

Podcar City 9

Innovative mobility in the era of automation

4-6 november 2015, Silicon Valley, California

Silicon Transportation!
www.podcarcity.org

MAY

#2
2015

CONFERENCE NEWSLETTER

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CONFERENCE PROGRAM TAKING SHAPE

The program is taking shape and we now have a good line-up with speakers in many interesting themes. A few picks from the preliminary program:



Systems developments, what is taking place today? - Driverless cars, shared cars and taxis, consequences and limitations - Driverless transit, trends and consequences - Energy, sources, consumption, oil independence - Multi modal travel with smartphones and services - Station area design - Accessibility - Land Use cityscape, parking - HSR and feeder systems - Campus development ...

...and several more themes underway. We welcome you to much more than a conference - Podcar City 9 is a platform for interaction, education and immersion into the next step in transportation — on a global level where automation and planning have the critical impact on what our future in cities will look like.

Ingmar Andreasson, Program Committee Chairman



More on page 6:
San Jose State University
Students working on ATN
technology

Opportunities for presenters

The conference provides the prime opportunity for reaching a leading professional group of individuals and institutions in the Automated Transit Network community, and organizations involved in related development. All proceedings are recorded and distributed through INIST, the Podcar City website, and YouTube. The material gets considerable attention with many downloads every year. The conference program will address the role of podcars and automated transit networks ("ATN") in multimodal shared mobility; and the interplay between mobility, energy, cityscape and livability. We invite you to submit an abstract for a paper, poster and/or presentation by May 15.

Please see www.podcarcity.org for more information.

The Swedish KOMPASS Network is a government league of cities interested in ATN development. It has been active since 2007 and today has over ten member cities representing almost ten percent of the Swedish population. The Network is a long time supporter of Podcar City Conferences. For 2015 the network will offer all members and also outside interested parties group travel to the conference. The next major meeting for KOMPASS takes place at Arlanda Airport on May 13 where the next board will be elected and the 2015-2016 action plan will be discussed and decided. (cont. on page 2-3)



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Hans Lindqvist
Chairman, KOMPASS



Hans Lindqvist is the current chairman of KOMPASS. He has served at the European Parliament as representative from Sweden and is a long time member of the Center Party. Mr Lindqvist is currently also a member of the Stockholm County Council and lives in Varmdo, Stockholm.

Ewa Lofvar Konradsson
Vice Chair, KOMPASS



Ewa is the current deputy Mayor of the City of Södertälje and is representing Miljöpartiet, the Green Party.

The KOMPASS Network

The Swedish organization KOMPASS - an acronym for Cities Interested in Automated Transit Network Development - has since 2007 been active and involved in the Podcar City Conferences. Most of the activities have been in educating and influencing the Swedish population and stakeholders in the possibilities with ATN systems and the related impact it can have on how we shape the future in our cities and in our society. The list of activities is impressive. In 2009 KOMPASS executed a European Union project with a full podcar mock-up station. This station was then put on a tour in Sweden and is now stationed just outside Arlanda Airport where anyone can go and experience the idea of ATN based sustainable transportation.



Podcar demonstration station at Arlanda airport

An important component in Swedish politics is the Almedalen week that happens every first week of July. It is an impressive melting pot of government officials, agencies, NGO's and trade organizations that meet for an entire week to discuss various topics such as healthcare, industrial trends, architecture, transportation, philosophy and much more. Last year over 1,500 seminars were held in just one week. On top of this all party leaders have one evening each to do a speech at the main park in town. For the last three years KOMPASS has been represented with a display of a Podcar at prime locations in the Almedalen area.



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Mingling at Almedalen week, June 2014

KOMPASS has its own newsletter, the Destination magazine. It has 8-9 issues per year and is available on the KOMPASS homepage in PDF format. The newsletter is also printed 1-2 times per year for distribution at Almedalen and other places.



An important service to members is the access to the database of all studies and research done in Sweden and abroad. Since 2007 over 20 different studies and research projects have been executed, with the most recent being the ongoing study of Arlanda airport and the adjacent City of Sigtuna.



Podcar study in Södertälje.

Christer Lindstrom
Secretary, KOMPASS



Christer Lindstrom is the secretary of KOMPASS and responsible for international contacts and organizations. Christer is the CEO of 4Dialog AB and serving on the City of Osteraker production board as advisor.

Magnus Hunhammar
Swedish affairs, KOMPASS



Magnus Hunhammar is responsible for all Swedish contacts and organizations. Magnus is the CEO of IST, the Institute of Sustainable Transportation in Sweden and has done a series of studies of ATN systems.

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Chicago O'Hare

Photo by Steve Evans from Citizen of the World



Chicago O'Hare International Airport also known as O'Hare Airport, O'Hare Field, Chicago International Airport, or simply O'Hare, is an international airport located on the Far Northwest Side of Chicago, Illinois, 17 miles (27 km) northwest of the Loop. It is the primary airport serving the Chicago area, with Midway Airport, about 10 miles (16 km) closer to the Loop, serving as a secondary airport.

O'Hare is the busiest airport in the world by number of takeoffs and landings—a title it reclaimed in 2014, beating out Hartsfield-Jackson Atlanta International Airport (which had the title from 2005-2013). Until 1998, O'Hare was also the busiest airport in the world in number of passengers. It was surpassed mainly due to limits imposed on the airport by the federal government to reduce flight delays. As of 2014, O'Hare is the third busiest airport in the United States and sixth busiest in the world by passenger traffic.

Source: Wikipedia

PROJECT PERSPECTIVES - Rosemont PRT

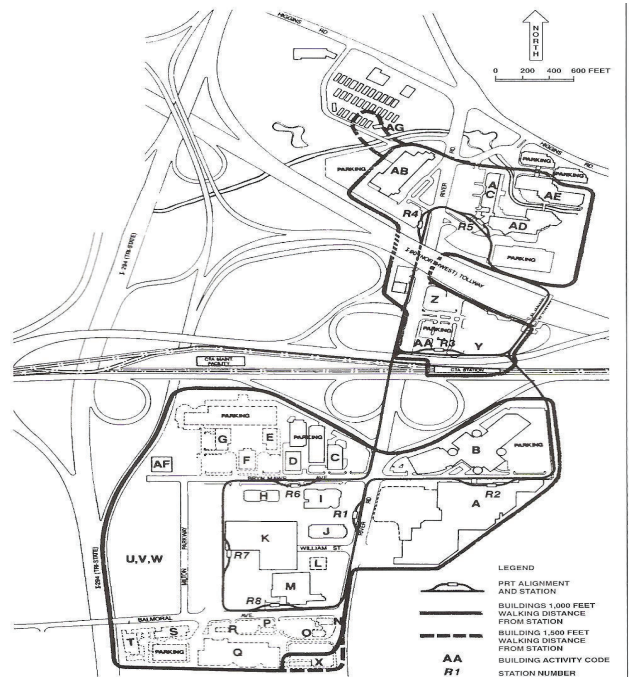
By Larry Fabian, Trans.21

This is the second in a series of Profiles that illustrate the planning parameters surrounding podcar projects. The first looked at the ATN concept for San Jose Airport. This one examines a PRT implementation planned for a suburban commercial district one rapid transit (metro) stop before Chicago O'Hare Airport. It was not built.

Urban Context: The Village of Rosemont is home to only 4,200 residents, but has extensive income-producing commercial properties that benefit from proximity to Chicago O'Hare Airport. Rosemont is served by a station of the Chicago Transit Authority's Blue Line, which continues to O'Hare where it terminates a long line that extends out from Chicago's downtown Loop. Near the Rosemont station, there are many office and logistics facilities, a mall, convention center, arena, theatre, 15 hotels and 50 restaurants.

Parking Spaces/Strategy: The PRT was planned to encourage transit use for trips to and from these local trip-generators. Remote parking for air passengers could be part of Rosemont's development if it expands to O'Hare. As a RTA (transit) project, it was also to demonstrate PRT technology conceived by Ed Anderson (Taxi 2000), working with Stone & Webster and others, and re-engineered by Raytheon.

Site Plan:



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Phasing: Early 1990s: The Regional Transportation Authority (RTA) launched a two-pronged program to (a) develop and demonstrate PRT technology and (b) to implement a passenger-serving demonstration in cooperation with a suburb.

Mid-Late 1990s: Detailed technical designs and specifications were developed, a prototype vehicle and station and then a 3-vehicle elevated test loop with station siding were built on Raytheon property outside Boston. Twenty-six Chicago suburbs expressed interest in hosting a demonstration project. This was reduced to five finalists, and Rosemont became the primary candidate.

2000s: RTA staff changed, causing the PRT program to drift with little internal or external political support. Raytheon exhausted available funds and essentially dropped the effort.

Today: Neither Rosemont, O'Hare, RTA or Chicago officials are known to be pursuing either the above Rosemont phase nor extension to the airport.

Image: Raytheon's 1990s prototype.



Total Project Cost:

The RTA PRT program cost about \$25 million.

Raytheon is believed to have spent \$60m (more than the \$25m planned). One rival contends that, with no public disclosure of spending, Raytheon essentially "ate" RTA funds, spending little of their own.

APM/PRT Dimensions: The PRT concept measured 3.5 km (2.2mi) of elevated, single-lane guideway in two main loops with some sidings. The RTA station was in the "neck" between the north and south sections. The number of stations was not defined, allowing negotiation with property owners for co-funding. At least ten were suggested. Ed Anderson developed a separate proposal with 5km and 8 stations. Extension to O'Hare Airport, depending on configuration and other areas to be served, would be at least 2km.

APM/PRT Cost: Ballpark figure from RTA official De Laurentiis: \$130 million
Chicago Tribune: \$125 million using \$70 million local RTA funds

Estimated Ridership and Revenues: A WSA study (1992) estimated daily ridership: 7,500 if no fare, 6,000 if \$1 fare, 4,800 if \$2 fare

Return-On-Investment: Not calculated or estimated. Neither the RTA, Raytheon, Rosemont nor other potential partners saw reason to invest further in the project.

Implementation Status: Inactive

Contact: Dr. J. Edward Anderson, jea.p.e.phd@gmail.com (763) 586-0877



Youth moving podcars forward

This November, Podcar City 9 in Mountain View, Silicon Valley, California, is hosting a series of special activities to encourage young people to take an active role in shaping their future in transportation.

A key objective of Podcar City is to bring professionals together. In like fashion, the primary goal of the Youth Program at PCC9 is to bring together students working in the areas of engineering and environmental technologies, among others, to brainstorm and collaborate on developing solutions to the challenges of transportation. There will be several portions of the conference designed to engage students in the design process and facilitate collaboration in the field. Among these will be a design charrette and a poster session.

There will be an all day student design charrette on November 4, before the conference's opening reception that evening. This will be an opportunity for the students to break into small groups, brainstorm and collaborate on project ideas. They will spend the day developing their ideas that they will then share during the main conference sessions and carry forward collaboratively after the conference.

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Fast development in the world of

Personal rapid transit (PRT), also called podcar, is a public transport mode featuring small automated vehicles operating on a network of specially built guide ways. 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.

Podcar/ATN Technology

- * Public transportation
- * Separate guideway
- * Off-line stations
- * Elevated (mostly)
- * On Demand
- * Non-stop 24/7
- * 25-35 mph (currently)
- * Very low energy use
- * \$2-5 per trip
- * No congestion issues
- * High Capacity

PRT vehicles are sized for individual or small group travel, typically carrying no more than 3 to 6 passengers per vehicle. Guide ways 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). As of July 2013, four PRT systems are operational: The world's oldest and most extensive PRT/GRT system is in Morgantown, West Virginia. It has been in continuous operation since 1975. Colloquially known merely as 'the PRT,' West Virginia University's system moves students and visitors alike to a number of popular destinations throughout the city; Since 2010 a 10-vehicle 2getthere system at Masdar City, UAE; and since 2011 a 21-vehicle Ultra PRT system at London Heathrow Airport; A 40-vehicle Vectus system with in-line stations officially opened in Suncheon, South Korea in April 2014 after a year of testing. Expansion of the Masdar system was cancelled just after the pilot scheme opened. Numerous other PRT systems have been proposed but not implemented, including many substantially larger than those now operating. (Source: Wikipedia)

Below: Vectus vehicle, design by Pininfarina



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Transportation Automation

An autonomous car, also known as a driverless car, self-driving car or robotic car, is an automated or autonomous vehicle capable of fulfilling the main transportation capabilities of a traditional car. As an autonomous vehicle, it is capable of sensing its environment and navigating without human input. Robotic cars exist mainly as prototypes and demonstration systems. As of 2014, the only self-driving vehicles that are commercially available are open-air shuttles for pedestrian zones that operate at 12.5 miles per hour (20.1 km/h).

Autonomous vehicles sense their surroundings with such techniques as radar, lidar, GPS, and computer vision. Advanced control systems interpret sensory information to identify appropriate navigation paths, as well as obstacles and relevant signage. By definition, autonomous vehicles are capable of updating their maps based on sensory input, allowing the vehicles to keep track of their position even when conditions change or when they enter uncharted environments.

Some demonstrative systems, precursory to autonomous cars, date back to the 1920s and 30s. The first self-sufficient (and therefore, truly autonomous) cars appeared in the 1980s, with Carnegie Mellon University's Navlab and ALV projects in 1984 and Mercedes-Benz and Bundeswehr University Munich's EUREKA Prometheus Project in 1987. Since then, numerous major companies and research organizations have developed working prototype autonomous vehicles. (Source: Wikipedia)

Below: Google autonomous car



Self Driving Car Technology

- * Private transportation
- * Uses roads
- * Can park anywhere
- * On ground
- * On Demand
- * Charging required
- * 10-55 mph (currently)
- * High energy use
- * \$2-5 per trip
- * Caught in congestion
- * Low capacity

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City of Mountain View



Mountain View is a city in Santa Clara County, in the San Francisco Bay Area of California. It is named for its views of the Santa Cruz Mountains. From its origins as a stagecoach stop, it grew to a model suburb with a pedestrian-friendly downtown, free wi-fi, and a population of 74,066. The city borders on Moffett Federal Airfield and the San Francisco Bay.

Situated in Silicon Valley, Mountain View is home to many high technology companies. In 1956, Shockley Semiconductor Laboratory, the first company to develop silicon semiconductor devices in what came to be known as Silicon Valley, was established in the city by William Shockley. Today, many of the largest technology companies in the world are headquartered in the city, including Google, Mozilla Foundation, Symantec, Symphony Teleca and Intuit. The original Byte Shop, computer store was opened at 1063, El Camino Real, Mt. View by Paul Terrell and the first 50 Apple I Computers were delivered and sold from that location. The city's tax base helps support public education. Local transportation networks integrate the city closely with the neighboring cities of Palo Alto, Los Altos, and Sunnyvale.

Source: Wikipedia

Speakers as of May 5, 2015 (preliminary):

Alain Kornhauser, Princeton University USA
Buff Furman, San Jose State University USA
Caroline Rodier, UC Davis USA
David Holdcraft, ATRA-IG UK
Doug Malewicki, SkyTran USA
Eric Phillips, Lea+Elliott USA and Steve Perliss, Lea+Elliott USA
Fredrik Jaresved, Airport City Stockholm Sweden
Gary Hsueh, Arup USA
Ingmar Andreasson, Logistikcentrum Sweden
Laura Stuchinski, City of San Jose USA
Lucia Cristea, Peruggia Italy
Matthew Lesh, Noblis USA
Muhammed Yousuf, USDOT USA
Nanzheng Yang, Tubenet China
Nathan Koren, Podaris UK
Palle Jensen, RUF Denmark
Peter Muller, PRT Consulting USA
Robbert Lohmann, 2Getthere Netherlands
Ron Swenson, INIST USA
Sam Lott, Kimley Horn USA
Seth Hollar, EcoPRT USA
Shannon McDonald, Southern Illinois University USA
Susan Shaheen, UC Berkeley USA
Tad Winiecki, Rice University USA
Walter Kulyk, TRB Committee, formerly USDOT USA
Will Ackel, ATRA USA
Włodzimierz Choromanski, University of Warsaw Poland

CONFERENCE VENUE AND REGISTRATION

The conference will be held November 4-6, 2015 at the Center for Performing Arts in downtown Mountain View. The registration link is located at www.podcarcity.org. We will also provide links for hotels and motels, transportation information, travel packages for groups and much more.

Contact: info@podcarcity.org

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