Building a Sustainable Tomorrow with

SMART URBAN MOBILITY

Healing our communities

TRANS 21
TRANSPORTATION SYSTEMS FOR THE TWENTY-FIRST CENTURY
WWW.AIRFRONT.US

Amidst the business of life, in a good city it is easy to find an oasis of quiet and green.

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Smart Urban Mobility creates community centers and pedestrian-friendly streets.

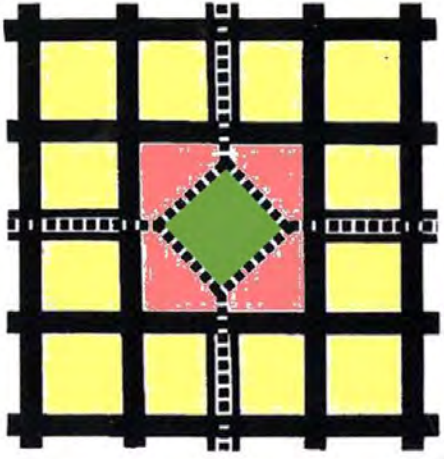
SUM means policies to reduce VMT (vehicle traffic) and boost walking, biking, transit, paratransit, zipcars (carsharing) and APMs.
APMs are automated people movers — superior mobility links.
Healthy places for all people to gather.
Active places that get crowded and at times festive.
Civic places to be managed.
We need them badly.

— courtesy of CW Harris

Sadly, our cities and towns have become unwalkable.

We have built ourselves into auto addiction, congestion and unhealthy lifestyles.
The good news – we have awesome new tools to build our way out.
Collectively, they are known as Automated People Movers — or, for short — APMs.

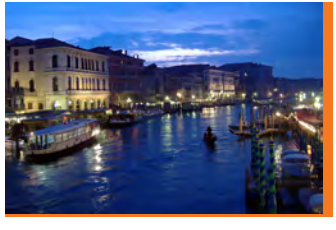
APM suppliers and consultants are presented on pages 11-14



Pedestrian Zones

It is important to have places for people to walk where traffic is restrained or even eliminated. Parking should be managed and controlled. The green diamond of the largely yellow (residential) land use scheme to the left illustrates this community-friendly principle of urban design. It applies to downtowns/city centers, but also university and medical campuses and other special districts. Locally, it can be your neighborhood center.

Venice, Italy now is more accessible thanks to an APM by Doppelmayr DCC.



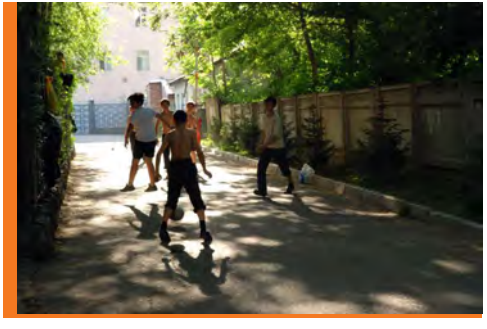
HOW SHAPE the FUTURE?

We can shape it with good governance and principled transport and land use policies.
The shape of our cities is in our own hands.

What kind of city do you want? How dense? What mix of activities? What places to meet and gather? What options to get there and move around? What is clear is that we need more carbon-free mobility – walking, biking, transit and new mobility services. To achieve this, citizens must support regional planning and community development agencies that are charged with creating green jobs and protecting the natural environment.

Can we balance density and cars?

How should the next generation live?



Should streets be safe for soccer?

Where do you call “home”?

Wherever it is, it’s special. It is friends and neighbors. It is complex, vital and organic. It needs thoughtful policies and vigilant management.

Inventory the mobility needs of your family and neighbors

- daily trips (commuter, school)
- weekly rounds
- monthly routines
- occasional specials

Envision a business model to satisfy them within sound policies for

- better access to regional transit
- enhancing community services
- providing parcel delivery too
- what role for taxis and zipcars?

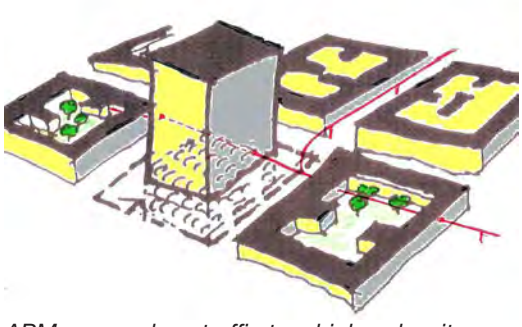
— Courtesy of Ethel Vrana, Ithaca NY

Improving your Town and our WORLD.

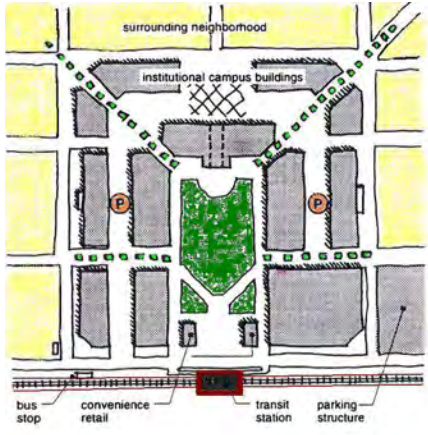
There are ways to increase density without adding congestion. Indeed, supported by SUM policies, dense districts work well.

It's called MOBILITY REFORM.

Find an APM-informed consultant. That is critical to your quest for a community-friendly and sustainable future.



APMs can reduce traffic to a higher density.



Pedestrian and street access can be put in balance.

What's on your corner?

MEGATRENDS

What is the BIG PICTURE?

Where are we in 2010? Where are we trending?

For the first time in history more than half the world's population is urban, and becoming more so. Large mega-cities of 10+ million are emerging worldwide. In the US, many detect a tidal shift back to centrality – living in cities and putting cars in the background of our lives.

There is a definite graying of the population. In the US, the number of people over 65 will double from 35 million in 2010 to 70 million in 2020.

Airports: After decades of growth, American airports sober up. Traffic is down. Expansions are on hold, and attention turns to long-term plans that should include greening off-airport commerce and traffic.

— Courtesy of Logplan

World Metros: Outside the US, the market for rapid transit (subways) is booming. Many new metros are fully driverless – and safer and more efficient. Will the FTA come into the 21st century? Will smart policies create metro-feeder districts?

FUNDS for MOBILITY REFORM

ISSUES

Since the 1950s, our oil-wasting ways have driven us to auto addiction. We need cars and other road vehicles for everything, each costing $5-15,000 per year from household budgets. Then there are public costs: streets and highways are budget busters. And, in the US, 40,000 people are killed in highway accidents every year.

With a SUM shift to green mobility, public and private savings will be substantial. Millions of dollars now spent on cars and gas will be saved. New transport will be electric, but not need a long extension cord. Attractive, safe community transport is the answer, and it is possible with APMs.

These are big, complicated issues. Civic groups, cities, towns, planning authorities, counties, and real estate developers will benefit from APM-informed consultants and experts. A good portion of creativity will help too.

The Advanced Transit Association (ATRA) organizes workshops, seminars or small conferences to explain advanced transit to officials and the public.

Can we build denser and reduce budget-busting car ownership?

APMs

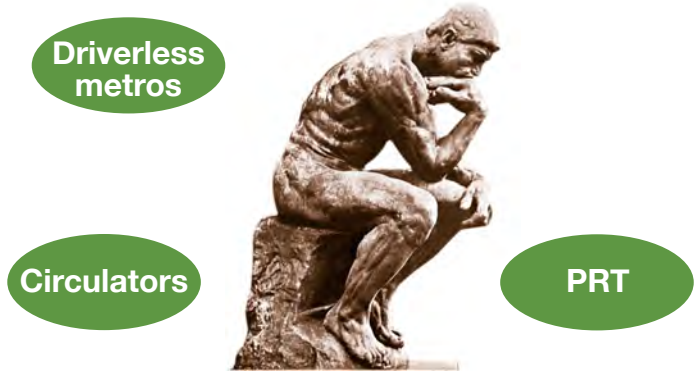
Here are the companies that supply APMs.

There are now 150 APMs in operation around the world – about a third in airports. They are listed at *www.airfront.us/count/PDFs/Count10.pdf*.

The APM industry is working on over $11 billion in some 75 projects in airports, driverless metros and district connectors. Details are at *www.airfront.us/PDFs/pipe-09.pdf*.

Detailed ASCE Safety Standards guide the industry. There are three kinds of APMs.

— Courtesy of PRT Consulting



Summary descriptions and contact information of the following APM companies are available at *www.airfront.us*

Circulators

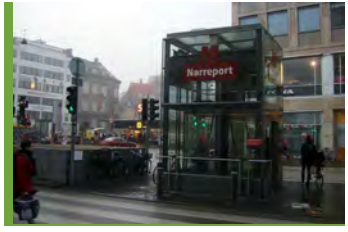
Low and mid-capacity shuttles, loops and lines, appropriate for crowded districts and complexes, such as airports, hospitals and theme parks, and links to and from major transit stations

Bombardier
Coaster
Doppelmayr /DCC
IHI
Leitner
MHI-Sumitomo
SDI
Urbanaut

PRT

Networks of off-stations for tailored service, appropriate for small cities and towns, feeders to metros and airports, and districts where a dense pedestrian core needs to function efficiently.

2getthere
Robosoft
Taxi 2000
Ultra
Vectus
WGH



Driverless Metros

Line-haul transit designed for driverless operation, appropriate for dense corridors, even in cities smaller than typically required for rapid transit (subways).

Ansaldo
Bombardier
Siemens
Thales
Invensys
Alstom
Rotem
Areva
Dimetronic

Monorails, Maglevs, etc.

Aeromovel
Hitachi
HSST
Intamin
Otis

Promoters

R&D firms with bright ideas and some degree of testing and simulation, perhaps a test track. They look forward to advancing the frontier of APMs.

PRT

Beamways
Fastransit (Applied Lev)
Jpod
Mist-er
PRT Industries
PRT International
PRT Minnesota
Self-Transit Systems
SkyCab
SkyCabs
Skytrans-Unimodal

DUAL-MODE

AET
Car-Bus?
Car-Shuttle
Hybrid PT
Interstate Traveler
Solatrek
Speedway
RUF
Tri-Track

MAG-LEV

Amer Maglev
JR Tokai (maglev)
Hyundai-Rotem Maglev
IAT
MagnaForce
MagneMotion
Urban Maglev

Consultants

APM-informed professional engineers, planners, and project management consultants who provide services on a contractual basis.

LARGE PRACTICES

Aecom
Arup
Berger/ABAM
Egis
Gannett Fleming
Jacobs
Kimley-Horne
Lea + Elliott

SPECIAL APM NICHE

Authentic Projects Group
Axis
Bravo Associates
Buchanan & Assoc.
JAI
Lamoureaux-Mclenbdon
Logplan
Parametrix
TUV Rheinland

PRT-FOCUSED

ATRA
Calver Marketing
IST
LogistikCentrum
PRT Consulting
REJ Consult
Martin Tillman

Significant Upcoming EVENTS

West Virginia University depends on its “demo” PRT from the 1970s. WVU is advancing a major program to upgrade it. States like California, Kansas, Minnesota and New York and Virginia are exploring modern PRT mobility models. Perhaps the most active on this front is San Jose and the larger Silicon Valley powerhouse.

PRT@LHR-2: Sept. 21-23

PSJ: Oct. 27-29

Morocco: Nov. 22-24

Technix 2011 DC@UMd: Jan. 23, 2011

— Courtesy of Ultra

URBAN REDEVELOPMENT

In the future, competitive campuses and districts will be integrated with robust community transport tied to building management, parcel delivery and parking. Guideways can house utility wires, cables and tubes.

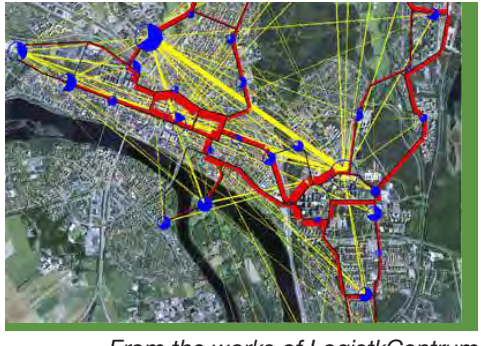
Where are the best station locations? Can parking be moved to the periphery?

Explore subscriber business models

Stations can create community nodes.

Swedish urban design studies have explored aesthetic issues. Networks for pioneer projects have been costed and analyzed. Sharp software packages have been developed.

The European Union is also studying APMs, and new academic research is underway in the UK.



From the works of LogistkCentrum

SUM CASE STUDIES

Indianapolis Hospital

Connecting two campus in Indianapolis, and creating a place for a third.

Two medical campuses about 2km apart just outside of the downtown capital of Indiana are now joined by an APM, saving much time for high-value medical and research staff and bringing many inter-departmental benefits (including fewer parking headaches).

A midway station has become a node for new facilities, happily located a short , clean ride away from either of the older complexes.

Conduits in the guideway accommodates for wire, cable and tube infrastructure.

Singapore

With almost 5 million residents on a small island, the nation of Singapore is dense and transit-oriented. There are very modern metros (two driverless) and “ERP” road charges price away downtown congestion.

Singapore is dense and transit-oriented.

Public transport accounts for 65% of urban travel, and the goal is to make it 75%.

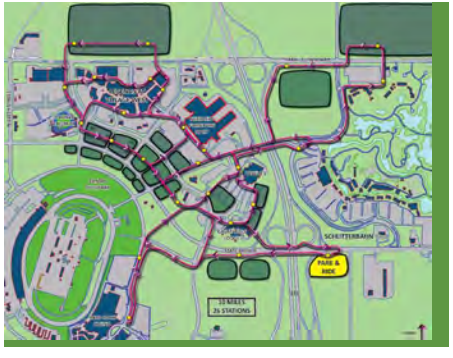
Bukit Penjang is one of three districts brightly tied to Singapore's metro.

In three outlying Singapore neighborhoods, district APMs feed an outlying metro station. Bus and taxi services are plentiful.

SUM adds value.

Think about financing first. There are lessons to be learned in Copenhagen, Denmark, where funding for a driverless metro was derived from the land value it created.

A vision for Kiruna, Sweden would increase value and reduce carbon emissions.



The Legends district in Kansas may densify and reduce congestion.

Excess military land was transferred to a development authority charged with planning a dense 24/7 urban district oriented around transit to downtown Copenhagen.

A driverless metro was chosen, funded by sale of land. Opened in 1999, it has been expanded and is well used around the clock, including a new branch to the airport.

A complementary driverless ring line is soon to begin construction, again funded by sale of public lands.

UNIVERSITY SMARTS

There are many special places such as campuses for a university, hospital, or cultural park, etc. There are staff who maintain pedestrian paths, bike facilities, elevators and maybe escalators. Universities can add an APM as a new option.

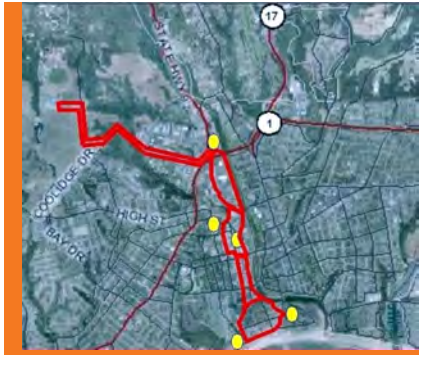
Morgantown's WVU

An intermodal facility was added last year to one of Morgantown's stations

Built in the 1970s as a demonstration of advanced APMs, the Morgantown PRT has delivered over 35 years of safe, dependable service to students, staff and townspeople.

It has five stations over 5 hilly kilometers of track and a fleet of 50-70 vehicles. Controls and the electrical systems have been upgraded, and plans are in place for new vehicles and other improvements over the next 25 years.

Santa Cruz, CA



A smart UC-Santa Cruz will connect to downtown with a PRT.

The Santa Cruz campus of the University of California has committed funds to study PRT to link its campus (upper left) to the trendy coastal town with many resort attractions.

San Jose and its PRT initiative are just 50 kilometers away.

NEXT STEPS

Tomorrow is not yesterday.

Start thinking about the city or district you want.
Explore the right balance of car-oriented versus green modes.

Benefit from Trans.21's Information Services, tailored to meet your needs.

Subscribe to Trans.21's biweekly market newsletter TP Plus.
Special rates are available to non-profits and start-ups.

Join ATRA. Participate in on-line discussion groups by contacting ian@ford.net.

Sponsor Podcar Cities/San Jose, October 27-29 where you will meet lots of exciting people doing good things to advance Smart Urban Mobility.

Parking does not choke balanced centers.

The future is ours to build — here, a vision for Lousiwan, China.

LogistikCentrum

Research and development of PRT technology, network design and operating strategies. LogistikCentrum's proprietary generic software PRTsim has been applied in over thirty design studies since 1990.
Professor Ingmar Andreasson, KTH Inst of Technology
www.linkedin.com/in/IngmarAnreasson

AXIS ENGINEERING

APM Planning & Engineering Experts

Austria, 1040 Vienna,
Rainergasse 4
Tel: +43 (1) 50670-150
www.axis.at
wien@axis.at

— *courtesy of CW Harris*

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Alex Anderson
Marketing Manager
Tel: +011 49 69 690 78483
ingmar@logistikcentrum.se
www.logplan.com
logplan@logplan.com

www.airfront.us

Concept by Lawrence Fabian
Web design by Ian Ford and Howard Latimer
Page design by Sarah Kaempfe