city landscape as well as providing a better mode of transportation and services than before. Since the first conference in 2007, the industry has grown rapidly. Podcar City is THE international yearly conference with 100% focus on autonomous public transit. Come and experience the most comprehensive international gathering of professionals in the hottest area of transportation technology.

Program Update

All presentations in City Hall

Wednesday November 8

- 9 am - 3 pm Special program - UNLV
- Noon - 4.30 pm planning workshop
- Planning for public autonomous vehicles
- 5.30 pm - 7.30 pm - Welcoming Reception

Thursday November 9

- 8 am - Registration and coffee
- 8.30 - Official opening
- 8.45 - Welcome Tina Quigley RTC Las Vegas
- 9.30 - Keynote Speaker
- 10.00 - Coffee Break
- 10.30 - Plenary - Inspirations from Experts
- 11.15 - Smart Cities Panel - 4 Cities
- 12.30 - Lunch provided
- 1.30 - Smart Transit Panel - 4 solutions
- 2.45 - Coffee
- 3.00 - Smart Energy Panel
- 4.15 - UIDC 2017 Presentations by students
- 5.30 - End of Day 1
- 7.30 - Conference Dinner

Friday November 10

- 9.00 - Coffee
- 9.30 - Day 1 Recap
- 9.45 - Keynote Speaker
- 10.15 - Current Systems in Operation & Pilots
- 11.30 - Panel TBD
- 12.45 - Lunch on your own
- 2.00 - UIDC Prize Ceremony
- 2.30 - Next Conference
- 2.45 - Closing, The Way Forward
- 3.00 - End of Conference



Ultra Fairwood in \$800 million contract with UAE. Read more about this and other industry projects on page 2.

Organizers:



Sponsors and cooperating organizations:



Podcar Industry Update August 2017



FAIRWOOD ULTRA SIGNS \$MILLION PODCAR ORDER FOR UAE

We just received news about the biggest PRT/Podcar order ever. A total of 1700+ vehicles, 75+ km track to be developed in UAE's Ajman City. Link: <http://www.fairwoodgroup.com/medias/ultra-fairwood-bags-rapid-transit-project-in-uae/>

Transportation technology solutions provider Ultra Fairwood will undertake a USD 800+ million rapid transport project at the UAE's Ajman city. Fairwood Group Chairman and Managing Director Ranu Das said it will be the largest autonomous electric vehicle transport system in the world. He also informed that vehicles for the project would be made in India, for which the government has already provided tax benefits and there will be no impact of the Goods and Services Tax (GST) that is to be unveiled from July 1.

The Ajman project in the United Arab Emirates (UAE) will be a city wide integrated elevated transportation system covering 120 kilometres. Under PRT, a six-seater battery-operated driverless vehicle will run on an elevated guide way track, the company said. While, the GRT will have a 30-passenger capacity that will be integrated with the PRT system under this project.

Please read further from the original article: http://www.business-standard.com/article/pti-stories/ultra-fairwood-bags-rapid-transit-project-in-uae-117062900666_1.html

Podcar Industry Update August 2017



EASYMILE + HELSINKI =

Helsinki is two years into its 10-year plan to make car ownership unnecessary through "mobility on demand" systems, but operating such demand-based systems has proven difficult. Often the number of passenger is too low to make new services cost-efficient. Even though the public transportation has not yet seen a major breakthrough in new types of services, there's a lot to expect from the years to come. Mobility as a service concept (MaaS) is creating a whole new approach to urban mobility and the role of automated buses will possibly – if not replace – at least complement the existing urban transport services.

"The robobuses have a combination of Lidars and GPS which allows them to locate itself and drive the preferred route", Harri Santamala continues. "The buses can also operate on routes where traditional buses have difficulties to operate or in regions where passenger flows are very small".

You can find more information about the Helsinki project here: <https://www.helsinkismart.fi/portfolio-items/sohjoa/>



SUPRAWAYS EXPANDING!

Supraways is a transportation solution that restores the access to common space on the ground and offers a comfortable mobility for all. This summer Supraways has expanded and are now 10 people strong!

You can read more about this interesting start-up here: <http://www.supraways.com/>



AUTOTREN (MODUTRAM) HIRING MORE STAFF - CONTINUING THEIR EXPANSION

Autotrén is a rapid transit system based on GRT (Group Rapid Transit) technology, that offers agile and sustainable mobility for congested urban corridors and medium sized cities. It uses a fleet of very light, electric, driverless trains. Each train has 1 to 4 vehicles, each seating 6 passengers, for a total of up to 24 passengers per train. The trains travel on an exclusive guideway network, usually elevated or underground. Track width is half the width of a bus lane or conventional train track. Passenger stations are modular, small-footprint buildings. Service is driven by demand, not just fixed schedules and routes. The system achieves high capacity and very high service levels at low cost through intelligent passenger grouping and continuous flows of people and vehicles. You can read more about Autotrén and the company that provides it (Modutram) here: <http://www.modutram.com/>

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What are PRT, GRT and Autonomous public transit?

(From Wikipedia)

PRT

Personal rapid transit (PRT), also referred to as podcars, is a public transport mode featuring small automated vehicles operating on a network of specially built guideways. PRT is a type of automated guideway transit (AGT), a class of system which also includes larger vehicles all the way to small subway systems.

PRT vehicles are sized for individual or small group travel, typically carrying no more than 3 to 6 passengers per vehicle. Guideways are arranged in a network topology, with all stations located on sidings, and with frequent merge/diverge points. This allows for nonstop, point-to-point travel, bypassing all intermediate stations. The point-to-point service has been compared to a taxi or a horizontal lift (elevator).

Right side images: Two examples of PRT on a guideway, outside and inside



GRT

Group rapid transit (GRT) is similar to personal rapid transit but with higher-passenger capacity and grouping of passengers with potentially different origin-destination pairs. In this respect GRT can be seen as a sort of horizontal elevator. Such systems may have fewer direct-to-destination trips than single-destination PRT but still have fewer average stops than conventional transit, acting more as an automated share taxi system than a private cab system. Such a system may have advantages over low-capacity PRT in some applications, such as where higher passenger density is required or advantageous.

It is also conceivable for a GRT system to have a range of vehicle sizes to accommodate different passenger load requirements, for example at different times of day or on routes with less or more average traffic. Such a system may constitute an "optimal" surface transportation routing solution in terms of balancing trip time and convenience with resource efficiency.

SAV

Shared autonomous vehicles (SAV) are similar to PRT and GRT but mainly use public vehicles on regular roads.

*Right side images:
Autonomous GRT vehicles, for public road (top) and special track (bottom)*



UIDC JOINS PODCAR CITY!



UIDC - Urban International Design Contest - is an annual youth contest that supports cities to envision a sustainable future using new modes of shared public transportation. For 2017 the contest will include participation from cities in the USA, Australia and Sweden.

This year includes participation from Washington D.C., Sundbyberg, Las Vegas, Jacksonville, Perth and Gävle.

Please see www.facebook.com/UIDC2017 for rules and current developments.

Third Martin Lawson Paper Award - A visionary, inventor and entrepreneur in modern ATN systems

ATRA fosters the development of automation and networking to advance the quality and sustainability of transportation, particularly for our urban areas. The ATRA academic committee has instituted an annual paper award to recognize contributions in that area. The award, which is donated by the Lawson Family, has the objective to recognize high quality, original work that advances the thought and practice of fully automated networked public mobility systems.

The submitted work can consist in a Master thesis or a PhD thesis authored and/or published by students within the last 5 years. To qualify as a student, the person must be enrolled at a degree granting institution either at the time of the authorship or publication/presentation of the work, or time of submittal to the ATRA competition. The work can have been previously published as a paper or have received prior awards. The emphasis in the 2017 award is on Automated Transit Networks toward sustainable urban mobility. The best paper will be presented at the Podcar City Conference 2017 (<http://www.podcar.org/>), where the winner receives a \$500 reward, in addition to a sponsored conference participation. Contact information: lowsonaward@advancedtransit.org

Rules of the competition:

1. Submit your thesis or paper to lowsonaward@advancedtransit.org by Friday, September 8, 2017.
2. ATRA will follow TRB guidelines for a blind peer review and selection process.
3. The authors will be notified by September 22, 2017.
4. The winner is required to present her/his work at the Podcar City Conference 2017. The participation at the conference will be free of charge and travel expenses up to \$500 will be refunded. The winner must submit her/his work as a regular paper, following the formatting rules of the conference.
5. The \$500 award is handed over at the Podcar City Conference 2017.
6. ATRA reserves the right to publish all submitted works on its website

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A NEW TRANSPORTATION PARADIGM THAT FACILITATES HIGH QUALITY CITY LIVING

Metropolitan mobility is failing in five key areas:

1. Congestion costs Americans \$124 billion a year
2. The typical American city dweller can only reach 30% of jobs in 90 minutes on public transport
3. The highway fatality rate is rising despite new automated driver-assist functions
4. Pavements take up 50% of suburban land space
5. \$170 billion is needed annually to significantly improve roads and only \$91 billion is available.

In short, metropolitan mobility is unreliable, unsafe and not widely available. The very infrastructure on which it is based takes up an enormous amount of land space and is crumbling, with no real prospect of being adequately rebuilt in the near future. Poorly-performing cars are not the problem and making them driverless is merely a Band-Aid solution. The car-infrastructure system is the real problem.

Existing infrastructure was not designed for driverless vehicles and is not the best system for such vehicles. Not only was the road infrastructure never systematically designed, neither was the road/vehicle/pedestrian system. About half of our road infrastructure has failed, or is about to fail. There are no funds to adequately rebuild. The time is ripe to consider a new infrastructure-based solution - one wherein the vehicle/infrastructure/pedestrian system is systematically designed. America's transportation infrastructure can be reinvigorated by elevating most motorized transportation using small driverless vehicles on guideways that cost less to build and maintain than roads - so much so that the revenues generated will cover most of the costs.

The automated transit network (ATN) technology to do this already exists and needs only to be improved upon. ATN uses small driverless vehicles on exclusive guideways that have flyover crossings and offline stations. ATN has already completed over 200 million injuryfree passenger miles (50 times better than cars). ATN systems cost far less than other fixed-guideway modes like light rail. One mile of one-way guideway complete with vehicles and stations ranges in cost from about \$10 million to \$30 million. Lower cost applications are at grade and have lower capacity while elevated, high capacity applications cost more.

We could reclaim the surface for walking, biking and landscaping. We could live and work in park-like settings. ATN level of service is more like that of cars than trains and buses. Trips are characterized by:

- Little or no waiting
- No transfers
- Nonstop, seated travel
- Very short walking distances due to numerous stations

This is a part of an interesting article published by Peter Muller at PRT Consulting. For full article, please go to <http://prtconsulting.com/papers.html>



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SELF-DRIVING CARS WILL INCREASE ROAD CONGESTION

Many car companies are already testing self-driving cars on public roads. Governments are changing regulations to permit self-driving to support their car industries. In the hype around self-driving, some believe that self-driving cars will solve traffic congestion and eliminate the need for Automated Transit Networks and guideways.

But manufacturers of self-driving cars will be held liable for traffic accidents and therefore be risk-averse. Manual cars are driven at unsafe distances most of the time whereas self-driving cars will keep a safe distance. Car manufacturers have a very strong incentive for safety but are not concerned with road capacity. Distance between cars need to be more than doubled to be safe and hence road capacity will be reduced to less than half. Communication between cars does not eliminate risks - the car in front can still have some unforeseen emergency. And it will be a long time before all cars on the road are communicating.

Not only will road capacity be reduced. Self-driving cars will also generate more traffic. Longer commutes will be acceptable when you can work while travelling. More trips will get made and driverless cars may be sent off empty to park. Some former transit passengers will take a cheap driverless taxi.

Wherever road congestion is a problem we need to lift trips off the road onto guideways. Driverless taxis on roads or on guideways should always be shared and integrated with other transit modes.



By Ingmar Andreasson, Prof. Em.

A COMPLETE OVERVIEW OF SHARED MOBILITY AND IMPACTS

UC Berkeley's Innovative Mobility Research (IMR) group, based at the Transportation Sustainability Research Center releases White Paper on Shared Mobility in partnership with Caltrans, along with groundbreaking workshop. Download the white paper at:

http://innovativemobility.org/wp-content/uploads/2015/11/SharedMobility_WhitePaper_FINAL.pdf



Organizers:



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Four of our Speakers



Lauren Isaac
Easymile
USA



Ingmar Andreasson,
Prof. Emeritus, Sweden



Shannon MacDonald
Southern Illinois University,
USA



Tina Quigley
Las Vegas RTC
USA

DRAFT PROGRAM OVERVIEW - All meetings at City Hall

WEDNESDAY NOV 8 - Workshops and Reception

- 10 AM Registration (for those attending workshops)
- 10.30 (A) UNLV Special Program
- 10.30 (B) How to do a basic study of an autonomous transportation system
Examples & tips using various tools and concepts
- 12 Lunch
- 1 PM Workshops continuing
- 5.30 PM Networking Event: Reception @ City Hall
City officials, ATRA and INIST - Welcome!

THURSDAY NOV 9

- 8 AM Registration and coffee
- 8.30 Official opening
- 8.45 Welcome Tina Quigley RTC Las Vegas
- 9.30 Keynote Speaker
- 10.00 Coffee Break
- 10.30 Plenary - Inspirations from Experts
- 11.15 Smart Cities Panel - 4 Cities
- 12.30 Lunch provided
- 1.30 Smart Transit Panel - 4 solutions
- 2.45 Coffee
- 3.00 Smart Energy Panel
- 4.15 UIDC 2017 Presentations by students
- 5.30 End of Day 1
- 7.30 Conference Dinner with speakers

SPECIAL OFFER FROM MODUTRAM/AUTOTREN- NOVEMBER 11

Special travel opportunity for anyone wanting to see the Modutram system in Guadalajara, Mexico. There are direct flights Las Vegas - Guadalajara for around \$300 round trip. Autotren offers to meet you at the airport and drive you to the demonstration track for a full demonstration November 11

Please email info@podcarcity.org if interested.

FRIDAY NOVEMBER 10

- 9.00 - Coffee
- 9.30 - Day 1 Recap
- 9.45 - Keynote Speaker
- 10.15 - Current Systems in Operation & Pilots
- 11.30 - Panel TBD
- 12.45 - Lunch on your own
- 2.00 - UIDC Prize Ceremony
- 2.30 - Next Conference
- 2.45 - Closing, The Way Forward
- 3.00 - End of Conference

A more comprehensive program will be presented shortly.
Please stay tuned at

www.podcarcity.org/lasvegas
www.facebook.com/podcarcity

A huge library of experience from SAV, ATN and PRT is present at Podcar City Las Vegas. Nowhere else will you find such a wealth of know-how and research plus evaluation. Elected officials, city planners, systems providers, academics and consultants are representing over 100+ cities and sites in the world. Be it a campus, airport, feeder into a major transit hub or a city-wide solution - Podcar City is the place to go to learn more about autonomous public transit. A few of the systems running today and under construction:



UWV PRT, Ultra, Vectus, Modutram, Easymile, Olli, Navya, 2Getthere...and more coming!

Five cities reviewing ATN /PRT and SAV Technology



Upplands Väsby, Sweden



Austin Texas, USA



Täby, Sweden



New Tapei City, Taiwan



Singapore, Singapore

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CONFERENCE VENUE AND REGISTRATION



The conference will be held November 8-10 2017 at the Las Vegas City Hall. Register at [INIST.ORG/STORE](http://www.inist.org/store)

OFFICIAL CONFERENCE HOTEL



The Hotel for the conference is Golden Nugget Las Vegas. To order a room with discount you register using the booking code "Podcar City 2017". You must register by phone to receive the Podcar City 2017 discount. The rooms will be held for us until October 15. After that date, reservation requests and/or name/date change requests will be accepted based on rate and/or category availability. You will get an individual email as confirmation.

We estimate the daily hotel cost per room (double) will be between \$90 and \$125 depending on room type selected, including taxes and resort fees. Room Reservations:

+1 (844) 4-NUGGET (684438) or 800-331-5731

REGISTER NOW!

GO TO WWW.INIST.ORG/STORE

A Selection of our Speakers as of July 27, 2017 :

Bengt Gustafsson, BeamWays, Sweden
Christer Lindström, 4Dialog, Sweden
Ingmar Andreasson, LogistikCentrum, Sweden
Lauren Iasaac, Easymile, USA
Magnus Hunhammar, Kompass, Sweden
Matthew Lesh, Coast Autonomous, USA
Peter Muller, PRT Consulting, USA
Ranu Das, Ultra Fairwood
Ron Swenson, INIST, USA
Shannon McDonald, Southern Illinois University, USA
Stefan Bergström, City of Sundbyberg, Sweden
Tina Quigley, RTC Las Vegas USA

About 40 speakers from about 10 countries are expected plus 30-40 cities, airports and campuses from all over the world. Join us you too in how to change the urban future into a shared mobility using public transportation!

Organizers:



Sponsors and cooperating organizations:

