



News of ATRA and IST

ATRA and IST members are encouraged to forward this newsletter to friends and colleagues or post it on appropriate websites.

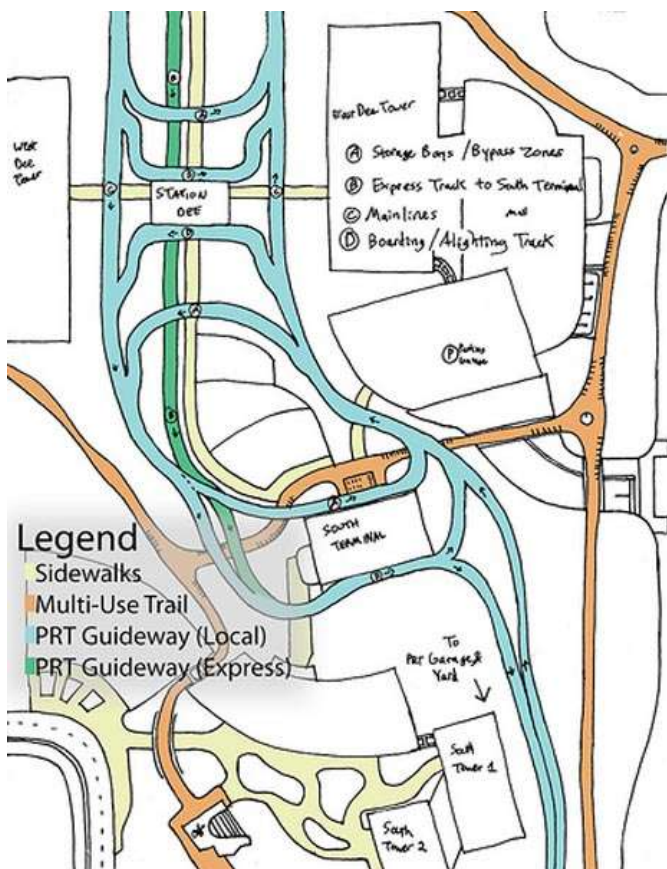
March/April 2011

ATRA COMES FULL CYCLE

Princeton professor Alain Kornhauser was a founding member of ATRA in 1976 -- the year the Federal government abandoned PRT as an option worthy of R&D funding, Kornhauser edited an ATRA newsletter during those early years, becoming fully engaged in teaching operations research and financial engineering. He directs Princeton's transportation research. He started a company that provides ITS services, well positioned between New York to the north and Philadelphia, Baltimore and Washington to the south.

Over the last thirty years, Alain has retained strong interest in advanced transport. He is particularly fascinated at how it can underpin new development. In recent years, students have studied PRT applications throughout New Jersey, adding up on a county- by-county basis the number of vehicles and stations that will be required to serve as a major of electric transport for the entire Garden State. The numbers are staggering: 12,000 miles of guideway with 11,000 stations and 530,000 vehicles costing \$143 billion.

Last January, Professor Kornhauser was elected Chair of ATRA's Board for three years. He has identified immediate mobility and access needs at airports, where vast underused land holdings typically lie underused. Continuing improvements in noise abatement now make them more attractive for development, creating substantial opportunities to plan and finance airfront districts. Under his direction, ATRA's next event will take place May 6 to examine airport landside issues, quite appropriately at BWI – the easy to use and access at Baltimore-Washington Int'l airport 50km north of DC. See separate notice, on the next page.



IN THIS ISSUE

Maximizing Landside Value...	2
PRT @ 2011 TRB.....	3
Turning Point	3
Raney and O'Sullivan.....	4
Swedish Intelligence	5
The Kieffer Senior Initiative ..	5
Thanks, Bob Dunning!.....	6
Overly Conservative	7
Donn Fichter	7
Rethinking Transportation	8
Minnesota Rising.....	9
Airports	9

*Station spaghetti is the reality of higher-capacity PRT stations.
- an anonymous Scottish thinker.*

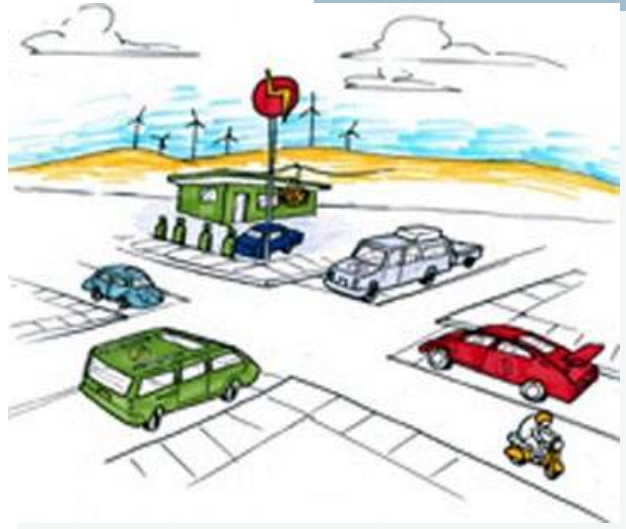
ATRA's Officers

Stan Young of the University of Maryland remains as president. Ingmar Andreasson is VP. Wayne Cottrell is secretary and David Maymudes, treasurer. Martin Lowson is a member at large of the Executive Committee, which now has regular teleconferences. Bob Dunning is immediate past chair. Larry Fabian is events coordinator and newsletter editor.

New board members elected last January to serve three year terms Shannon McDonald (architect now residing in Maryland) and Tony Newkirk of Hypertransit, based in Virginia.

With a potent message to deliver to Washington, ATRA returns to more focus on the Eastern Seaboard and our beloved Capitol. FTA has expressed new interest in ATRA.

2011 looks to be a year of consolidation.



How does the ATRA view electric cars, ITS and dual-mode?

MAXIMIZING LANDSIDE VALUE

ATRA is organizing a one-day workshop on mobility markets and opportunities at airport landside development. Entitled *Maximizing Landside Value*, it will take place Friday, May 6, 2011 at Baltimore-Washington Int'l Airport – an easy place to gather. Alain Kornhauser is the conference chair.

Efficient airport landside access is often problematic. Enabling commercial development and accessing transit, parking, and hotels, and accommodating airport patrons all compete for limited frontage. Sustainable solutions can be created with APM linkages. If there are more than ten destinations to serve, then PRT offers very attractive advantages.

Several airport officials and consultants have expressed strong interest in attending the May 6 workshop. Case studies of Atlanta City and the Oakland Connector will be presented, and host BWI promises to discuss its comprehensive planning efforts. Cooperation from Airports Council Int'l and Airports Consultant Council is tentatively in place. ATRA hopes to draw many from the Federal agencies, analysts and consultants from nearby Washington and its famous Beltway.



Registration is limited to 75. The early registration fee is \$200, expiring March 31. ATRA and Kompass members qualify for a reduced rate of \$145. In April, registration jumps up to \$400 (\$345 for ATRA members). It may not be available at the door. For sponsorship and literature table info, call (617) 825-2318. To offer a presentation or program issues, email alaink@princeton.edu.

Register at www.advancedtransit.net

Airports are rich in spatial transactions.

PRT @ 2011 TRB

The Transportation Research Board Annual Meeting was off to a good start with the ATRA Technix meeting on Sunday morning, January 23. Excellent presentations and discussions lasted all morning. The TRB workshop held shortly after was sponsored by three TRB Committees: Emerging and Innovative Public Transport and Technologies Committee AP020, Major Activity Center Circulation Systems Committee APO40, and AHB15. Some hundred TRB participants attended the *Big Picture*. Thanks largely to efforts of Shannon McDonald, PRT's inclusion was a big part of its success.



Front row from left: S McDonald, S Zielinski, R Liu, L Fabian, M Parent, S Shaheen. Back row: R Cervero, I Andreasson, S Raney, S Young.

Steve Raney presented his work on PRT and office park connectivity and updated us on Heathrow airport. Shannon McDonald discussed PRT and parking. An excellent panel discussed the idea that interconnectivity was an important goal that was not always met. Robert Cervero stated that he had learned a great deal and everyone who participated went away from the conference excited to expand their thinking. The day was topped off by an ATRA business meeting led by Stan Young.

In TRB sessions, Ingmar Andreasson of the Royal Institute of Technology (Sweden) and John Lees-Miller of the University of Bristol (UK) presented excellent research papers on PRT design issues of ridership, capacity of PRT stations and empty-vehicle redistribution. These excellent research papers allow the PRT paradigm to be better understood and planned. It was agreed that more research is needed in the US in order for PRT to be better recognized, accepted and implemented. Hopefully next year we can learn more about such efforts underway in the US. Currently Europeans and Asians have the lead.

Forward to 2012

The APO40 Committee on Monday discussed how to continue the success of the *Big Picture* workshop, including variations on even bigger picture of PRT connections for high-speed rail stations, as feeders to regional rail stations, and at airports.

NEW AUDIENCE FOR ADVANCED TRANSIT

by Stan Young, President

There is a sea change afoot and it was evident at TRB last January. Unlike the indifference felt in the past, this year's sessions related to advanced transit were well attended by a broad audience. The Sunday, January 23 *Big Picture* workshop packed a large hall. One estimate is that seventy-five people attended, but others think it was over one-hundred. There were many thoughtful questions and spirited conversations. ATRA members were excited, and it carried over to email chatter the following week.

The TRB Annual Meeting sessions on Monday, though not as packed, drew many more attendees than past years. New in the crowd were youthful faces beaming with interest in advanced transit. Among them were some Federal Transit Administration representatives making inquiries as a result last fall's signing of a memorandum of cooperation between the Swedish Government and the USDOT (see TP 01/2011). This may open dialogue between FTA and ATRA and hopefully lead to additional opportunities.

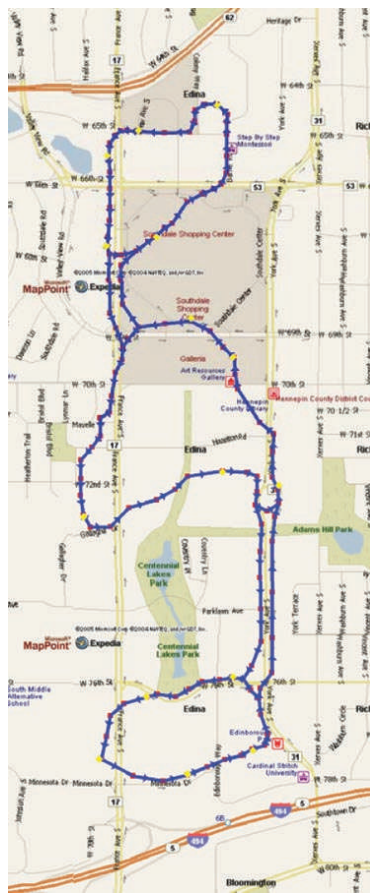
Stay tuned.

RANEY and O'SULLIVAN in REAL TIME

Ultra's US rep is Steve Raney spoke at the *Big Picture* workshop last January 23 at TRB about real-time ridesharing groups that will help more and more people to get around in the near future. Raney's speech was filled with the buzzwords of market analysis of the travel behavior of all kinds of market segments. Located in Silicon Valley, much is focused on high-income young professionals who can afford superior mobility options.

It sounded like dialog with investors scanning the world for future markets. Raney has lots of numbers embellished with advanced jargon about user groups and consumer proclivities. He also mentioned progressive California initiatives to base car insurance on mileage: the more VMT you drive, the higher your exposure and therefore your premium.

Avego's Sean O'Sullivan described real-time ridesharing start-ups operations in Ireland, China and the US, including five in the Seattle area.



This vision (left) for a mall area outside Minneapolis was developed by Steve Raney.

Robocars like these (below) are being tested this year in La Rochelle.

TURNING POINT

France's expert on car robotics and head of INRIA, Michel Parent declared at the *Big Picture* workshop that the West is at a turning point relative to the car. In China, India and other developing countries, the newness of motoring will lead to its expansion. But in Europe and some of North America, young adults see car ownership as a costly burden rather than an asset or worthwhile expense. With zipcars and handhelds and car rentals for weekends or vacation, staying carless has a growing appeal. A relevant EU white paper with a 2040 horizon is about to come out.

Coming from a country that just announced a \$28-billion driverless metro ring through the suburbs of Paris and extension of *Meteor* – the driverless *Ligne 14* of the dense Paris network, Parent was clearly



coming from a scene far different than US transit's current prospects of cutbacks and shortfalls. Michel is affiliated more with the automobile industry and he knows the US well from frequent visits and university years in Cleveland.

Obvious in its power to reshape and rejuvenate the working class suburbs that surround the affluent capital Paris, the *Grand Paris Express* was quickly labeled historic by officials and the media alike. A robocar service is a bit delayed. It will operate in mixed traffic on a quiet street in La Rochelle, the city that is responsible for it. It was to start in February.

Owning a car will soon be soooooooooo yesterday. *Au revoir, ma voiture!*

SWEDISH INTELLIGENCE

At Technix last January 23, ATRA Vice-president Ingmar Andreasson gave an overview of PRT research and status in Sweden, where he is a professor at the Royal Institute of Technology. He is a native of Gothenburg, Sweden's second largest city closer to Norway and England than is Stockholm. Happily for Ingmar, the train service between the two cities is good, excellent by US standards.

There have been twenty professional investigations of PRT-podcar implementations in Sweden serious enough to call them full feasibility studies. Extensive modeling and analysis have produced impressive quantitative findings to inform public debate and policy making. Testing at the Vectus demo installation in Uppsala gives further confidence.

The Swedish Transportation Administration recently announced a four-year program with \$300,000/year in funds for more refined study of pilot PRT projects and identification of financial courses, STA promised \$4 million as its share of construction costs in 2015. According to Ingmar, PRT must be shown to be ten times safer than cars. Proponents of PRT implementations must prepare and submit a costly "Railway Plan" – a vestige from railroading like the brickwall stop requirement for headways.

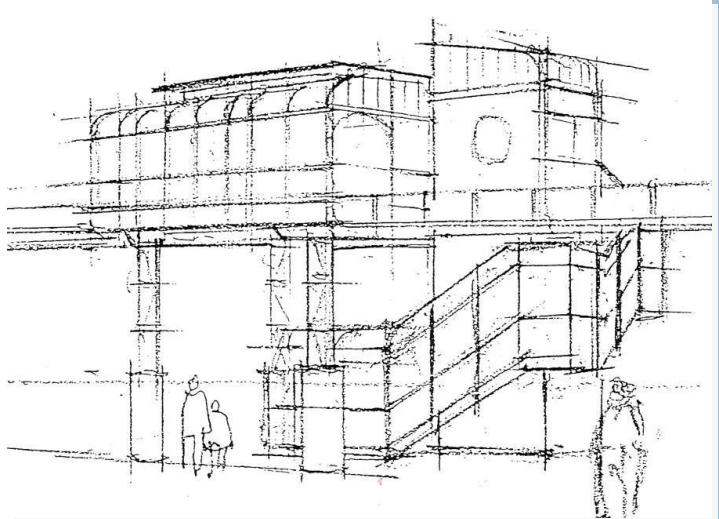
Sweden's Ministry of Enterprise, Energy and Communications may establish a center for PRT industrial competence and another center of related academic research.

All this is accessible to the USDOT through a Memorandum of Cooperation.

THE KIEFFER SENIOR INITIATIVE

Jerry Kieffer was a founding member of ATRA in 1976. His kind and thoughtful manners are credited by many with keeping ATRA alive during the 1980s and 1990s. Now living with his wife Fran in a retirement community in Alexandria VA, he is encouraged by the new energies in ATRA as he contemplates what active minds have to suffer when they give up keeping and driving a car. The savings and safety may be nice, but the cost is isolation.

\$8,000 is often quoted as the average annual cost of a car. Even if you maintain and repair your own late model that's cheap to insure, it costs at least \$2000. There are



Sweden has thought much about the details of PRT installations, such as a simple station here.

gashogs and drivers with bad records who run up 15,000 miles a year and don't do their own mechanicals. Annual cost of such car addiction can easily top \$10,000, much more for trophy cars. Most households have two or three vehicles, sometimes more.

Kieffer points out that the number of senior is growing very fast. For those in their 80s and 90s, mobility becomes even more an issue. His community of some 2000 residents runs a shuttle to nearby malls and a station of the Washington Metro. The vans are not kind to people who struggle up and down stairs. Transit bus and train services -- even in metro DC -- are pretty thin and likely to get thinner.



What Steps to Take?

Policy makers (elected officials, gerontologists, service providers, transport operators, etc.) need to recognize this growing need, insists Jerry. How can ATRA effectively inform them?

Mall owners and other private sector players can also benefit by more senior visitors who will come if the trip is easy – frequent or on-demand, jerk-free, simple to navigate and affordable. Seniors would be happier and healthier getting out and about more often. More staff and visitors would come by transit, reducing the need for parking lots that overwhelm the Kieffer's community.

The need for mobility assistance comes sooner than you think, reflected Alain Kornhauser after hearing of Kieffer's ideas.

If the densities and public policies are right, PRT can play a very useful role, offering senior-friendly service that adds value to both property and life.

It seems like a win-win-win situation.

THANKS, BOB DUNNING!

ATRA has done well over the last several years, and much credit is due to its past President and then Chair Bob Dunning. Bob lives near Seattle among the energies of Boeing and Microsoft. He will continue on as a member of the Executive Committee as the Immediate Past Chair.

As a token of appreciation, The Board has given Bob a plaque that reads:

With Sincere Appreciation To
Robert Dunning
In Recognition of Your Outstanding Contribution,
Commitment, and Dedication to the
Advanced Transit Association

January 2011

OVERLY CONSERVATIVE

There are those who argue that overly conservative officials are killing PRT. Here conservative means cautious, diligent, and answerable, not Republican and certainly not the angry like Tea Party. A conservation stance recognizes the possibility for unforeseen problems, delays and costs. If things go well and there's a surplus, officials smile. If not, someone has to take the blame.

Assumptions must be made about any future transport project. *What will it cost?* is but one of the early ones. What challenges will it face during construction – such as material supply disruptions, strikes or weather? How smoothly will the opening with the user interfaces go? Will it survive a change of political administration? How will the press spin it? Will the public accept it? What will future revenues and costs of operation and maintenance stack up?

Murphy's Law: If it can go wrong.....

Witness what has happened to Canadian supplier Bombardier as a result of a new mayor in Yongin near Seoul, South Korea. The project is a 19km mostly elevated driverless metro with a system cost of about \$600 million. Construction began in 2005. Bombardier delivered it ahead of schedule last year, but disputes over outstanding tasks have not been resolved, preventing opening and the stream of revenues. As a result, Bombardier has taken the expensive decision to mothball the installation and apply for legal action against the city.

Is it only lawyers and the court who come out ahead? No one knows, but it is significant financial hit to Bombardier, which happily has other contracts supplying APMs and more conventional rail systems to absorb the unexpected hit from Yongin's predicament.

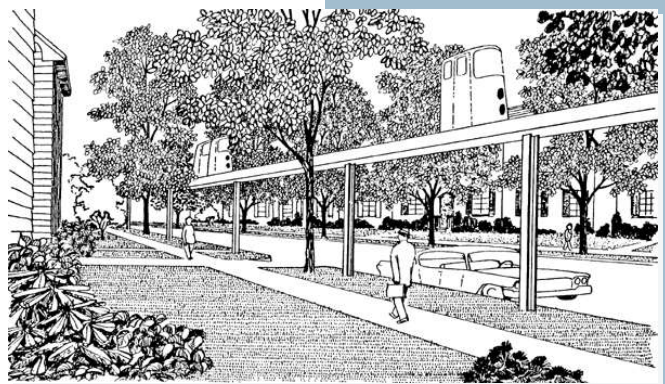


Installation at Phoenix Airport is but one APM project underway that helps cushion the Yongin problem for Bombardier.

DONN FICHTER

The man credited by most as the first conceiver of PRT passed away last November in upstate New York. Educated at Brown and Northwestern, Donn Fichter early on envisioned automated vehicles along tracks with off-line stations in 1953. He published a book on this in 1964. He moved to Albany the following year, taking a transportation planning job with the NYSDOT. He retired in 1990, staying invigorated by long walks including many in the brisk winters that bless upstate New York. He attended the 1996 PRT conference. He had attained his 84th birthday.

ATRA honored Donn, who served many years on its Board, with life membership several years ago. His was a life of vision and perseverance. He was born in Minneapolis but grew up in Rhode Island, studying at Brown and then earning an engineering degree for Northwestern (Chicago-Evanston).



Donn Fichter envisioned extensive PRT networks, as pictured here from his 1964 book, Individualized Automated Transit and the City.

RETHINKING *RETHINKING TRANSPORTATION*

At Technix meeting last January 23, California member Will Ackel spoke on user interfaces for PRT, especially faring and ticketing. Equipment can get pretty expensive. The future lies with smart phones or contactless credit cards. Ackel was the main author of *Rethinking Transportation* -- the “white paper” that ATRA published in hard copy last fall. It puts much stress on the problems of existing modes to counter the charge that PRT is a solution in search of a problem. There is a problem, as Ackel nicely documents in the 32-page booklet.



If Newport News (VA) built the transit alignment shown in its master plan, how much parking and how many lanes could be rededicated to infill development?

Most people will readily agree that 40,000 traffic fatalities per year in the US is a problem. But it is not so easy to persuade people that we have an urban land-use problem that negatively impacts the livability of our cities. After all, the same automobile-centric development pattern has been followed all over the world for nearly 100 years - and as they say, the fish can't see the water.

Since then, Ackel has been thinking about issues that need to be addressed and elaborated. Last January he listed the following:

- There should be more in-depth discussion of the degrading effect of highways and traffic on the urban environment – noise, tailpipe pollution, stormwater runoff, severance (barriers, pedestrian-hostile highways and parking lots, etc).
- What is the full percentage of land devoted to cars and trucks? Ackel is looking for authoritative statistics. Studies done at the Lawrence-Berkley Labs showed that 29-39% of urban land is paved for travel or parking, but this figure does not include private garages, driveways, gas stations, car sales or rental lots, muffler stores, tire stores, body shops, etc. Overall figures are typically higher for downtown areas.
- What can citizens and elected officials do before hiring an “expensive consultant”? How can they envision a PRT network in their community and measure the benefits it would bring?
- What are best design practices for architects, planners, urban landscapers and policy-makers? Should we encourage “functional goals”?

In a podcar city, you could replace vast acres of asphalt with greenery, completely changing the character of the city from an asphalt desert with oases of parkland, to an ocean of parkland with islands of buildings.

MINNESOTA RISING

Minnesota sits at the top of America's heartland, taking the brunt of Canada's winter cold and suffering through swarms of mosquitoes and other flying stingers in the heat of summer. Minnesotans are a strong and resilient folk, and many citizens have a long and deep history in PRT promotion and R&D. A new round of energy is stirring.

For decades the Citizens for PRT (CPRT) have worked to raise awareness of the bright prospects with PRT. One important use is envisioned as extending and enhancing the reach of conventional transit. There are many major activity centers – dense, walkable districts; parking lot-choked sprawl around highway interchanges, airport districts, stadium complexes, etc. – in which PRT can serve a useful, valuable, value-enhancing role. CPRT is planning events for March, April, and May this year. They will be promoting the PRT industry at the University of Minnesota's Transportation Career Expo on March 1. In April, the Neighborhood Sustainability Conference and Expo is a two-day event expected to draw about 1,000 people. The Living Green Expo is an exciting annual event for CPRT. This year it is at the MN State Fairgrounds on May 7-8. For more info, contact Andrea Walker at walk828@gmail.com.



Tom Paige (left) chats with Dick Gronning (right), one of Minnesota's senior PRT crowd.

AIRPORTS

Air traffic is rising again, more so in Asia and the Middle East than in Europe. The US lags further behind.

DUBAI, for example, registered a 15 percent gain in 2010, reaching 47m and ranking 5th among all world airports for international passengers. Dubai's cargo volume rose even faster at 18 percent.

SINGAPORE: Changi Airport jumped a healthy 13 percent to 42m, all by international due to the tiny size of this island nation. This made it 7th busiest in the world in terms of international traffic.

NEW YORK , NY/NJ/CT: The influential RPA recently issued a report calling for investment of \$15 billion to accommodate 50m additional air passengers by 2040. Most would go to new and reconfigured runways and reconfiguration of airspace, but



The crowds are starting to come back at US airports.

Newark's three terminals that served 35m in 2008 but only 33m in 2009, will need to be partially razed and rebuilt. The APM there and at JFK (58m in 2010, up from 48m in 2008) will likely be impacted, creating new opportunities. LaGuardia ranks third with no APM and only 23m in 2008.

SAN FRANCISCO, CA: The APM at SFO was supplied by Bombardier and opened in 2003. The \$116m, 4.5km system with nine stations and 38 vehicles was part of a \$274m project when civil work is included. It loops around terminals and connected to a BART station and remote car rentals and parking. Operated and maintained by a crew of about 75, it runs around the clock with an annual budget over \$12m. Major disruptions have been few. In October of 2005, it logged a "stellar" 99.92% availability. California's Public Utilities Commission late last year performed another triennial inspection and gave it flying colors with no recommendations for improvements.

Copies of

Rethinking Transportation and
Smart Urban Mobility

are available free to ATRA and Kompass members who want to distribute them to parties potentially interested in all forms of advanced transit. Mailing costs are minor. If interested, contact lfabian21@gmail.com. For:

Project ideas for ATRA: seyoung@umd.edu

Corporate membership queries: pmuller@prtconsulting.com

Charitable donations/legacies: david@maymudes.nnet

Articles and ideas for: *TransitPulse* lfabian21@gmail.com