

# Transforming Transportation

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## Welcome to the WestStart-CALSTART *BRT newsLane* Newsletter

We hope you enjoy this inaugural issue of the *BRT newsLane*, a monthly electronic publication from WestStart-CALSTART, in partnership with, and funded by, the Federal Transit Administration.

The mission of the *BRT newsLane* is to inform stakeholders on the progress and activities of importance to the BRT community, in the U.S. and abroad; to expand the BRT network by connecting stakeholders through strategic partnerships, and to advance the use of clean vehicles and technologies in BRT systems. -- The Editor

## Bus Rapid Transit

# newsLane

### This Week's Feature

## FTA-BRT "Action Plan" Announced

Signaling a significant increase in momentum, there have now been two important meetings of Bus Rapid Transit (BRT) stakeholders. Out of these meetings has come a "living action plan," which defines important aspects for the BRT transit mode, and which will evolve as the needs and resources of this continuing program demand. WestStart-CALSTART has been assigned the duties "executive secretariat" in maintaining and coordinating details of the Action Plan.

Walter Kulyk, FTA Director, Office of Mobility Innovation, released a document that outlines the vision and the

elements of the Action Plan for advancing Bus Rapid Transit. It reflects the feedback from the various stakeholders participating in the meetings, and addresses serious issues affecting the future growth of BRT.



**The BRT Vision** -- BRT is a complementary mode that can support making public transportation the mode of choice based on quality of service,

*Action Plan, continued on page 6*

### Tech Corner

## BRT in France

In January, WestStart-CALSTART joined representatives from transit districts, industry, and the Federal Transit Administration (FTA) on a trip to Paris to study the local bus rapid transit systems. This trip was planned by the FTA to support the efforts underway for its Bus Rapid Transit (BRT) Demonstration Program.

The main technology under review was the in-situ Rubber-Tired Tram Testing

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conducted in France in Val-de-Marne, a suburb of Paris under the Trans Val-de-Marne (TVM) Bus Demonstration Program. The delegation wanted to learn from the French regional transport operator, RATP (Régie Autonome des Transports Parisiens), and the manufacturers of the vehicles planned for the test. In addition, the delegation

*Paris BRT, continued on page 3*

**Clean Vehicle Connection**

# Welcome to the *BRT newsLane*!

Welcome to the inaugural issue of the *BRT newsLane* newsletter, a monthly electronic publication created by WestStart-CALSTART in partnership with and funded by the Federal Transit Administration (FTA).

The mission of the *BRT newsLane* is to provide an information-sharing network to update BRT communities, industrial partners, bus manufacturers, and stakeholders on the progress and activities of importance to the Bus Rapid Transit (BRT) community in the U.S. and abroad; to expand the BRT network by connecting stakeholders with each other in strategic partnerships; and to advance the use of clean vehicles and technology in BRT systems.

Who is WestStart-CALSTART and what is our role in the BRT program? WestStart-CALSTART is an advanced transportation technologies consortium dedicated to creating and expanding a global advanced transportation technologies industry and its markets through technology development, analysis, and implementation. Our goals are to clean the air, create high-quality jobs, and develop energy efficient transportation. Through strategic partnerships, we work with technology developers, manufacturers and end-users to help move clean transportation vehicles and technologies into the marketplace.

Last year, WestStart-CALSTART served organizer and a major sponsor of the first international Bus Rapid Transit design competition - The Bus Rapid Transit and the American Community: A Vehicle Design and Community Planning Competition. This past spring, WestStart-CALSTART organized the Los Angeles BRT Workshop "Action Plan for a Thriving BRT Market." With the *BRT newsLane*, we are continuing to combine our advanced transportation technologies industry background with the FTA's BRT program in the United States. Our current focus in the FTA BRT program is threefold: 1) to be the FTA executive secretariat for the BRT Action Plan; 2) to connect U.S. vehicle manufacturers with the BRT program in order to develop BRT manufacturing efforts in the U.S.; and to 3) disseminate information on clean transportation vehicles and technologies for use in BRT systems.

**The mission...  
is to provide  
an information  
sharing network.**

Through the *BRT newsLane*, we hope to provide an ongoing forum for tracking important BRT developments and activities, addressing advancements and needs in vehicles and technologies, and bring the BRT stakeholders together to advance the BRT concept throughout the United States. We look forward to working with you, our readers to achieve this objective. Your comments, questions, suggestions and criticisms are welcomed so please contact us.

**CALENDAR**

1<sup>st</sup>  
15<sup>th</sup>  
31<sup>st</sup>

**Upcoming Events...**

**BRT Vehicle Testing Workshop.....June 20, 2002**

Penn State Conference Center, State College, PA  
For information, contact: [irving.chambers@fta.dot.gov](mailto:irving.chambers@fta.dot.gov)

**APTA Annual Meeting & Expo.....September 25-27, 2002**

Las Vegas Hilton & Las Vegas Convention Center  
Las Vegas, NV - <http://www.apta.com/meetings/annual/index02.htm>

Please send your notices about upcoming BRT-related events to:  
[gmoscoe@calstart.org](mailto:gmoscoe@calstart.org)

# Paris BRT

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was able to evaluate the Paris Mobilien Project. Mobilien is a BRT plan for Paris and the suburbs in Ile de France. A limited amount of time was available to explore RATP efforts to incorporate "clean" transportation technology.

## Rubber-Tired Trams

Transit innovation in French regional cities has moved beyond the steel

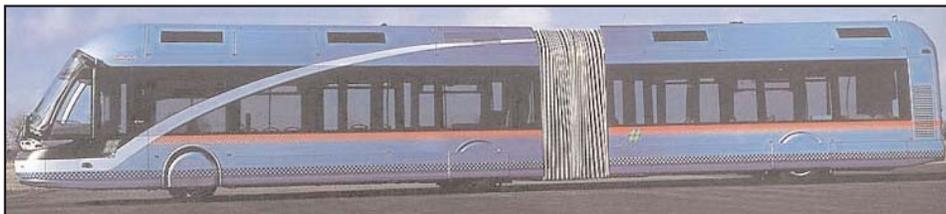


**RATP Microbus Concept Vehicle**

wheel on rail environment. This has led to "rubber-tired trams" which are low-floor, rubber-tired electric vehicles with innovative guideway technology that operate on dedicated bus ways.

The Translohr vehicle by Lohr Industries is Lohr's first "Tramway on Wheels" or next generation tramway. The first vehicle was an STE 3 Vehicle Prototype, a double-articulated, four axle vehicle weighing 21 metric tons. The vehicle is reminiscent of a light rail vehicle that runs on rubber tires, and is guided by a central rail embedded in the roadway.

The Translohr vehicle is a modular design. The modular design is able to adjust configuration length by adding segments. In the present design, the vehicle is not intended to leave the guidance rail but it can operate "off-rail", in a battery-only mode, for short distances. Power is supplied to the electric traction motors in the traction module from an overhead contact system that powers the conditioning elec-



**Civis Optically Guided Bus**

trical equipment on the roof. The vehicle can operate bi-directionally with an operator station located at each end.

Bombardier builds a sleek aluminum body vehicle - the TVR - styled similar to a light rail vehicle with several doors on one side, facilitating faster boarding/exiting of passengers. The vehicle structure is based on a light rail design modified for larger windows. Bombardier selected their vehicle design both length and steering based on Road Regulations for maximum bus design. The result is a vehicle that is 24.5m in length by 2.5m in width.

The TVR "trams" have two "articulations" forming a 3-unit vehicle, with additional double-width doors, 40 seats, and total capacity rated at 140 people (4 people per square meter) which approaches that of an LRT car. The electric traction motors can be powered by an overhead pantograph system or by an on-board Cummins or Caterpillar Diesel generator set. The vehicle is capable of operation independent of the guide rail.

The Civis, an optically guided bus developed by Irisbus, is a low floor, open design with easy access sliding

or swing-out doors. The Civis is reminiscent of a light rail transit vehicle however it is a bi-articulated vehicle that is capable of unguided operation over conventional transit routes. Exterior cameras provide the driver front/rear views. The passenger comfort was important in the design. The design has ten different seating arrangements and important transit amenities such as a lighted information display. The interior has a bright and airy feel with skylight-type roof windows and a rear window. Several versions of the vehicle are under development and include an autonomously powered, hybrid-electric design plus a version powered by an overhead electric dual contact system. The Civis is also designed to run in dedicated lane



**Lohr Industries Rubber tired Tram "Translohr"**

or exclusive right-of-way transit routes.

The optical guidance system uses a camera mounted in front of the steer-

*Paris BRT, continued on page 5*



**In The News...**

# LA Success Story: Go Metro Rapid!

One issue in the ongoing evolution of Bus Rapid Transit (BRT) is revamping the image of the bus from "transportation mode of the last resort" to "transportation mode of preference." This is particularly critical in image-conscious Los Angeles, the sprawling domain of the Los Angeles County Metropolitan Transportation Authority (MTA), which has had a reputation of not being a transit friendly town. Despite a history that included the Red Car Line, which was displaced as the automobile ascended to its vaunted place in California culture, mass transit has had a mixed bag story. The city isn't centralized, the workplaces keep moving, and residential development goes out even further, so the MTA doesn't have an easy job.

A bright spot in the MTA's recent history has been the Metro Rapid. Using current technology, good planning and stakeholder partnerships mixed with a lot of common sense and the inevitable dose of politics, the MTA scored a win with this simple example of Bus Rapid Transit. The high capacity, low-floor buses, with lots of visibility, cleaner and quieter natural gas-fueled power train, and a distinctive red and white color scheme stand in stark contrast with their conventional counterparts. The buses also follow an express routing scheme along the Wilshire Boulevard and Ventura Boulevard corridors, with wider spacing between stops and traffic priority signal interaction, resulting in up to a 25 percent reduction in travel time. Ridership has increased by 26 percent along Wilshire, and 25 percent along Ventura. In the realm of Los Angeles mass transit, that constitutes solid performance.

According to Rex Gephart, Transportation Planning Manager with the MTA, "We have actually exceeded our original targets significantly. Our primary goal was to achieve a 25 percent improvement in travel time over any bus on a similar route. Cutting times by 10-15 percent was not good enough: we didn't think customers would notice, they wouldn't switch or they wouldn't stay. We thought 25 percent was ambitious enough to gain attention, and we've done better than that. We've also enjoyed a 40 percent increase in ridership, which is obviously substantial. Significantly, around a third of those additional riders are new to public transit of any kind."

According to the MTA, there are several elements to Metro Rapid's success. They include MTA and City partnership; political support from the Mayor and MTA Board of Directors; media support; a positive impact on travel time; simplicity of station design and operating environ-

ment; and a team approach with input from planning, operations, city departments and consultants.

Metro Rapid is due for expansion.

In addition to a test program using a dedicated bus lane on Wilshire Boulevard, the MTA recently approved a San Fernando Valley BRT with a largely dedicated busway running along an unused rail right-of-way north of the Ventura Boulevard line.

MTA's Gephart said, "The MTA plans to increase the route coverage ten-fold, from approximately 40 miles currently to an additional 400 miles and 23 new routes. The routes currently run only on an east-west basis. With the new routes, we will establish a grid of north-south and east-west lines, all connecting with either other Metro Rapid routes or light rail systems."

The MTA will also be evaluating a variety of new BRT platforms, including: 45-foot low-floor buses similar to the Metro Rapid buses; and advanced, 60-foot articulated high-capacity platforms. The MTA hopes to stimulate development in the domestic bus industry by demonstrating a market for such high-capacity, alternative fuel vehicles with advanced powertrain technology. A solicitation for proposals is going out shortly, for up to 72 compressed natural gas (CNG)-electric or CNG-hybrid buses for use on the San Fernando Valley BRT line. Up to 25 existing MTA lines could also use these buses.

The ultimate test of whether a project is succeeding is response from the end users, and a recent article in the Los Angeles Times prompted several letters to the editor. One writer/rider was pleasantly surprised, based on his previous experiences with bus service in Los Angeles, to find that the electric information marquee telling him the next bus would arrive in five minutes was accurate. Another individual admitted that the Metro Rapid service was faster and more pleasant once he got on the bus. He did voice his annoyance that at times, one could wait for up to 30 minutes for a bus while several already-filled vehicles blew past, and that drivers would not admit riders between express stops, even when stopped at traffic lights. No mass transit service is perfect, but it does appear that MTA's Metro Rapid has scored high in terms of performance and acceptance. With the continuing dedication of Gephart and the MTA, Metro Rapid will make a welcome contribution to increasing the viability and appeal of mass transit in the "City of the Car."

## Comm Line

# LA BRT Workshop

During the Bus Rapid Transit Workshop in Los Angeles, FTA officials invited comments and suggestions for "action items" from the attendees. Many responses were forthcoming, and a month later, FTA's Walter Kulyk shared the results in an initial Action Plan.

The Altoona testing program attracted some criticism, but generally it was recognized as having a positive benefit by uncovering problems prior to a vehicle reaching the production stage. Participants asked for a more flexible approach to testing, and requested that a policy be devised and implemented quickly to address the needs of BRT.

The FTA acknowledges a need to encourage competitive BRT vehicle production domestically. Adjustments and reviews to the "Buy America" program, the procurement process, R&D incentives and progress payments, risk-sharing and establishing a stable funding process are all on the table, and industry representatives clearly asked for policy revisions and a process that works.

The New Starts process, the ability to undertake joint/shared procurement, and collaboration between regulators, manufacturers, suppliers and transit agencies

to identify the best designs, criteria and technology were commonly noted as areas for improvement.

Participants commonly expressed the need for help in community education, to help raise public consciousness about a new mass transit option available, which can be funded and provide needed service now. A cohesive, broadly applicable message and tools to disseminate the story were requested. A message and a plan should be priorities. All the new communities asked about development.

Conversations are needed on a federal level, and local transit groups must talk with their state and regional agencies to strategize funding options, so that both sides are working toward a middle common ground.

Finally, transit agencies and community representatives asked the FTA to study how existing programs that fund rail and highway projects can be expanded or modified to include various types of BRT projects. FTA representatives suggested stepping up efforts on the state side as well, because a critical period for reauthorization in transportation funding is upon us, and putting this message across to legislators is crucial.

## Paris BRT

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ing wheel to track street markings. Coded markings painted on the road indicate the path to be followed. An image processor tracks the marks, detecting and correcting vehicle deviations by sending a control signal to the electronic steering system.

The Civis traction system uses four-wheel electric hub motors with low axles for an exceptionally low floor bus. The wheel uses a special extra-wide tire designed by Michelin. The Civis has diesel generator set (Las Vegas Configuration) for off-overhead power operation or can include batteries.

### Mobilien Project

The Mobilien project is a comprehensive multi-year plan that responds to a strategic air quality initiative. Responding to 1996 air quality legislation, a strategic plan was developed for

the Paris region with the objectives of reducing car traffic, emissions and energy use. A plan approved in December 2000, the "The Urban Mobility Master Plan" (Plan de Déplacements Urbains or PDU), provides the framework to pursue those objectives. The PDU includes all modes of transit and related transportation system elements, efficient energy use and quality of life.

The Mobilien Project implements the PDU in Paris and surrounding area of Paris. Goals of the project are to provide better travel time, regularity and higher frequency of service, extended operating hours and more days, high comfort and specialty access (ADA accessibility), increased information, new rolling stock, new lines selected through "Route Committees" and operator managed.



**TVR Tram - Trans Val-de-Marne Test Site**

The first step in the Mobilien program was major improvements to the 17 Parisian bus lines and the 49 suburban lines. Changes being implemented include: dedicated bus ways with a goal of 20% reduction in transit time; real-time information displays on the bus and at stops; cashless fare validation.

*Paris BRT, continued on page 6*

## Action Plan

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comfort and cost-efficiency, all hallmarks of BRT. The BRT vision is not exclusive of other transportation elements. It embodies an intermodal approach that embraces bus transit integrated with rail transit.

It also emphasizes a different bus experience, one that offers high-capacity, visually appealing, modern vehicles, utilizing intelligent transportation system (ITS) technology to speed service. Additional components include low noise levels inside and outside the vehicle, and clean propulsion systems. In all, a general break with the four-wheeled, "smoking diesel box" that is associated with the word "bus."

Specific BRT targets include reducing travel time by 20 percent; increasing ridership by 20 percent; reducing capital costs by 25 percent to 75 percent; reducing operating costs per revenue mile by up to 60 percent; and improve the overall image of bus service. It also seeks to enhance community relationships with superior service, reduced energy consumption and a reduced environmental impact, and to provide new jobs in the U.S. bus industry.

## Paris BRT

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tion equipment; more rolling stock for more frequent service and more hours of service; bus communication and electronic tracking system.

Three new lines were added in 2001 and an additional 15 new lines are planned for 2002. Important in these plans are the routing, which will be planned by a collaboration of community and operator to increase transit options from suburb to suburb and to present the service as a "subway on the surface". Again this is the appeal to the quality of life and livability of the region goals.

Part of the plan to extend the "surface subway" concept includes two large tram lines or light rail routes. The two

**Five Major Action Areas** - Action Activities with well-defined results or products comprise the "BRT Action Plan," including the following five elements:

**Market the BRT Concept** - FTA will help develop a BRT marketing strategy; convene a National BRT Conference, and continue to interact with the transit industry through technical seminars and workshops to address the perception of bus transit as the mode of last resort, and sell the benefits of Bus Rapid Transit.

**Proactive Vehicle Deployment** - Working with industry, the FTA will provide guidance and policy on data collection and testing for BRT vehicles. A review of current procurement regulations (procurement processes, "Buy America," the Americans with Disabilities Act, etc.) will be undertaken to identify and eliminate barriers. Efforts will be made to encourage innovative financing techniques for BRT vehicle purchases.

**Data Collection and Evaluation** - FTA will endeavor to document results and analyze the performance of BRT projects in the United States and abroad. From this data, they will

existing lines will be extended to traverse the periphery of the Paris region in corridors. TVM presently is an exclusive bus right of way configured to evolve into a "rubber-tired tram" line.

The Paris subway system is also part of the Mobilien program. Improvements will include line extensions and new lines. The new subways set the standards for quality of service and Mobilien will blend these concepts into the surface transport system. At least 84 transfer "hubs" are planned to make the surface-subway improvements link up with the subway for an integrated system, linking to buses, trams, subway and RER, the French express train, as a true

extract meaningful measures of effectiveness (MOE).

**Streamlining Project Development** - FTA will establish a Peer Support Program. Efforts are under way to update the FTA's alternatives analysis process, to include BRT in the guidance for existing capital programs.

**Forging Partnerships with U.S. Manufacturers** - FTA will update the Partnership Guidance Document and foster relations between transit authorities and U.S. and foreign bus manufacturers. They will seek ways to encourage U.S. manufacturers to produce for the BRT market, and enhance the competitiveness of U.S. bus manufacturers in the worldwide BRT market.

This BRT Action Plan will be reviewed periodically, and subject to modification based on feedback from the stakeholders. The FTA's goals are to make BRT a vibrant and effective tool, generate the greatest benefit for the public, and support the public-private partners behind BRT.

*(Walt Kulyk's presentation is available and can be downloaded from the WestStart-CALSTART web site at [www.calstart.org](http://www.calstart.org).)*

replacement of the private car. For the entire Paris trip report, visit the BRT area of the CALSTART web site at [www.calstart.org](http://www.calstart.org).

### WestStart-CALSTART Bus Rapid Transit newsLane credits

**Gregg Moscoe**, Editor

Please direct questions, story suggestions for the **BRT newsLane** to the Editor, Gregg Moscoe at [gmoscoe@calstart.org](mailto:gmoscoe@calstart.org)

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