

PODCAR CITY & ADVANCED TRANSIT

November 8-10 2017

Las Vegas, Nevada 

www.podcarcity.org

Conference Newsletter

- With Final Program!



In this issue:

- * A New Urban Transportation Future!
- * Podcar Industry update November 2017
 - AAA, Routematch, Pratt & Miller
- * What is PRT/GRT/SAV?
- * UIDC Update
- * 4Dialog modeling
- * Spartan Superway speeds ahead
- * Special offer - Modutram
- * Program update November
- * Registration, Hotels & Venue

The world is becoming more and more urban. The use of the private car is rapidly becoming an impossible solution for everyday transportation. In the same time new and exciting technologies are emerging. So how do we go from today towards tomorrow? Podcar City Las Vegas delivers an impressive list of speakers from all over the world looking at what have been done, what we are doing today and what the plans are for the future. Come and meet city planners, elected officials, academics, consultants and not least the emerging autonomous technologies that are just about to change everything you knew about public transportation!



A driverless Navya shuttle will be on display and begin a pilot November 8 in Downtown Las Vegas. AAA and the City of Las Vegas are joining forces in establishing a half-mile loop for 2018 in the Freemont East neighborhood, designated last year as the city's "Innovation district."

Program Update

Wednesday November 8 - City Hall

- 4.00 pm ASCE PT Committee
- 4.00 Registration open
- 5.15 Special Announcement
- 5.30 Welcoming Reception
- 6.30 Keynote - Setting the Stage

Thursday November 9 - City Hall

- 8 am Registration and Breakfast
- 8.30 Official opening
- 8.45 Welcome to Podcar City
- 9.00 Welcome to Las Vegas
- 9.15 Introductions
- 10.00 Keynote - Vince Valdes FTA
- 10.20 Keynote - Ranu Das - Fairwood
- 11.45 Short break, exhibitor display
- 11.00 Panel - What is a Podcar?

Please see page 8-9 for the full program!



Podcar Industry Update November 2017

Routematch joins Podcar City 2017!

Routematch is a company that develops human solutions that focuses on real people and impact the quality of life for those individuals and communities. Routematch delivers flexible & scalable tech tools to agencies and their riders that are centered around inclusivity & accessibility.

Transit is for Everybody. Despite progress beyond the days of horse and buggy trails, waterways and railroads, not all routes lead to home, work or healthcare.

Routematch

At Routematch, we want to help change that—partnering with you to make improvements that affect the lives of your riders and the progress of your community. We are inspired by our role in creating positive change in people's lives, and we design solutions with communities both large and small in mind.

At the heart of our operation are real people, ready to support you and your team along the way. By powering change in your transit system, together we can offer everyone better ways to ride.

Read more at www.routematch.com

Pratt & Miller is a dominant force in professional motorsports. The team uses a proven formula of integrating talented people, develops robust processes, and invests in advanced technology.

PRATT MILLER

Product Innovation - Driving the Future of Technology

It's a truth in racing and in business that if you are not moving forward, you are falling behind. Innovation is the force that propels businesses into the future. Pratt & Miller is committed to helping our clients succeed by developing innovative products. Engineering is the heart of our enterprise, the irresistible force that drives Pratt & Miller. The advanced computer-aided tools and processes we developed in motorsports have broad applications in other industries. Our disciplined approach to product innovation is effective across the spectrum of applications, including medical, robotic, aerospace, and industrial projects. Backed by leading edge equipment and world-class designers, the hallmarks of Pratt & Miller design solutions are efficiency, accuracy, performance, and timeliness.

Read more at www.prattmiller.com



Podcar Industry Update November 2017

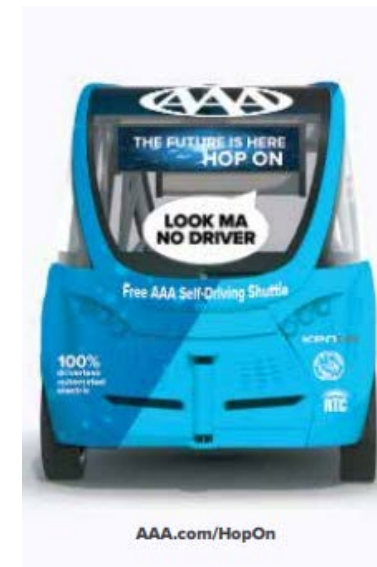
Just in time for PodCar City Conference, AAA with its partners the city of Las Vegas, Keolis and the RTC are launching a year-long autonomous shuttle service right in the heart of downtown!

You'll ride through eight city intersections, six traffic lights, two stop signs...with no driver! Plus, you can hop off at famous attractions in the Fremont East Entertainment District. And talk about attractions! See legendary magic duo Penn & Teller and get a chance to meet renowned race car driver Danica Patrick, all at the launch event:



WEDNESDAY NOVEMBER 8TH AT 9:30AM.

The Container Park is just blocks away from City Hall.



RSVP HERE PLEASE FOR THE EVENT: <https://www.facebook.com/events/1287394801372033/>

Suna Taymaz, VP of Corporate Strategy for AAA NCNU Club, will be participating in a Conference Panel on November 10th to discuss the organization's broader commitment to autonomous vehicle safety.



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

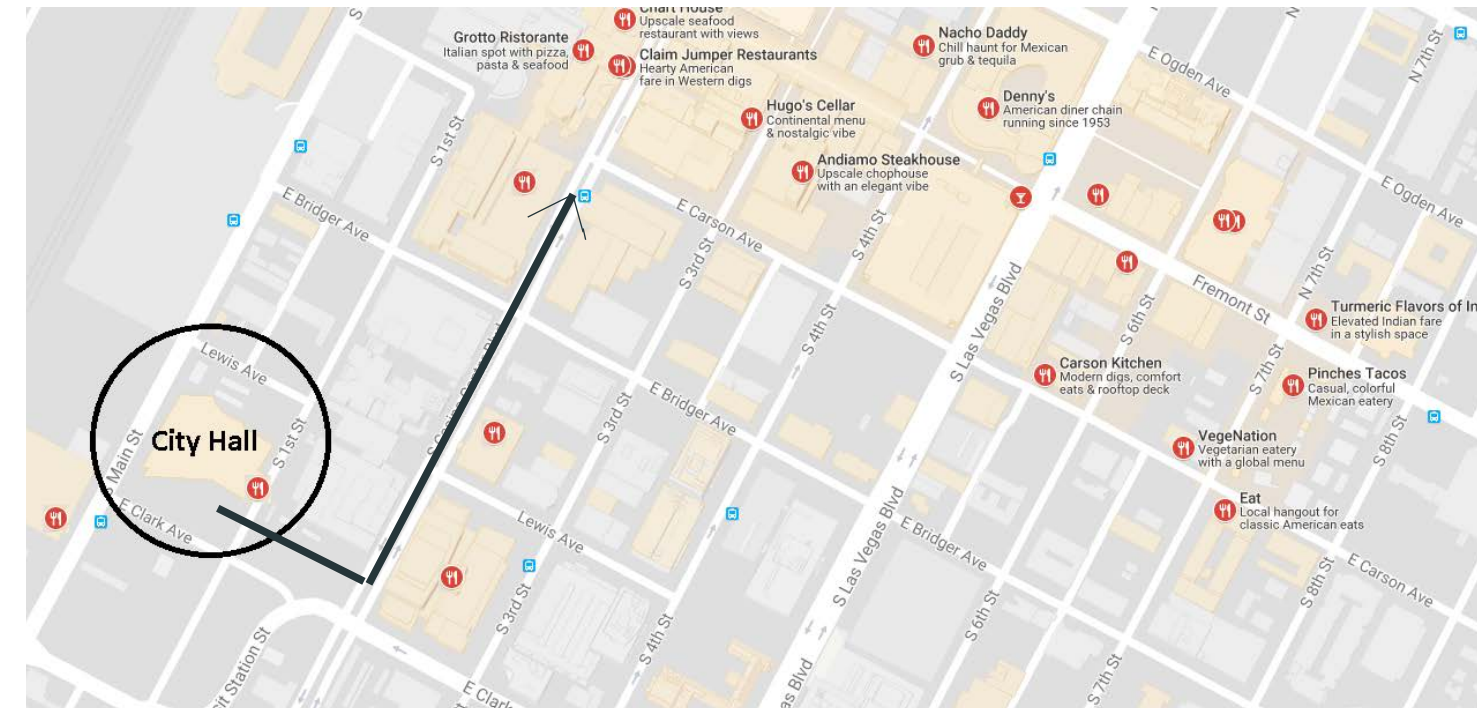
Shared autonomous vehicles (SAV) are similar to PRT and GRT but mainly use public vehicles on regular roads.

Right side images:

Autonomous GRT vehicles, for public road (top) and special track (bottom)



LUNCH MAP FOR FRIDAY NOVEMBER 10



The American Society of Civil Engineers' (ASCE) Public Transportation Committee will be holding a discussion and networking session in conjunction with the Podcar City 2017 event.

The session will be held on Wednesday, 8 November in Training Room 4 at 4:00 PM local time. The Public Transportation Committee is part of the ASCE Transportation and Development Institute (T&DI). As such, the Committee is charged with bringing together issues and encouraging discussion related to the planning, design, construction, operation, and maintenance of public transportation systems with a special focus on how these systems interact with and influence land use and development.

The planned session is intended to provide an informal opportunity for members of the Podcar City community to get to know and interact with ASCE committee members to learn more about T&DI and its activities that might be of interest. It will also allow ASCE committee members to engage directly with the Podcar community to learn more about possible intersections with civil engineering and land development issues. Additionally, the Associate Administrator for FTA's Office of Research, Demonstration and Innovation, Vince Valdes has also been invited to take part in the discussion and share the USDOT perspective on issues relating to Podcars and the general provision of public transportation as his office plans to develop an FTA Strategic Transit Automation Research Plan.

Interaction among the ASCE committee, the FTA, and the Podcar industry should benefit all that plan to attend the Podcar City event. Everyone that is interested is invited to join in the discussion.



The Spartan Superway Speeds Ahead

Dr Burford Furman, San Jose State University



The research and development work for the Spartan Superway solar-powered automated transit system continues on many fronts with the short term goal of the construction of a full-scale test track

A previous ATRA newsletter article in January 2016 (<http://tinyurl.com/y83wqbjc>) described the genesis of the Spartan Superway project and its first three years of development (2012 - 2015) largely by students at San José State University. Since 2015 there has been significant progress in developing and demonstrating solar powered automated transit as well as presenting the technology at professional meetings and exhibitions.

In May of 2016, the Superway team exhibited a half-scale, pinched-loop guideway and bogie model at Maker Faire Bay Area 2016. The half-scale model featured a 17° sloped off-line station with the idea to demonstrate that a vehicle could be brought down from elevation to ground level and return to elevation. The bogie and guideway design were inspired by the pioneering work by Bengt Gustafsson (<http://www.beamways.se/>). The model also featured solar panels and a grid-tied 48 V battery charging system. While the guideway and solar construction were successful, flaws in the design and fabrication of the bogie that only became apparent at the exhibition prevented the bogie and active suspension from being operational. [Improvements to the bogie and suspension were made and successfully demonstrated the following year as described below.] Also shown at Maker Faire in 2016 was an improved 1/12th scale model. This model demonstrated autonomous operation of multiple 3D printed vehicles traveling between four offline stations. Batteries for the vehicles were charged from solar panels. In the summer of 2016, we hosted a large international contingent of interns from Brazil, South Korea, France, and the U.S. Notable accomplishments by the interns included exploratory planning for a full-scale test track and guideway placement for a network that would connect the north and south campuses of San José State), power requirements and solar PV sizing for the proposed pilot network, and analysis of the shading by buildings along the proposed network. Papers on the PV sizing and shading analyses were presented at the American Solar Energy Society conference that took place in conjunction with Intersolar 2016 in San Francisco. Links to the papers are listed in the References section at the end of this article.

Work over the 2016-2017 academic year led to improvements in the bogie and suspension system for the half-scale model, such that a moving bogie was successfully demonstrated at Maker Faire in May 2017. Also new this year was substantial progress on a mobile app that allowed a user to interact with and control the 1/12 scale model.



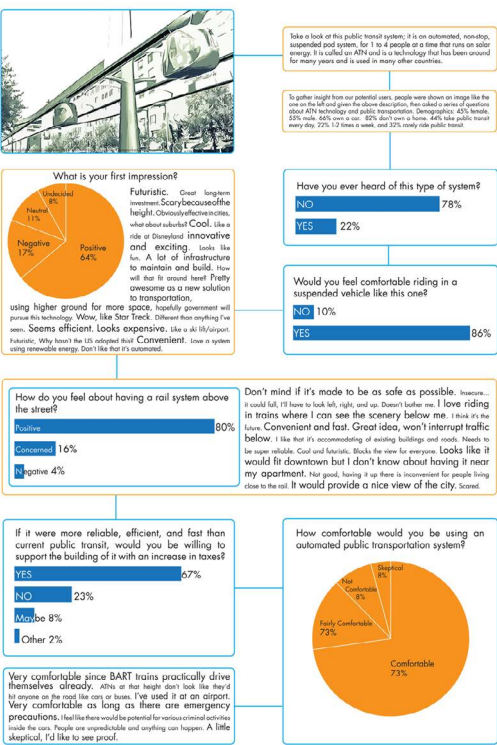
In November, 2016, the Superway leadership team delivered a webinar for the US DOT Intelligent Transportation Systems Joint Office T3e webinar program on Solar Powered Automated Transit. [See 'Links to Additional Information on the Project' at the end of this article for a link to the recorded webinar.] For the 2017-2018 academic year, SJSU students will be designing and fabricating an 18 m long section of full-scale guideway and a solar PV canopy that will be used for early prototyping of hardware for the test track. Separately, a preliminary application for a building permit has been submitted to the city of San José, and we expect to begin construction of the first phase of the test track in 2018.

Additionally, several MS architecture students under the supervision of Prof. Shannon McDonald along with several SJSU MS Urban Planning students will be doing a detailed design study to understand, visualize, and model how a solar powered automated transit system could be integrated into the area connecting the north and south SJSU campuses. Particular emphasis will be given to prototypical station design, building integration, and developing heuristics / guidelines for urban integration. Stay tuned for the results of this year's work!

For full article, please see:

<http://www.advancedtransit.org/wp-content/uploads/2017/09/>

What do people think about Podcars as Public Transportation?



A wealth of experience from SAV, ATN and PRT will be 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:



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

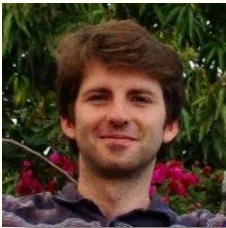
SPECIAL OFFER FROM MODUTRAM/AUTOTREN - NOVEMBER 11

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@podcacity.org or contacto@modutram.com



Four of our Speakers



Kevin Salzer
City of Jacksonville
USA



Vince Valdes
FTA / USDOT
USA



Jerry Spears
Montana Association of Counties
USA



Justin Begley
City of Denver
USA

FINAL PROGRAM OVERVIEW

Wednesday November 8 - City Hall and UNLV

- 10 - 3 Workshop - Students planning your PRT/ATN idea in 3 hours at City Hall
- 12.00 Student training at UNLV
- 4 pm 4pm ASCE Public Transportation Committee Meet & Greet
- 4 pm Registration opens at City Hall
- 5.15 Special Announcement - AAA - Keolis - Navya Pilot Launch Suna Taymaz, AAA
- 5.30 Podcar City and Las Vegas Kick Off - Suna Taymaz, AAA
- 5.40 Welcoming Reception City Hall - Welcome to Las Vegas - Mayor Carolyn Goodman
- 6.30 Keynote - Setting the Stage - Alain Kornhauser, Princeton University
- 7.00 Sponsor and Vendor Showcase

Thursday November 9 - City Hall

- 8 am Registration and Continental Breakfast
- 8.45 Official opening - Christer Lindström & Ron Swenson, INIST
- 9.00 Welcome to Las Vegas - Scott Adams, City Manager
- 9.15 Introductions - Matthew Lesh, Host- Around the Room
- 10.00 Keynote - Perspectives from FTA - Vince Valdez, U.S. DOT
- 10.20 Keynote - Inspiration from the field
Ranbir Saran Das - Executive Director Fairwood Group
- 10.40 Short break, exhibitor display
- 11.00 PANEL - What is a Podcar & PRT? Why hasn't it flourished? What does the future hold for Advanced Transit?- Moderated by Christer Lindström, INIST
Historical Context & Future - Alain Kornhauser, Princeton University
PRT and Shared Autonomous Taxis - Ingmar Andreasson, Logistikcentrum
Automated Transit - Walter Kulyk, USDOT (retired)
Engineering & Design - Corey Clothier, Pratt & Miller
Research & Implementation - Burford Furman, San Jose State University
- 12.00 Lunch provided
- 12.30 Lunch Keynote - Bosse Andersson, Kompass Chair - Advanced Mobilty Solutions and Organizing Stakeholders
- 1.15 PANEL - Should what happens in Vegas stay in Vegas?
Moderated by Michael Ippoliti, Calstart
Plans & Pilots - Joanna Wadsworth, City of Las Vegas
Connected Vehicles Strategies - John Estrada, eTrans Systems
Operations - Francis Julien, Keolis
Suna Taymaz, AAA
RTC Fast Regional Projects - Brian Hoeft, Director
- 2.30 PANEL - Advancing Transit, Moderated by Matthew Lesh
Eugene Nishinaga, Transit Control Solutions
Jeff Becker, RTD Denver
Neal Hemenover, Transdev
Klara Wirdby, City of Gävle
Pepper Harward, RouteMatch

- 3.30 Coffee, tea
- 3.45 PANEL - The Big Picture - Moderated by Steven Jones, University of Alabama
Justin Begley, City & County of Denver
Shannon Haney, Hillsborough Area Transit Authority, Tampa, Florida
Koorosh Olyai, Stantec
Shannon McDonald, Southern Illinois University
Christopher Juniper, ATRA
Magnus Hunhammar, IST Sweden
- 5.00 UIDC 2017 - Six Teams: Moderated by Cecilia Nordkvist & Pontus Gustafsson
Sundbyberg, Perth, Las Vegas, Washington DC, Jacksonville, Gävle
- 5.30 Day one closing remarks -Stefan Bergström, Deputy Mayor City of Sundbyberg
- 7.30 Conference Dinner at Grotto Ristorante, Golden Nugget Hotel
- 8.00 VIP Speaker - Pepper Harward. RouteMatch

FRIDAY NOVEMBER 10 - City Hall

- 9.00 Coffee, tea
- 9.20 Day 1 Recap - Peter Muller , PRT Consulting - A Vision for a Better Quality of Life
- 9.40 Keynote - Tina Quigley, General Manager RTC Nevada - Making RTC a leader
- 10.00 Keynote - Lessons learned - Corey Clothier, Comet Consulting / Pratt & Miller
- 10.15 Break, exhibitor display
- 10.30 PANEL - Development, Demonstrations & Pilots - Moderated by Koorosh Olyai
Lauren Isaac, Easymile
John Cole, Skytran
Joerg Schweizer, University of Bologna, Italy
David Edwards, Greenville Airport (By Peter Muller)
- 12.00 Lunch on your own
- 1.30 PANEL - Making it Real
Moderated by Sisinnio Concas, Center for Urban Transportation Research
Lei Zhu, National Renewable Energy Lab
Percy van Staden, Milotek / Futran
Kevin Salzer, Jacksonville Transportation Authority
Peter Muller, PRT Consulting
Jeremy Brown, First Transit
Stefan Bergström, Deputy Mayor City of Sundbyberg, Sweden
- 2.45 Short Break
- 3.00 PANEL - Making an Impact
Moderated by Jerry Spears, Montana Association of Counties
Debbie Cook, Former Mayor of Huntington Beach
Marie Steele, NV Energy
Tom Perrigo, Chief Sustainability Officer, City of Las Vegas
Tracy Larkin-Thomason, NV DOT
- 4.00 UIDC Prize - Presented by Jeral Poskey, Google Inc.
- 4.15 Martin Lowson Paper Award - Tatiana Babicheva & Joerg Schweizer
- 4.30 Next Conference Announcement and Closing Comments
- 4.45 End of Conference

Five cities
reviewing ATN /PRT
and SAV Technology



Arlington, TX USA



Sophia Antipolis, France



Göteborg, Sweden



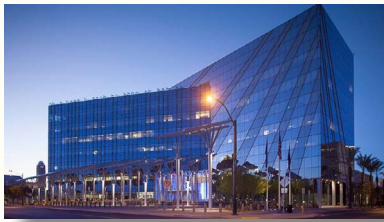
Antwerp, Belgium



Strasbourg, France



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

The Golden Nugget is almost fully booked. We recommend alternatives using Hotels.com and Booking.com.

The conference is at City Hall. Some of the close hotels are The D Hotel LV, Golden Gate Casino Hotel and California Hotel & Casino.

www.hotels.com
www.booking.com

REGISTER NOW!

GO TO WWW.INIST.ORG/STORE

A Selection of our Speakers as of October 17, 2017 :

Alain Kornhauser, Princeton University
Alexander Kyllmann, Modutram, Mexico
Andries Louw, Futran, South Africa
Carolyn Goodman, City of Las Vegas, USA
Christer Lindström, 4Dialog, Sweden
Corey Hunt, NV Economic Development, USA
Debbie Cook, Huntington Beach, USA
Ingmar Andreasson, LogistikCentrum, Sweden
Jean Laurent Franchineau, Vedecom, France
Jeral Poskey, Google, USA
Joanna Wadsworth, City of Las Vegas, USA
John Cole, Skytran, USA & Israel
Joerg Schweizer, University of Bologna, Italy
Justin Begley, City and County of Denver, USA
Kevin Salzer, Jacksonville Transportation Authority, USA
Klara Wirdby, City of Gävle, Sweden
Koorosh Olyai, Stantec, USA
Lauren Isaac, Easymile, USA
Lei Zhu, NREL, USA
Magnus Hunhammar, Kompass, Sweden
Matthew Lesh, Comet Consulting, USA
Marie Steel, NV Energy, USA
Pepper Harward, Routematch
Peter Muller, PRT Consulting, USA
Ranbir Saran Das, Ultra Fairwood, India
Robbert Lohmann, 2Getthere, Netherlands
Roger Teal, Demandtrans
Ron Swenson, INIST, USA
Shannon McDonald, Southern Illinois University, USA
Sisinnio Concas, Center for Urban Transportation Research
Stefan Bergström, City of Sundbyberg, Sweden
Suna Taymaz, AAA, USA
Tina Quigley, RTC Las Vegas USA
Tom Perrigo, City of Las Vegas, USA

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

