



From the Chair

By Whit Blanton, AICP

Every year the APA National Planning Conference presents a mixed bag of some 250 sessions, ranging from the vaguely esoteric (“Co-piloting with the Millennial Generation”) to the exceedingly practical (“How to Write an Ordinance”). There are mobile workshops, orientation tours, training sessions, and symposia of varied perspectives, theme tracks, networking breakfasts, policy forums, and pro bono charrettes. Not to mention those receptions, leadership meetings, awards luncheons and parties. Pub crawl? What pub crawl?

What’s of value, then, for transportation planners?

I ask this question because in the last several weeks we’ve wrestled with a mini-firestorm over a state Department of Transportation denying an MPO use of federal funds to send its planners to the 2004 APA National Conference in Washington, D.C., citing federal guidance. Never mind that both FHWA and FTA are sponsors of this year’s conference, and have invited APA to co-sponsor the Transportation Planning Excellence Awards. In the exchange of helpful (and generally supportive) e-mails between FHWA staff, state DOT and MPO representatives from around the country, there was an undercurrent discussion reflecting on the value of the APA Conference for transportation planners. “Too broad,” or “nothing much of value this year” were mentioned as reasons why some planners pass on the conference or to justify funding restrictions.

Perhaps. But I think it’s worth considering what sets transportation planners

Bus Rapid Transit- Planning, Features, And Effectiveness

by Herbert S. Levinson and Samuel Zimmerman

Bus rapid transit (BRT) systems are growing in popularity throughout the world. From Bogotá to Boston, Cleveland to Curitiba, Hartford to Honolulu, Las Vegas to Los Angeles, Oakland to Ottawa, Pittsburgh to Porto Alegre, and São Paulo to Sydney, cities operate or are developing BRT. Within the United States, interest in BRT has been spurred both by successes abroad and by the Federal Transit Administration that seeks to maximize the total national benefit of its financial assistance.

What Is BRT?

BRT is a flexible, rubber-tired rapid transit mode that combines stations, vehicles, service, running-ways and Intelligent Transportation System (ITS) elements into an integrated system with a strong positive identity and a unique image. In brief, BRT is an integrated system of facilities, equipment, services, and amenities that collectively provide high quality, high performance rapid transit. BRT, in many respects is rubber-tired, light rail transit but has greater operating flexibility and potentially lower capital and operating costs. Sometimes a relatively small investment in dedicated running-ways can provide a rapid transit link with regional scope.

Why Consider BRT?

There are many reasons for communities to consider BRT in an objective alternatives analysis.

- BRT can be implemented quickly and incrementally;
- BRT can be the most flexible rapid transit mode for cost-effectively serving the broad variety of urban and suburban environments and markets found in the U.S.;
 - It can operate:
 - on arterial streets
 - in freeway medians and on freeway shoulders
 - in railroad and other rights-of-way
 - on aerial structures
 - underground, in tunnels
 - It can accommodate express and limited stop services on a single facility
- It can provide sufficient transport capacity for most urban corridors in the United States and Canada
- It can be much less costly to implement than a rail transit investment providing similar benefits
- Where conventional buses operate on streets and highways, there is very little incremental implementation cost over local bus service
- It can have modest operating costs for most urban corridors in the United States and Canada
- It can be effectively integrated into the surrounding environment and generate significant urban development benefits

Where Are BRT Systems Currently Operating?

TCRP Report 90, Case Studies in Bus Rapid Transit gave some 26 examples of BRT systems operating or under development in North America, Australia, Europe, and South America.

contact us...

DIVISION OFFICERS

Whit Blanton, AICP Chair

Renaissance Planning Group
100 East Pine Street, Suite 401
Orlando, FL 32801
(407) 487-0061, ext. 13
(407) 487-0058 Fax
wblanton@ciesthatwork.com

Lawrence Lennon, PE, AICP Vice Chair

Assistant Vice President
Parsons Brinckerhoff Quade &
Douglas, Inc.
One Penn Plaza
New York, NY 10119
(212) 465-5362
(212) 465-5595 Fax
Lennon@pbworld.com

Larry Fabian Secretary

Trans 21
P.O. Box 249
Fiel ds Corner Station
Boston, MA 02122-0002
(617) 825-2318
LFabian@airfront.us

T. Joseph Marking, AICP Treasurer

Economic Development Resources
200 South Hanley Road, Suite 601
St. Louis, MO 63105-3415
(314) 231-4720 Voice
(314) 727-5544 Fax
jmarking@edr-consulting.com

Linda Howe, AICP Immediate Past Chair

Manager of Technology Transfer
Institute of Transportation Studies
University of California, Berkeley
1355 S. 46th Street, Bldg 452
Richmond, CA 94804
(510) 231-5678
(510) 231-9591 Fax
Lhowe@kinglet.berkeley.edu

Ruth Fitzgerald, AICP Newsletter Editor

President
Fitzgerald & Halliday, Inc.
72 Cedar Street
Hartford, Connecticut 06106
(860) 247-7200
(860) 247-7206 Fax
rfitzgerald@fhiplan.com

Bus Rapid Transit, continued from page 1

Since then, several additional systems have been placed in service. Most BRT systems are found in urban areas of over 700,000. Nine of the 14 systems in the United States and Canada are in urban areas with downtowns where employment (their primary target market) exceeds 85,000. Many of the urban regions where BRT has been implemented also have rail-based rapid transit systems in place.

How Should BRT Be Planned?

BRT should be an outgrowth of a planning and developmental process that stresses solving demonstrated current and forecast future problems and related needs rather than solution advocacy. Planning for BRT calls for a realistic assessment of demands, costs, benefits, and impacts for a range of alternatives that includes a “base case” and may include one or more types of rail-based rapid transit. The basic planning objective should be to provide attractive and reliably fast transit that:

- serves demonstrated current and forecast future transit demand and needs;
- provides reserve capacity for future demand growth;
- attracts auto drivers to transit;
- relates to and re-inforces transit and pedestrian-oriented development plans;
- has affordable initial implementation and ongoing operating and maintenance costs.

Implementation plans for BRT should focus on major markets, take advantage of incremental development opportunities, and promote complementary transit-first policies. “Deconstruction” of a BRT system by removing elements critical to its success to cut costs should be avoided. At the same time, the addition of unnecessary, capital cost-intensive features should be avoided.

BRT can be especially desirable in large cities, where passenger flows warrant frequent service, and there is a sufficient “presence” of buses to justify dedicated running ways.

- In the United States and Canada, urban population should exceed 750,000 and CBD employment 50,000 to 75,000.
- Desired trunk line BRT headways should be at a minimum of every 8 to 10 minutes during peak periods, and every 12 to 15 minute during off-peak periods.
- Ideally, there would be at least one BRT vehicle per traffic signal cycle where buses operate in a dedicated bus-lane.

The common types of BRT service are (1) conventional radial routes between a city center and outlying areas (as in Pittsburgh); (2) extension of a rail rapid transit line (as in Miami); and (3) a mostly peak period commuter express operation (as in Houston).

What Are BRT’s Features?

The primary features of bus rapid transit are:

- dedicated running ways;
- accessible, safe, secure, attractive stations;
- easy-to-board, attractive, environmentally-friendly vehicles;
- efficient (i.e., off-vehicle) fare collection;
- intelligent transportation system (ITS) applications to provide real-time passenger information, signal priority, and service command/control;
- frequent, all-day service.

Few existing systems have all six BRT features, although many have several. At least four existing systems – Bogotá’s Trans Milenio, Curitiba’s arterial median busways, Quito’s Trolebus and Rouen’s TEOR have all six features. Los Angeles Metro Rapid and systems under development in Boston, Cleveland, and Eugene will have most features. The most common feature is exclusive running ways (bus lanes or busways), the least common is off-vehicle fare collection.

Running Ways are the key element around which other components revolve. They must support reliably rapid movement of buses with minimum interference from general traffic and

continued top of next page

pedestrians, and provide a clear presence and permanence. They should be accompanied by suitable parking and turn controls to minimize both bus and general traffic delay. Traffic signal cycles should be as short as possible along BRT routes.

BRT may operate in mixed traffic; in curb bus lanes (“interior” bus lanes offset from the curb and median busways on city streets); on reserved freeway lanes; in bus-only roads; and in bus tunnels. Median arterial busways usually need streets that are at least 80 feet wide between curbs where left turns are allowed.

The images on this page demonstrate the range of types of rights of ways that can accommodate BRT running ways.

Stops, stations, and terminals should serve as an icon for BRT service, offer convenience, comfort, and safe access for passengers and the transit vehicles that serve them. They should be permanent, weather protected facilities that are well-lit and secure, convey a unique system identity and quality image, provide passenger amenities and information, and fully integrate into their surroundings. They should be as attractive as contemporary LRT stations; in fact, the basic station design is identical for both modes in many cities (e.g., Paris and Rouen in France) where there are both BRT and LRT applications.



Urban Arterial Median Busway: TEOR System, Rouen, France

Station locations and design should be developed cooperatively with the surrounding community to integrate traffic circulation, transit operations, pedestrian movement, and site planning and urban design principles.

Key guidelines include the following:

- Provide stations as far apart as possible except in the city center (e.g. ½ to 1 mile on city streets; 1 to 3 miles on busways).
- Provide far side stops where running ways cross streets at grade.
- Coordinate station platform design with the vehicles operated and methods of fare collection. Set platform height to match the vehicles used.
- Size station berths, platforms, and access facilities to serve expected riders without overcrowding or spillback – both now and in the future.



Martin Luther King (East) Busway, Pittsburgh, Pennsylvania

BRT stations can be relatively simple, like the station on the Richmond 98 B Line shown below, or complex, featuring significant architecture, level change devices (e.g., escalators, elevators) like the high volume station serving Griffith University in Brisbane.

“Deconstruction” of a BRT system by removing elements critical to its success to cut costs should be avoided. ”

see *Bus Rapid Transit*, page 4

Bus Rapid Transit, continued from page 3

BRT vehicles should be customized for the markets that they will serve, using propulsion and other systems that have been proven in revenue service.



**Richmond Centre Station, Richmond
98B Route, Vancouver,
British Columbia, Canada**

- Vehicles should provide sufficient capacity for anticipated ridership levels (e.g., standard 40-foot or articulated 60-foot buses, or special BRT vehicles).
- Vehicles should be easy to board and alight. This can be achieved by floor heights of 12 to 15 inches above street level. Buses using high platforms at stations can further speed boarding, but they require precise docking or a bridging mechanism.
- A sufficient number of doors should be provided, especially when coordinated with off-vehicle fare collection. Ideally, one door channel should be provided for each 10 feet of vehicle length. Providing doors on both sides of buses (as with light rail vehicles) enables both center island and side station platforms to be used.
- Bus propulsion systems should be “environmentally friendly”, minimizing both emissions and noise (e.g., conventional diesel buses using catalytic converters and ultra-low sulfur fuel; compressed natural gas (CNG); CNG, diesel or gasoline-electric hybrids; electric trolley buses, or dual-mode trolley/diesel propulsion).

ley buses, or dual-mode trolley/diesel propulsion).

- Vehicles should have a distinct BRT identity and image. They should be clearly marked or “branded” to convey the BRT theme, and ideally, used only on BRT routes.
- Vehicles should have high passenger appeal and give passengers a comfortable, quiet ride. Desirable features include air-conditioning, lighting, panoramic windows, automated station announcements, and upholstered seats.

BRT systems can utilize conventional buses suitably configured for BRT service, such as the



**Griffith University
Station, SE Busway,
Brisbane, Queensland,
Australia**

Van Hool 330 serving the San Pablo Rapid Bus Line in the east (San Francisco Bay Area) or specialized BRT vehicles such as the New Flyer Invero, designed and constructed with BRT operations in mind.

continued top of next page

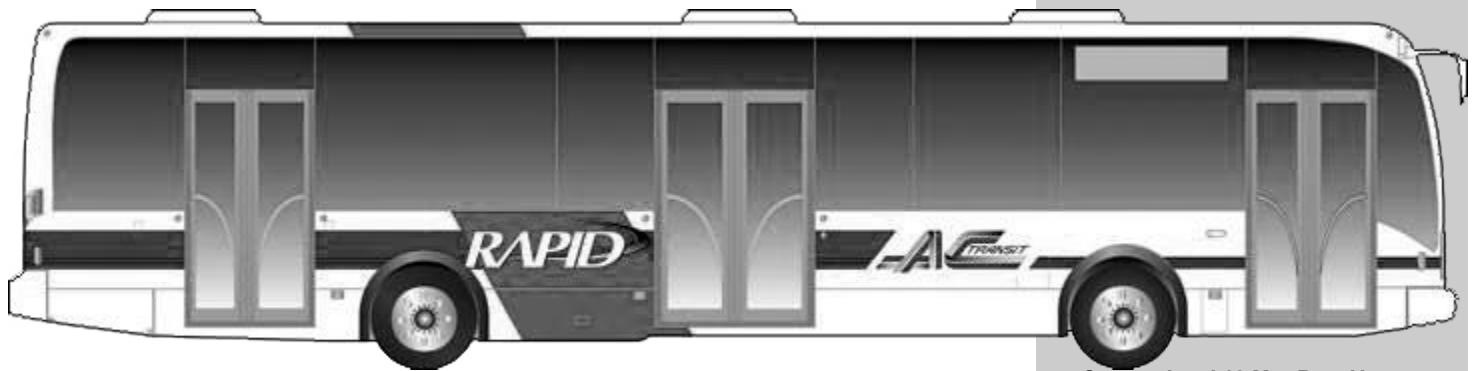
Intelligent Transportation Systems can be used by the operator to monitor and control bus operations, give real-time information to passengers, provide priority for BRT at signalized intersections, expedite fare collection and allow precise docking at stations. They include automatic vehicle location systems, passenger information systems, traffic signal priority controls, automatic passenger counters, and electronic fare collection.



**New Flyer Invero
18 Mtr. Specialized,
Hybrid Diesel-Electric BRT Vehicle,
Lane County Transit, Eugene, Oregon**

Bus Guidance can be mechanical (Leeds, U.K., and Adelaide, Australia) optical (Rouen, France system), or magnetic (Nancy, France). The “Zuidtangent” system outside Amsterdam, Holland uses a proprietary gutter/curb shape (“Kastle Kurbs”) to mechanically guide buses to within 3 cm of the station platform edge.

Bus Rapid Transit Services should be clear, direct, frequent, and rapid. Fares should permit rapid boarding. Marketing should focus on BRT’s unique features and should further reinforce its ridership.



Conventional 12 Mtr. Bus: Van Hool 330, San Pablo Rapid Line, Oakland, California (AC Transit)

- Service plans should be simple, easy to understand, and operationally efficient. Providing point-to-point (one seat) rides should be balanced against the need for easy-to-understand, high-frequency service. It is generally better to have a few high-frequency BRT routes, rather than many routes direct origin to destination each operating at long headways.
- Busway BRT service plans should include a basic, all day, all-stop service that may be complemented by peak period only express (or limited stop), feeder, and connector services.

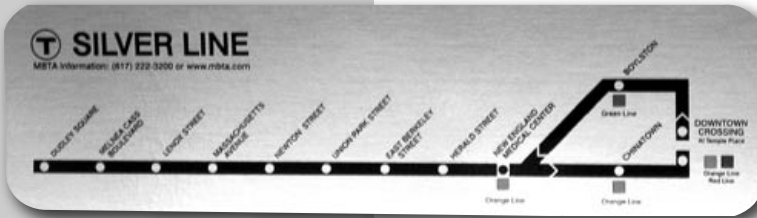
The service plans shown on page 6 illustrate the range of options available to BRT service and operations planners.

- BRT running ways may be used by other transit operators where all vehicles meet established safety requirements and service is not degraded for the primary BRT services.
- BRT can share freeway running ways with “high occupancy” vehicles – but only where the joint use does to reduce BRT travel times, reliability, and identity.
- Fares should be integrated with the rest of the bus system, but they do not have to be the same.
- Fare collection should allow multiple door boarding, at least at major stops during busy periods. Convenient off-board collection (preferred) or on-board multi-point payment should be encouraged. Proof-of-payment can be an alternative to pre-payment and on-board fare collection.

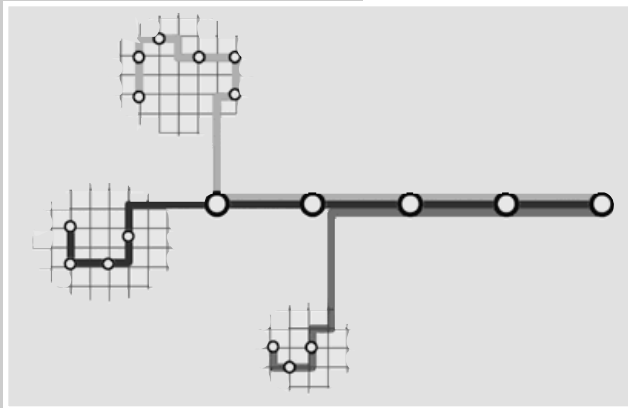
see Bus Rapid Transit, page 6

Bus Rapid Transit, continued from page 5

- Marketing should create a united system, identity and image that clearly “brands” BRT. Distinctive logos, livery or color combinations, and graphics should be consistently applied to vehicles, at stations, and on printed materials. Promotional programs should include public information, service innovation, and pricing incentives. Each should be keyed to potential markets.



All-Stop Local Service Plan: Silver Line Phase I, Boston, Massachusetts, MBTA



Integrated Collector/Line-Haul on-Busway Service Plan

“ Marketing should create a united system, identity and image that clearly “brands” BRT. ”

How Effective Has BRT Been In Practice?

The effectiveness and performance of BRT systems can be measured in terms of passengers carried, ridership growth, travel speeds and land development effects.

Weekday riders for systems in North America, Australia and Europe range upward to 40,000 or more in Pittsburgh, Brisbane, and Rouen, and to 200,000+ daily trips on the Ottawa Transitway system. Daily ridership on systems in South American cities is substantially higher, ranging from well over 200,000 per day in a variety of Brazilian cities (Sao Paulo, Curitiba, Porto Alegre) , and Quito, Ecuador to over 1 million per day reported for Bogotá’s Trans Milenio.

Peak-hour, peak-direction passenger flows exceed 25,000 on Bogotá’s TransMilenio system and the New Jersey Approach to the Lincoln Tunnel, while lines in Porto Alegre and Sao Paulo move more than 20,000 passengers per hour. A peak hour, peak direction ridership of 8,000 to 20,000 is reported in Belo Horizonte, Brisbane, Curitiba, Ottawa, Pittsburgh, and Quito. These flows equal or exceed the number of rail transit passengers carried on rail transit lines in many U.S. and Canadian cities.

BRT implementation has resulted in significant ridership increases, and much of the new transit riders were former auto drivers. Reported ridership gains are as follows:

	Ridership Gain	From Cars
• LA	+35% (3 Yrs, Strike)	30%
• Miami	+70% (6 Yrs.)	
• Brisbane	+60% (18 months)	30%
• Vancouver, B.C.	+30% (2 Yr., strike)	20%
• Boston	+100% (15 months)	
• Oakland	+25% (2 months)	

BRT riders generally have the same demographic profile rail rapid transit riders would have in the same type of market environment, often attracting affluent riders who have travel choices. For example, a 2002 on-board survey in Houston found that over 60% of the trips on the highly successful “park and ride” system (i.e., rubber tired commuter rail) were by riders who lived in households with two or more vehicles available. In contrast, only 16% of local bus riders in Houston had two or more vehicles available.

BRT can improve transit operating speeds over local bus service. Non-stop speeds on free-ways and busways ranges from 35 to 50 mph while the speed of all-stop services on dedicated busways range from 25 to 30mph. Speeds on arterial street BRT services typically range from about 11 to 19 miles per hour. These speeds are essentially the same as LRT lines with the same service and stopping patterns and they compare favorably to local bus speeds that range from 5 - 8 mph in the cores of large cities to 12 - 15 miles per hour in low density suburban communities.

BRT implementation can result in significant land development benefits. The development effects of full feature BRT systems are similar to those experienced along many new rail transit lines. Studies have reported that construction of the Ottawa Transitway system led up to \$675m (U.S. dollars) in new construction around transit stations through the mid-nineties. The Port Authority of Allegheny County reported \$302 million in new and improved development along the East Busway.

Opening of the first phase of Boston’s Silver Line has also spurred new development, with over \$500m dollars of new development and redevelopment adjacent to stations through 2003. A 2002 study in Brisbane reported that only one year after the facility opened, housing values adjacent to SE Busway stations were rising 20% faster than prices for housing in the same corridor that were not in walking distance of the BRT line.

The image right and below right illustrate how the presence of BRT services and facilities can have a profound impact on the location, character and quality of urban development. Properly integrating the design and location of facilities in a developing and re-developing community can foster transit and pedestrian-oriented land use as has been the case all along the Silver Line in Boston.

Factors contributing to the positive urban development effects were all-day, frequent service, reliably high speeds, significant ridership, the sense of permanence contributed by stations and running ways, and the over-all high quality of the urban design features that enhanced the surrounding environment.

BRT facility development costs reflect the location, types and complexity of construction and are generally lower than comparable LRT costs, all thing being equal. Reported median implementation costs per mile were \$272 million for bus tunnels (2 systems); \$7.5 million for dedicated surface busways (12 systems); \$6.6 million for arterial median busways (5 systems); and \$1 million for mixed traffic or curb bus lanes (3 systems).

Bus operating costs compare favorably with those for light rail. For example, an FTA evaluation of Pittsburgh’s West Busway showed that operating and maintenance cost per passenger-mile averaged \$.65, while the light rail system in Pittsburgh averaged \$.84 per passenger mile. The FTA’s National Transit Database (NTD) reported that in 2000, the system-wide operating and maintenance costs for the Port Authority of Allegheny County’s over-all bus system was \$81.90 (bus vehicle operation and maintenance related costs only) while fully loaded (including operation and maintenance of vehicles, maintenance of way, power, signals, stations) costs of operating and maintaining the Region’s LRT system as \$222.37 per revenue vehicle hour.

This and similar comparisons suggest that BRT may be less costly than LRT to operate and maintain for the ridership ranges found in many U.S. cities.



New Mixed-Use Development Adjacent to Silver Line Phase I Station, Washington Street, Boston



Mixed Use Development Adjacent to Courthouse Station, Silver Line Phase II, Boston, MBTA

see Bus Rapid Transit, page 8

Airport Landside Planning

By K.L. (Dan) Wong, AICP, MITE

There was a recent website referring to a survey ranking planning as one of the twenty most satisfying jobs. While the profession has provided many with a decent living, it has also provided an opportunity for those in the profession to improve the lives of others. In my experience, many people (including other practicing planners) ask what does a transportation planner actually do in conjunction with the planning of an airport's landside.

Historically, many airport planning professionals have concerned themselves primarily with environmental issues related to airport development and operations (e.g., aircraft noise), travel demand forecasting, and terminal development. In the last twenty years, substantial increases in air passenger volumes combined with limited roadway capacity and other infrastructure constraints at many airports have increased the importance the airport's landside facilities have on an airport's operations.

Airport landside planning is a unique and multi-faceted branch of transportation planning. While there are traditional elements of transportation planning, there are other elements of airport landside planning that fall outside that realm. The following is a brief summary of tasks that may be performed by an airport landside planner.

Infrastructure – Landside planners traditionally are tasked to project travel demand and mode splits, as well as assist in the design of adequate roadways, loading zones and parking facilities, as well as the design and implementation of special systems (e.g., Automated Vehicle Identification). Planners are also called upon to plan the closure of old airport landside facilities as well as

see *Landside*, page 10

Bus Rapid Transit, continued from page 7

Lessons Learned

Many lessons have been learned from the review of ongoing BRT projects:

1. Each urban area has its own unique circumstances that should influence BRT service patterns and design and, hence, market penetration, viability and costs.
2. Early and continuous support from elected community leaders and citizens is essential, and they should recognize the differences between BRT and the conventional local bus system in the respective community.
3. If BRT is to be successfully implemented, state, regional, and local transit and transportation agencies should work together in planning, designing, and implementing BRT. Traffic engineers must be an integral part of this cooperative effort.
4. Incremental development of BRT, where the system (e.g., dedicated running ways) grows not only geographically but also in terms of the sophistication of the systems (e.g., ITS, vehicles, fare collection) utilized may be desirable.
5. Parking facilities should complement, not undercut BRT.
6. Coordinated BRT and land use planning in station areas should be started as early as possible.
7. BRT should serve already demonstrated transit markets.
8. It is essential to match markets with rights-of-way to ensure safe customer and transit vehicle access.
9. The key attributes of rail transit in terms of features and amenities should be transferred to BRT wherever possible.
10. BRT should be reliably rapid. Separate rights-of-way can enhance speed, reliability, safety and identity.
11. Vehicle design, station design, and fare collection procedures should be coordinated.
12. Coordinated traffic engineering and transit service planning is essential.

What Are The Future Prospects For BRT?

BRT is not a panacea or an alternative to rail-based rapid transit in all cases, but it is a quality rapid transit mode worth considering during objective planning studies. The growing number of successful BRT applications in North America and abroad indicates that well designed BRT systems do work and can be cost effective. In a U.S. context, they can provide needed operating and service flexibility while providing sufficient passenger capacity to meet peak-hour travel demands in most corridors at modest implementation, operating and maintenance costs. Proliferation of technological advances such hybrid (and fuel cell) propulsion systems for buses, Smart-Card based off-board fare collection, various forms of bus guidance and even automated control should make BRT an even more attractive and cost-effective option. There is, however, a need for implementing a complete array of BRT features in each respective application, especially in the areas of vehicles, system identity, and fare collection. Both gold plating and "deconstruction" should be avoided.

From a broad transportation planning perspective, it is important to reinforce BRT investments with supportive land development and parking policies. BRT, like rail transit, can and should be the focus for transit-oriented development.

It is likely that more cities will objectively evaluate and then implement BRT in the future, and there will be a growing number of fully integrated systems with quality and performance features. However, even more examples of systems with some but not all BRT elements will be implemented. The end result will be an upgrading of the over-all urban transit system to the benefit of transit riders, highway users and the urban regions as a whole.

Sources: This paper builds upon the information contained in TCRP Report 90, Bus Rapid Transit, Volumes 1 and 2, published by the Transportation Research Board, 2003.

Herbert Levinson is nationally recognized for his contributions to transportation planning, engineering and research. He can be reached at hslevinson@aol.com.

Samuel Zimmerman is Principal, Transportation Planning at DMJM+Harris and formerly Director of Planning for FTA. He can be reached at sam.zimmerman@dmjmharris.com.

The Challenges of Redesigning the Intermodal Ferry Connection for Efficiency, Comfort, and Security

By Eric Anderson

Most of the intermodal ferry terminals in the United States are historical locations with facilities that have evolved, sometimes over centuries, to their current condition. Generally these terminals reflect a culture when time itself had a lower value. We just didn't seem to be in such a hurry 100 years ago. Transportation moved more slowly than today. Facilities typically were based on the needs and expectations of times when common transit was more austere complete with coal smoke, wooden seats, horse smells and plenty of vibration. The need for visual security monitoring by terminal staff primarily dealt with pickpockets and other petty criminals. Otherwise terminal designs focused on protecting travelers from nature and themselves.

Times have changed! Most of us agree that we are attempting to accomplish more each day than our parents or their parents and we generally travel farther in those endeavors. The achievements in transportation give us this potential, and we have come to expect rapid and seamless connections. If we don't move comfortably and quickly through our ferry terminals we'll often pay a premium to drive or fly, or just move closer to avoid transportation delays.

And, of course, the transportation system has become both a target and a delivery system for terror. Our terminals must now perform a critical role in detection, deterrence, defense, and reaction to the terrorist threat. These changes in passengers' comfort expectations and security requirements are one of the drivers in the redesign of terminal facilities.

For most ferry terminals, the locations are usually set, bringing with them the topography, geology, weather and tides. Frequently there are historically significant elements that deserve preservation. The land transportation network which feeds the terminal with customers also may not be changeable.

Within these constraints we begin aggressively seeking an ideal arrangement that accommodates, rather than surrenders to the existing constraints. Because this can be expensive and complex, alternatives are evaluated for their impact on achieving the current demands of efficiency, comfort, and security, all while managing cost.

Beginning with efficiency, we know that *pedestrian* distance is a detractor to transit facilities, and perhaps even more so for the weather vulnerable ferry patron. Time and effort between the ferry and the intermodal connections must be shrunk.

Ideally, we can enjoy a design success similar to the circular quay in Sydney, Australia where rail, bus, and taxi join with foot and bicycle traffic to meet up with ten different ferry choices in a compact intermodal terminal. Quite often the challenge to the success of reducing distance is limited by those fixed elements of topography, transit networks, and tidal variations.

But these same elements can also encourage new ideas in the many ways that the special needs, senior, and encumbered passenger can be aided to move from their last connection to the vessel. Greater distances enhance the value of escalators and moving walks. Better yet, in some instances transit stops can be moved closer to the terminal or even over the water.

In addition to physical distance, *time* is hidden in every operational step. The drive for greater vessel speeds and capacities can be reduced significantly, merely by quicker turnarounds during peak hours. To the passenger all time is additive. Delays from poor transit scheduling, delays in docking, low capacity exiting, and entrance ticketing, and increased passenger screening delays are serious issues. A capital cost investment to moor a vessel quickly, and debark passengers rapidly saves operational expense every trip. The benefit of reducing dock-

“...we are attempting to accomplish more each day than our parents or their parents and we generally travel farther in those endeavors.”



Marine Transfer Center - Bremer, Washington

© Aerolist Photographers, Inc.

see *Intermodal Connection*, page 10

Landside, cont. from page 8

the opening of new airport landside facilities.

Transportation Operations—Landside planners are generally tasked with the planning of transportation services both within and to/from the airport. As many airports operate an internal bus and/or rail system to facilitate both air passenger and airport employee movements within an airport, planners are utilized to efficiently schedule bus and/or rail service within the airport to facilitate passenger and employee demand. As most ground transportation services to/from the airport is provided by private operators (e.g., charter buses, door-to-door vans, limousines, and taxicabs), landside planners are assigned to plan and oversee operations, resolve issues either among a particular transportation mode or between two or more transportation modes given the competitive nature of airport ground transportation.

Trip Reduction – Due to initiatives undertaken during the past decade aimed at reducing vehicular trips to improve air quality, landside planners have been assigned to develop programs reducing the mode split for single or low occupancy vehicles by both air passengers and airport employees. Landside planners have conducted market analyses to best promote the use of an airport's ground transportation services, conducted airport-wide employee transportation surveys, negotiated with existing ground transportation and public transit providers to offer employee discounts, provided information on transportation options to both air passengers and the general public, and offered financial incentives and/or disincentives for the consolidation of various private ground transportation services (e.g., hotel courtesy vehicles).

Clean Fuel Vehicle Initiatives

– In the past few years, initiatives increasing clean fueled vehicle use have resulted in landside planners developing programs increasing the

see Landside, next page

Intermodal Connections, continued from page 9

ing time an average of 15 seconds per docking for a system with 15,000 daily passengers will save more than 20,000 hours each year.

Ask a passenger for design input and one finds it can be more productive to inventory their dislikes about the terminal experience. Seamless intermodal connections should be just that, seamless. The terminal is best when it is little more than a push on the way to your destination. Here are some of the pushes we note.

In the fast moving world even experienced travelers fear being whisked away on the boat to nowhere, or missing a connecting bus because they just can't find it. **Extensive signage** containing graphics, maps and schedules belong throughout the terminal. Remember that local terminology is often different on maps and guides. Confusion stresses the passengers and slows traffic. The hearing and visually challenged aren't the only ones requiring good signage and audio information. Increasingly we appreciate multiple language instructions and clever aids such as color-coded lines to lead us in our proper direction.



Vallejo, California Ferry Terminal

Information available at ferry terminals is now catching up with airports and has the potential to surpass them. As more of the security concerns drive attention to passenger behaviors, those same technologies become available and useful for serving the customers' information needs

as well. A successful information program speeds passenger throughput, brings more return customers, and can avert chaos in an emergency.

People like their **space**. Travelers may be carrying bags, pushing baby strollers, bicycles or walking in groups. Though it may be limited, terminals can offer open spaces in different locations that provide congestion relief while again offering signage or services. These separations are a useful technique for speeding loading and offloading and at the same time providing more safety. During the commute periods, if schedules are coordinated between transit and ferries, many people should be able to get off of one transit mode and board the next without having to be compressed into a line.

Security has multiple concerns. Whether real issues exist or the perception of risk is present, terminal efficiency can suffer. The perception of risk by travelers and staff will increase stress, indecision and hesitation. Conversely, a perception of good security encourages criminals and terrorists to avoid such difficult targets.

Some of the basic techniques to reduce crime follow good general design practices including good lighting and visibility for all public spaces. Darkness and hidden corners are attractive to those who would avoid observation and detection. Many busy ferry terminals, which sell tickets manually, could be targets for robbery. Bullet resistant ticket booths, special routing for money transfer, use of credit/debit cards and vending machine and remote sales of tickets all reduce the risk to passengers and staff.

When the U.S. Coast Guard issued its tenth Navigation and Vessel Inspection Circular of 2002 (NVIC 11-02) on January 13, 2003, ports, ferry operators, transit authorities, and DOTs across the United States felt the impact in their level of accountability for passenger security. Agencies have begun security planning and implementation for ferry systems across the country.

continued top of next page

As of July 2004, all intermodal ferry terminals across the United States serving passenger vessels certified to carry more than 150 passengers must have security plans in place and the capability to increase security screening of all passengers to a level consistent with the threat of terrorist attack.

Consequently, the terrorist threat enlarges the terminal's security envelope demanding fewer ingress and egress points that can be well controlled. The function of the security envelope is enlarged beyond separating paid travelers from non-paid travelers. Today's security envelope will need to include vessel moorage areas, particularly if overnight moorage is involved. Above and below water surveillance will be helpful. Just as in engineering and piloting stations aboard our ferries, more areas in the terminal merit protection from armed intruders. Keyless entry to secure spaces enables rapid and frequent change to access codes and additionally creates a record of identity and behavior. Needed also in this threat environment are new areas for passenger screening and intelligent use of existing waiting and walk ways for visual observation prior to boarding. When passenger screening is required, prescreening with the issuance of card keys for frequent users (commuters) may be useful and function similarly to access at secure government installations. As you can imagine, the cost of increased security measures is also being felt across the country.

Which brings us to the last design element, that of cost containment. We know that the most simple design probably offers the most success and endurance at a lower cost. It follows that the more simple operational approach also gives us better performance.

Modularity is attractive for the incremental implementation and repetition of changes throughout other terminals in a system. Since the terminal is an evolving organism whose demands change as fast as technology, modularity can help it age affordably. Terminals well designed to be multimodal will build revenue and may share security and other common costs with co-tenants. Increased automation of ticketing, surveillance and information will also mitigate the growth of those costs. We also gain from more innovation in the use of revenue features such as concessions and lease space.

Picture terminals as old houses. Sometimes it is better to remodel and modernize, other times it is wise to tear down and rebuild. Occasionally, it is better to build in a new neighborhood. The goals for terminals remain the same in each instance. We seek to create a cost efficient terminal that conducts passengers safely, unhindered, unflustered, relaxed, and comfortably to and from their next connection in their travel. If we can do that, the ferry transportation industry will grow because the customer's needs will be better met.

Eric L. Anderson is the CEO of Art Anderson Associates, a 45 year old firm that specializes in waterborne transportation planning and system design. Contact him at (360) 479-5600 or eanderson@artanderson.com

Chair, continued from page 1

apart from traffic engineers, architects, or other professionals. We are uniquely trained to think comprehensively, to see the connections between disciplines and oft-divergent interests, and act in rational ways to blend analysis, citizen participation and political efficacy into a coherent plan to shape the future for the better.

We don't do this stuff in a vacuum. Transportation planners are most effective when they understand housing trends, urban and suburban revitalization techniques, principles of place-making, ecosystem or social diversity, and any number of "non-transportation" subject areas that shape travel patterns. This isn't meant to shill for the APA Conference, but as transportation planners, we should not merely seek professional development or "technology transfer" from traditional, focused transportation programs. APA offers a wide range of educational opportunities, and our Division certainly has a role to play in that mission. This year there are some 30 transportation-focused sessions, ranging from "Dealing with DOTs" to "Strengths and Innovations in Travel Demand Models," and covering all modes from bikes to freight.

Each year, volunteers within the Division help define our two sponsored "by-right" sessions. We get the opportunity to augment that minimum allocation with mobile workshops, volun-

Landside, cont. from page 10

use of alternatively-fueled vehicles (e.g., CNG, LNG, bio-diesel) by the airport's ground transportation operators. These programs have included providing financial incentives to operators to cover the incremental cost of purchasing a clean fuel powered vehicle, instituting financial disincentives to operate conventionally fueled commercial vehicles, and providing fueling facilities on or adjacent to airports.

While the above is a short summary of the tasks performed by an airport landside planner, this area of transportation planning is a specialized field that is rarely discussed in the planning profession. However, given the increasing importance of an airport's landside area, especially increased concerns over security issues while enhancing the airport as an economically viable intermodal facility, this area of transportation planning needs to be embraced by the transportation planning profession as a separate and distinct area worthy of research by academia and development for future planners.

K.L. (Dan) Wong, AICP, MITE is Senior Transportation Planner with the San Francisco Airport Commission. A member of both the American Institute of Certified Planners and the Institute of Transportation Engineers, he has worked as a transportation planner in the area of airport landside operations for over 16 years and is a member of the TPD's Airports Committee. He can be reached at dan.wong@flysf.com.

see Chair, page 14

**Upcoming
Conference
for Research
on Women's
Transportation
Issues**

**November 18 - 20, 2004
Chicago Marriott Hotel**

This Conference will review the state-of-the-art on a variety of topics related to women's travel patterns, needs, and behavior. The Conference is designed to identify the additional research and data needed to inform public and private policies that directly or indirectly address women's mobility, security, and safety concerns. The Conference will focus on data-driven comparative analyses of: 1) men and women's travel patterns or safety or security risks currently or over time, 2) different sub-groups of women, and 3) women internationally.

Specific topics to be addressed at the Conference include:

- Travel Patterns, Behaviors, Needs, and Preferences
- Older Women's Travel Patterns; Security and Safety Needs
- Safety (crashes)
- Security (crime)
- Community Design as it Impacts Access and Mobility
- Ergonomics and Injury Prevention
- Travel Needs and Patterns of Under-Represented groups
- Women's Involvement in, and Impact on, Transportation Planning
- Differential Impacts of Public Policies and Programs

*Organized by TRB's
National Research
Council.*



APA National Conference - April in Washington!

START PLANNING NOW...join up with 5,000 colleagues, choose from over 200 sessions and 70-plus workshops (including Saturday workshops) at the APA National Conference in Washington D.C., April 24 - 28, 2004.

Registration can be accomplished on-line: the final online registration deadline for the 2004 APA National Planning Conference in Washington, D.C., is March 26. Simply have your credit card ready! After that date, all registrations must be done onsite.

Sign up online now for Conference Sessions, Mobile Workshops and Leadership Meetings, or Special Events ranging from a "Potomac Spirit Cruise" to an "Embassy Crawl and Reception". Or, send in your form by mail or fax instead.

For more information, please visit <http://www.planning.org>



**Please Come!!
TPD Reception at APA**



**Please join us for our TPD
business meeting and
reception at APA National
Conference. The TPD
business meeting/reception is
scheduled for Monday, April
26, from 5:30 pm – 8:00 pm in
the Conservatory room at the
Washington Hilton.**

Airports-in-the-Region

a Divisions Council Forum

Sunday, April 25, 1:00 PM to 4:00 PM



In many of our metropolitan areas, the airport and its adjacent commercial areas contain more employees and income-generating economic rivaling that of traditional downtowns or suburban office parks. Often located at the urban area fringe, these transportation hubs for passenger and/or cargo can have a profound effect on development patterns, the environment and natural resources, and the regional transportation network. Yet unlike downtowns and other “activity centers,” the planning profession has paid scant attention and has offered little guidance about how best to harness this powerful resource within a comprehensive, long-range perspective.

How can planners shape these emerging Airfront Districts to better achieve regional and local objectives? Whether large international hubs with major cargo facilities, metropolitan area reliever airports or regional airports in rural areas, airports and their surrounding land uses play an increasingly dominant role in shaping a region. Understanding those influences, the ways airports operate, and successful intergovernmental strategies is the focus of APA’s Airports-in-the-Region initiative, led by the Transportation Planning Division in partnership with APA’s Divisions Council.

This initiative is the focus of a special forum held at the APA National Planning Conference in Washington, D.C. on Sunday, April 25th from 1 to 4 PM in the Omni Shoreham hotel. The extended session features a panel representing diverse interests, including the Federal Aviation Administration and regional and local governments, along with the perspective of APA’s various divisions and an interactive breakout session to determine how APA should focus its efforts in the coming year.

The Divisions Council, comprised of the elected chairs from each of APA’s 18 special interest divisions, is the perfect entity for taking a multi-disciplinary approach to research and development on planning issues. For the first time, this group will come together to focus on best practices guidance for the airfront – a term used to describe the commercial, industrial and transportation facilities that support an airport. If you are attending the APA Conference, please make plans to attend this interactive forum and offer your insights.

A Bigger Role for Smaller Airports?

By Ken Sides

If you read the issue of *Planning* magazine that focused on transportation last year, you may have noticed a reference to a new era of “free flight” air travel, on the horizon as the 1980s-deregulation hub-and-spoke system approaches saturation.

Currently, some 80 percent of flights squeeze through just 23 near-capacity hub airports, and demand continues to grow. But thanks to groundwork laid by NASA, one possible solution is the use of a new class of very light 6-passenger jets. Advances in turbine engines, avionics and manufacturing have created small jets with the same safety and reliability as larger jetliners, and the ability use America’s 5,000 to 10,000 smaller airports.

The smaller jets also have lower costs, opening doors to a potentially large market for the type of air service that is limited to the very wealthy today. Corporate aviation, jet taxis and same-day package delivery are possibilities. Six companies have announced plans to manufacture these very light jets, and two of them have already flown.

The immediate significance for planners is that the premature closing of one of those 5,000 small airports could inadvertently forestall a community’s chance to participate.

Ken Sides, PE, PTOE, AICP, Transportation Projects Manager for the City of Clearwater, Florida, can be reached at Ken.Sides@myClearwater.com.

TPD Membership Survey Underway

Most of you should have already received or will be receiving soon an e-mail invitation to participate in an on-line survey of our TPD members. This survey is being undertaken to try to make the Division (and particularly this newsletter) even more effective and responsive to our membership.



Please, please please take the time (only a few minutes) to respond when you get the request. You will also be able to access the survey results on-line as they come in. If you did not receive an e-mail invitation to complete this survey please visit the TPD home page <http://www.apa-tpd.org/> where you will find a link to the survey.



Student Paper Competition Update

All entries are in and the judges are working to choose winners. The winners will be announced and awards presented at TPD's Business Meeting and Reception at APA in Washington. The meeting is Monday, April 26 from 5:30 to 8 p.m. in the Conservatory room at the Washington Hilton. Everyone is invited!!!



Chair, continued from page 11

teer sessions and other activities, if we take the initiative. Two years ago in Chicago we had a successful transportation track running throughout the conference that resulted in arguably the best transportation program in several years. This year, our Airports-in-the-Region Initiative has a significant place in the conference. The planning for 2005 is already underway. We are again aiming for a transportation-themed track for the 2005 conference in San Francisco, along with mobile workshops, thanks to TPD member Dan Wong serving on the Local Host Committee.

Let us know what would motivate you to attend the APA Conference, and we'll work to make it happen. Your input is needed now so we can make the next conference even better. Please contact Vice Chair Larry Lennon or me (Whit Blanton) with your ideas and comments.

Mentoring Moves Forward

As you will note in the TPD member survey, we are soliciting interest in a professional mentoring program established through the Division. I presented the mentoring concept to the Division at our business meeting held at TRB this January, where members supported it enthusiastically. I've also presented it to our Region III AICP Commissioner Chandra Foreman, who offered excellent feedback and support. We now have a committee of 6-8 TPD members who want to serve. Here's how it's currently envisioned:

- This would be primarily a student planner/planner relationship, but it could also extend to the first year or two of a new professional's career. The idea would be to pair up willing mentors with willing mentees from accredited graduate urban planning programs (as a start), and then including other programs (e.g., public administration, geography, engineering, etc.) for people who are interested in a career in transportation planning. One of the problems faced by some of the other groups exploring mentoring had been not having an advocate at the schools. It would be great if we could get a TPD member in the area of each school to volunteer to speak at the student planning organization meetings. Another option would be to establish a process that schools could adopt where the students are assigned a mentor as soon as they enroll (or immediately upon joining TPD as a student member).
- We would organize this by APA chapter. Some sort of geographic focus is needed because I think the best mentors are those who are in relative proximity, and understand the practice of transportation planning in the area where a student or new professional is most likely to get a job. What I envision is preparing a letter, brochure and PowerPoint presentation that we would send to the university departments announcing this program and offering assistance. We could also create a separate section on our website. One of the things that AICP is strongly advocating is giving the students a say in the pairing process. Students are more likely to consistently participate if they have selected their mentor or had a role in selecting. Also, using this method, the mentor feels "chosen" and may stay committed for longer. The presentation could be used at the student organization meetings at the schools.
- We should develop a mentoring guide. Parsons Brinckerhoff has one that's very good. The idea is that mentoring is voluntary and may be carried out in any number of ways and forums. Face to face meetings help, but aren't essential. The guide should describe how the program works, provide a checklist for mentors, and offer suggestions on what to do. Some mentoring topics could include ethics, thesis topics, getting a job (the right job), career choices, skills to know as a professionals, trends in the practice, Day in the Life of a planner, working within a public agency/consulting firm, etc.
- Sustaining the mentoring program is the biggest challenge. I envision this being promoted by APA/AICP in addition to TPD. The strength of it will rest largely on planning schools that emphasize it and the individuals who want to be involved as mentors. One suggestion at our TPD meeting was for all students joining the Division be assigned a mentor. AICP has been talking about initiating its own mentoring program with major focus on using FAICP members, but we want to avoid competing interests. Some type of partnership may work.

What are your thoughts? Please contact me if you have an interest, and take the time to fill out the membership survey. Thanks.

Whit Blanton, AICP

Transportation Planner/Engineer

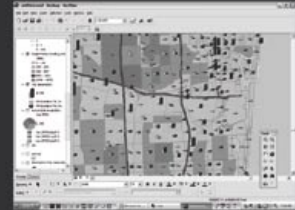
Fitzgerald & Halliday, Inc., a small transportation and environmental planning consulting firm, seeks planning and engineering professionals. Individuals must be self-motivated, with strong organizational and communication skills, and capable of working in a home-based environment. Training and/or experience required in one or more of the following areas: bicycle and pedestrian planning and design; NEPA-related environmental impact assessments; transportation planning; traffic engineering; land use planning; GIS, and public involvement. P.E. or A.I.C.P. certification preferred. Salary commensurate with experience. Please send resume and cover letter to Claudia Massie, Fitzgerald & Halliday, Inc., 72 Cedar Street, Hartford, CT 06106. Equal Opportunity Employer.



Connecticut • Virginia • Maryland • Massachusetts • Oregon

create a better future

That's what it is all about. Creating, testing and engineering the cities and regions of tomorrow. Cube's integrated framework lets you spend more time on planning and engineering tasks eliminating wasted hours on data manipulation and conversion. Cube provides you with powerful and easy to use tools for forecasting land use, personal travel, freight flows and for microsimulation within industry standard ArcGIS data formats.



Contact us to receive documentation or a demonstration copy of Cube.

cube
TRANSPORTATION
PLANNING SYSTEM

www.citilabs.com



Citilabs & Cube are registered trademarks of Citilabs.
ArcGIS is a registered trademark of ESRI.
Cube Land will be available in late 2004.

citilabs

PLACE YOUR AD HERE



Looking for staff or advertising your services?

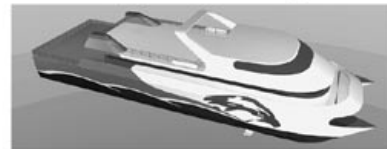
Place your ad here. Only \$85 for a 1/4-page ad (3.5"W x 5"H). Call or e-mail Newsletter Editor Ruth Fitzgerald at (860) 247-7200 or rfitzgerald@fhiplan.com



ART ANDERSON ASSOCIATES

DESIGN CONCEPTS FOR FERRY TRANSPORTATION SYSTEMS

A unique Firm with the capabilities to provide comprehensive transportation planning for land and water transit systems.



Naval architects and marine engineers providing complete ferry system planning and vessel design of passenger and auto ferries.



Architects and civil engineers providing terminal planning, docking concepts, and design of terminals and overwater structures.

Find us on the web at www.artanderson.com, or call us at (360) 479-5600 or (206) 622-6221. Art Anderson Associates has been serving our clients since 1957 from offices in Bremerton and Seattle.

CONTENTS

From the Chair 1
 Bus Rapid Transit-Planning, Features, And Effectiveness..... 1
 Airport Landside Planning..... 8
 The Challenges of Redesigning the Intermodal
 Ferry Connection for Efficiency, Comfort, and Security 9

Upcoming Conference for Research on Women’s Transportation Issues 12
 APA National Conference - April in Washington!..... 12
 Airports-in-the-Region a Divisions Council Forum 13
 TPD Membership Survey Underway..... 13
 A Bigger Role for Smaller Airports?..... 13
 Student Paper Competition Update..... 14

APA Transportation Planning Division
 c/o Fitzgerald & Halliday, Inc.
 72 Cedar Street
 Hartford, CT 06106

FIRST CLASS
 US POSTAGE
 PAID
 HARTFORD, CT
 PERMIT NO. 3438

What’s Inside...

Intermodal Ferry Connection

Bus Rapid Transit Planning

Student Paper Competition

TPD Membership Survey

...and more!!!

Airport Landside Planning



Visit www.apa-tpd.org

The transportation planner’s resource for division activities, legislation and policy, publications, conferences and work-shops, and much, much more!

