



transportation PLANNING

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From the Chair...

by Whit Blanton, AICP

To paraphrase the President in the annual State of the Union speech, the state of our division is strong (fortunately, we are not at war in Iraq, fighting with Congress to change Social Security or facing huge deficits). Still, it's a good time to reflect, because the Transportation Planning Division is transitioning to new leadership, having successfully completed an election organized by division members Sara Forelle, AICP, and Noel Comeaux, AICP. It is the efforts of volunteer members like Sara and Noel – and many others – who keep the division going strong, and make it worthwhile and productive for all members.

Nearly five years ago I was elected chair of this division, following six years of serving as the newsletter editor. It is hard to believe 11 years have passed since I became active in APA and the TPD. Both the division and the profession have changed a lot over those years, each benefiting from new ideas, alternative approaches and a growing, diverse body of professionals as members. As a division we have achieved plenty in the last five years, but important challenges and opportunities remain.

We have worked hard to build up the transportation planning offerings at APA conferences in the last five years. Our by-right sessions organized by Vice Chairs Richard Willson and Larry Lennon have been excellent and well-attended, and we have successfully achieved a transportation theme track and integrated transportation into other themes. We have generally obtained more than our standard two sessions by being creative with volunteer proposals and partnering with other divisions.

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Developing TOD Parking Strategies

By John Boroski, Jennifer Rosales and GB Arrington

Parking is at the core of TOD performance. The first generation of TOD development focused on getting TODs built. The next generation needs to focus on realizing TOD performance. Parking is a critical issue in the performance of TOD from both a transportation and financial perspective.

This article provides information to local jurisdictions, transit agencies, developers, financial institutions, and others as they develop parking standards and programs for transit-oriented developments (TODs). TOD is defined as:

"...moderate to higher density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment, and shopping opportunities designed for pedestrians without excluding the auto. TOD can be new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use."

By increasing transit accessibility and combining a mixture of land uses, TOD offers significant opportunities to reduce the number of parking spaces below conventional parking requirements for retail, office and residential land uses. Many local governments clearly understand that in practice TODs should have less parking than conventional development. A combination of factors, including local codes, the lack of definitive information on the performance characteristics of TOD in terms of parking and traffic, and lending practices, combine to make TODs look much more like conventional development in terms of parking than may be warranted.

At the same time, increased densities in TODs, coupled with the goal of improving pedestrian accessibility to transit stations, often requires building structured parking garages. Parking spaces in structures can cost from \$10,000 to \$25,000 each, compared to about \$5,000 per space for surface parking. These increased costs can negatively affect the financial feasibility of projects, even if they are otherwise profitable. Thus, if the design and location of TODs can enable a reduction in the number of parking spaces needed, the cost savings can be significant. The amount and pricing of parking has been consistently shown to have a clear impact on transit use.

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Transportation Planning Division Business Meeting and Reception

Come Join Us!

What: TPD Business Meeting followed by joint TPD/ Intergovernmental Divisions reception

When: Monday, March 21, 2005, 6:00 PM - 8:30 PM
Reception begins at 7:00 PM

Where: Nob Hill B & C of the San Francisco Marriott

In the unlikely event that the meeting room should change, please consult the final program that will be distributed in San Francisco.

contact us...

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Why Reduce Parking?

Reduced parking requirements can lower TOD construction costs, which in turn can result in improved financial performance of projects, more affordable housing, and/or allow more development to be built on sites near transit. In addition, reduced parking requirements can:

- Reduce residential parking rates (by changing long-term travel behavior and car ownership patterns)
- Reduce office/commercial rents
- Lessen urban water runoff
- Increase taxable square footage or other community amenities
- Improve local traffic circulation
- Improve urban design, and
- Generate congestion management credits for businesses (where applicable).

How Much Can Parking be Reduced?

In his research on numerous TODs in California, Dr. Robert Cervero found that TODs had an average of 1.66 people and 1.26 vehicles per household, compared to 2.4 people and 1.64 vehicles for all households located in the same census tracts. Cervero also found that:

- Most TOD residents are young professionals, singles, retirees, childless households, and immigrants from foreign countries.
- These groups tend to require less housing space than traditional “nuclear families”, and are more likely to live in attached housing units for financial and convenience reasons, regardless of where the units are located.
- Most TOD residents tend to work downtown and in other locations that are well served by transit.

Thus, TODs offer the potential to reduce parking per household, roughly by 20%, largely by virtue of attracting different types of households and travel behavior characteristics.

In research conducted for CALTRANS, a wide range of parking reductions (from 12% to 60%) was also found for commercial parking in TODs. Commercial parking demand, however, is generally more complex than residential parking and is affected by numerous factors, including: employee demographics, retail sales volumes, employee densities, types of adjacent land uses, etc. Therefore, there are no clear conclusions regarding how much parking can be reduced overall for TODs, and parking needs should still be estimated on a site-by-site basis.

How They Do It

Many cities that build TODs reduce parking requirements to reflect the availability and proximity to transit. Parking can be reduced further, however, when the following tools are used:

Shared parking: Shared parking is publicly and/or privately-owned parking that is used by two or more separate land uses without conflict. The success of shared parking depends on the specific uses on the site and the interaction of uses. In particular, shared parking works best when adjacent land uses have different peak activity periods (e.g., an office building and cinema).

District parking: District parking is a large-scale application of shared parking, and is usually implemented in urban commercial and retail areas using multiple parking facilities. District parking can be particularly beneficial to new development, as it can reduce the marginal costs of new construction. Many districts allow developers to contribute cash in lieu of providing parking themselves.

Satellite parking: This strategy has single employers, groups of employers, or a transportation management association (TMA) providing dedicated off-site parking for employees, which is then served by specialized transportation (e.g., direct shuttle van service) or public transportation. This replaces expensive on-site parking with lower cost off-site parking, and is primarily a means to manage on-site supply and demand.

Carpool parking: With this strategy, employers or TMAs convert a significant share of preferentially located single occupant vehicle (SOV) parking to preferentially-priced high

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Can planners really get people out of their cars? Can land use regulations reduce vehicle congestion?

By Ginna Smith and Chris Porter

Many metropolitan planning organizations (MPOs) and state agencies are hoping that the answer is yes. Over the past few decades a number of regions and states have attempted to affect transportation conditions through land use patterns by implementing comprehensive planning or “smart growth” policies. The assumed logic follows that state and regional planning laws impact local land use polices; local land use policies impact the built environment; and the structure of the built environment affects transportation, environmental and other related conditions. But, do state and regional planning policies really reduce vehicle-miles of travel (VMT), congestion and infrastructure costs? Are they resulting in other environmental benefits such as improved air quality?

We undertook a national review for the National Cooperative Highway Research Program (NCHRP) to attempt to address these questions. The review focused on five states and metropolitan areas that are known for their growth management policies. Empirical evidence was sought of the impact of these policies on changes in growth patterns, as well as transportation conditions.

These questions are difficult to answer quantitatively for a number of reasons. First, empirical data sources are limited; regional VMT and transit ridership are the primary transportation performance measures widely and consistently available. While these measures relate to transportation infrastructure needs and environmental impacts, they do not provide a good indicator of performance from the perspective of a traveler, such as mobility (ease of travel) or accessibility (ease of accessing desired activities). Second, numerous confounding factors as well as the time lag between policy development and implementation make it difficult to directly relate statewide or regional growth management policies to observed transportation conditions. Finally, most areas continue to struggle with implementation, and the impact of policies on development patterns (and, by inference, transportation conditions) has been much less than hoped. However, the experiences of states and regions that have adopted such policies can at least begin to shed light on these questions and point planners and policy-makers in a direction that will provide more concrete answers in the future.

Oregon has the longest and perhaps most recognized history in the country of strong state growth management policies. Since 1969, all cities in the State have been required to adopt a comprehensive plan; since 1973 these plans have had to be consistent with established statewide planning goals. By 1980 all cities in the State were required to adopt an urban growth boundary (UGB) to direct development and limit sprawl. In addition, Oregon state and regional agencies have made a concerted effort to coordinate transportation infrastructure and land use planning on many levels.

The Portland, Oregon, region has been viewed as a test bed for growth policies as well as the subject of many studies. The region’s elected government – Metro – has unique powers to establish and enforce land use policies. Evidence is mixed, though, on whether the region is realizing growth patterns consistent with its objectives. The UGB has effectively achieved segregation between urban and agricultural land uses, and since the early 1990s residential densities inside the boundary have been increasing. Higher density development seems to be occurring in designated centers, internal street and pedestrian connectivity appears to be increasing, and significant examples of mixed-use and transit-oriented development are occurring. Empirical data show that the average of 20 daily VMT per capita in the region (in 2001) is lower than that of nine comparison regions of similar population size, where it ranges from 21 to 29. On the other hand, single-family housing permits continue to be issued at a higher rate than multifamily housing permits. Furthermore, these increasingly dense housing patterns are also characteristic of other western cities and may be due to a variety of factors, including



High-density infill is occurring in Seattle neighborhoods, supporting the region’s VISION 2020 initiative and the state’s Growth Management Act.



Metuchen, New Jersey has received state assistance and recognition for revitalizing its downtown, adjacent to a commuter and intercity rail station.

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What once was a source of frustration for the division has blossomed into a better challenge of having to decide which of many insightful transportation sessions and mobile workshops to attend.

The TPD has become the “go to” resource for APA and other organizations seeking input on a variety of transportation planning issues. Whether it is dealing with Reauthorization, Smart Growth, Airports or Tribal Transportation issues, the division has capably responded to outside requests for our members’ expertise and energy. We have built a high level of respect for our work program and responsiveness from within APA and affiliated organizations like the USDOT, the National Governors Association and others.

With the understanding that planners are uniquely trained to think comprehensively and integrate various specialties, TPD has made great strides to collaborate with other APA divisions to break down the “stovepipe” mentality that too often pervades the planning profession. Transportation is multi-faceted, and we need to continue working hard to understand the social, environmental, economic and design issues that influence our mobility needs and create truly outstanding communities. We have developed good partnerships with several APA divisions over the years to explore the inter-relationships and engage in a dialogue. Those efforts must continue.

In that spirit, our Airports-in-the-Region initiative is a groundbreaking effort for the TPD and the APA Divisions Council to study a particular facet of our world and develop multi-disciplinary guidance for planners and other stakeholders. Thanks to the ideas and initiation of Larry Fabian, and efforts of Dan Wong, Mark Johnson and Mike Callahan, among others, the concept of planning for an airfront district and guiding the ongoing airport-land use compatibility discussion is taking off and producing results.

continued next page

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occupancy vehicle (HOV) parking. The effectiveness of this strategy will be greater in regions with a robust system of HOV lanes.

Transit pass programs: One of the best times to affect travel behavior is when there is a change in home or job location. New TOD offers a good opportunity to implement transit pass programs to attract residents and workers to transit (and transit passes are tax-deductible for employers and tax-free for employees).

Unbundling housing and parking: Housing and parking can be unbundled and sold through separate markets. In this case, vehicles are parked off the street in parking garages independent of housing units, creating a direct incentive to reduce car ownership and use.

Car sharing: This is an alternative to owning a personal car for people who do not need to drive often. Car sharing groups (i.e., TODs) give car sharing members access to a car on a reservation basis, and members only pay for the time and miles they drive.

Mechanized parking: This technology can be used to vertically stack up to three cars in a space roughly equivalent to one level of parking, effectively creating structured parking where none existed. Because the lift (which holds multiple cars) must drop into a below-grade “pit” to bring the topmost car to ground level, mechanized parking can only be used for small to mid-sized projects with one “level” of parking.

The Capital Beltway TOD Parking Experience

A new generation of TOD projects is being created along existing Metrorail lines in suburban Washington, DC. The West Hyattsville TOD strategy provides a good case study. Prepared for the Maryland Department of Transportation (MDOT), the West Hyattsville TOD strategy resulted from numerous meetings and design charrettes held with representatives from Prince George’s County, the Washington Metropolitan Area Transit Authority, the City of Hyattsville and the Maryland Office of Smart Growth. The TOD parking strategy for West Hyattsville could result in parking reductions of as much as 25% from current county standards. A similar effort was recently completed for the New Carrollton TOD and a Prince George’s County Regional TOD Strategy to attract and guide quality development to the County’s 15 Metrorail stations.

West Hyattsville TOD

The West Hyattsville TOD is envisioned to be Prince George’s County Maryland’s first compact, mixed-use, quality ‘transit village’ development. Located around an existing underutilized Green Line Metrorail station, the transit village concept provides a diversity of opportunities to live, work, shop and play in a low-rise (2-6 story) community that features:

- 3,600 residential units - offering several housing choices;
- 1,000,000 square feet of office / commercial space - creating 4,000 jobs;
- An extensive system of civic, park and open spaces; and
- A finely balanced street and circulation network – maximizing both the accessibility of the site’s features to one another and the site’s relationship to transit.

Minimizing the amount of parking, especially structured parking, is critical to this overall West Hyattsville TOD strategy’s realization, particularly during the early phases. A comprehensive parking management program is proposed and could reduce parking demand by as much as 25 percent from current county standards.

The three key features of this program are:

1. Reduce parking requirements to reflect:
 - Increased transit use. A significant percentage of new residents are expected to work in downtown Washington, D.C. and at other locations (university or federal office campuses) that are accessible by Metrorail. Office workers and shoppers will also be able to take transit to this site.
 - Reduced vehicle use. Residents and commuters to the site will live and work close enough to a variety of uses to be able to walk, bike or use transit to satisfy many of their daily needs, thus reducing auto use and demand for vehicle ownership.
 - Shared parking.

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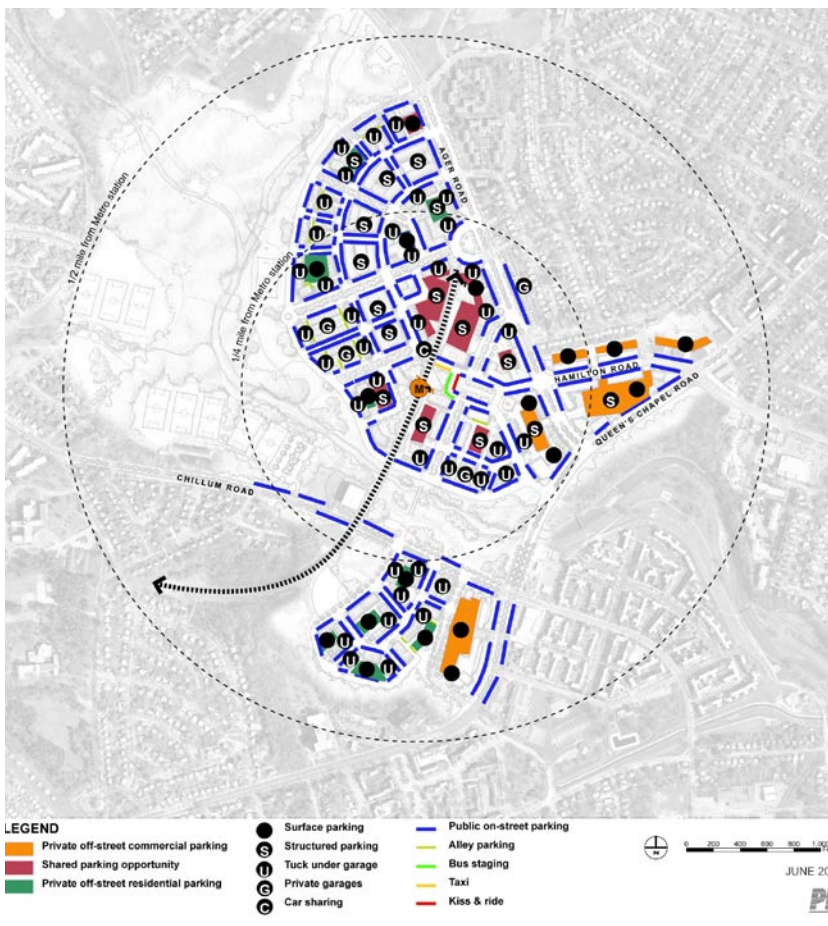
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2. Reduce off-street parking by crediting adjacent on-street parking towards fulfilling on-site parking requirements. This strategy makes on-street parking critical to meeting both parking supply and urban design goals (such as calming traffic).

3. Establish a station area-wide parking entity to integrate and manage all parking recommended by the TOD strategy. The entity's responsibilities could include:

- Ensuring that each phase of development takes advantage of underutilized, excess parking in the station area. Excess parking could be used by adjacent new development, could be leased by other users or could be additional commuter parking.
- Enforcing a residential permit program.
- Establishing a parking meter program to regulate on-street commercial parking.
- Allocating parking revenues to ensure that the parking management program is successful.
- Administering a transit pass program for station area residents.
- Executing "car-sharing" agreements with providers, and reserving spaces for "car-sharing" vehicles.
- Coordinate a transit shuttle bus service linking the station area to nearby neighborhoods.

The parking strategy concept for the West Hyattsville TOD is shown below.



As shown in the figure, the complete range of parking configurations includes:

- Parking structures,
- Tuck under,
- Private garages,
- Car sharing (flex car) spaces,
- Alley spaces,
- Well-designed off street surface lots, and
- On-street spaces.

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The TPD Student Paper Competition is another success that has continued for many years with different leaders. The dedication of our volunteer paper reviewers, and generally outstanding papers submitted by students and their planning programs, make this a great way for APA to promote education and nurture a relationship with the academic planning community. Kudos to our chair, Ruth Steiner, and committee members Kate Garwood, Robert Bush, Karen Lamberton and Mary Kihl, for their enthusiastic time commitment.

Our communications, in the form of the regular newsletter, website and member survey taken earlier this year, have strengthened the division. We are fortunate to have Ruth Fitzgerald as newsletter editor. She has a passion and commitment to the profession, which is reflected in her efforts. Her staff members, particularly Howard Latimer, who assists with newsletter production, and Ken Livingston, who implemented our member survey, are top-notch people who know how to get things done. My colleague, Glen Duke, has been a responsive web manager for five years. That job will now transition to a new person, a transportation planner and TPD member, who will have the responsibility of keeping the web content fresh and dynamic.

Our continuing challenge is to engage more of you to participate in the affairs of the division, whether it involves writing an article for the newsletter, coming to a division business meeting or reception, or posting and responding to a query on the listserv. Our planned mentoring program still needs to get off the ground. There is much work to do on our practitioner-focused education efforts. The opportunities abound. There's always more we as leaders of the division can do, but one good idea and a few hours time from a volunteer can go a long, long way to getting something good accomplished. Please get involved. You'll be glad you did.

Thanks to all who have joined the division, read the newsletter, attended

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Waterborne Transit: On the Move in Southeast Florida

By Bruce Wilson, AICP

In the Fall, 2002 TPD Newsletter, Waterborne Transportation was portrayed as the “Forgotten Man”(1). Those familiar with the subject matter know that there is much recent activity in places like San Francisco, Puget Sound, and New York Harbor (2). Perhaps not so well known are some of the activities taking place in Southeast Florida, centered on the current “WaterBus” service in the Ft. Lauderdale area.



The Broward County Metropolitan Planning Organization (BCMPO), Broward County Transit (BCT) and Water Taxi, Inc., have been among the key local players initiating and maintaining regularly scheduled small ferryboat service to 22 WaterBus stops along the New River and Intracoastal Waterway in the Ft. Lauderdale environs. Beginning in FY 2001-02, BCMPO began allocating \$ 1.5 Million/Yr. Of Congestion Mitigation/Air Quality (CMAQ) funding to help subsidize the WaterBus start-up. The CMAQ demonstration project has been administered by BCT and operated by Water Taxi, Inc., headquartered in Ft. Lauderdale.

Anticipating the conclusion of the CMAQ demonstration period in November 2004, a wide variety of planning and support activities have been underway to facilitate the transition to permanent waterborne transit, both locally and regionally, including:

- BCMPO Adoption (Dec. 9, 2004) of a Waterborne Transit Component of their Year 2030 Long Range Transportation Plan
- Vision BROWARD Inclusion (Final Report 2004) of proposed

WaterBus Extensions north to Boca Raton (Palm Beach County) and south to Miami-Dade County in their Key Transportation Projects Listing

- South Florida Regional Transportation Authority (SFRTA) Adoption (October 22, 2004) of State Legislative Package provision adding “inland waterways” to the definition of regional transit in SFRTA State Statutes.

These planning and support actions were bolstered by the noteworthy success of the 3-year demonstration program, including:

- growth in annual passenger counts from 273,537 to 744,907
- growth in annual fare box revenue from \$ 1,252,094 to \$ 2,037,232
- ADA accessible landings in progress for all stops
- Arrangement for interchangeable passes with BCT

The BCMPO Plan Adoption referenced above is particularly important because it is a “Cost Feasible” Plan, which is a statement of BCMPO’s intended allocation of total projected transportation revenues, including:

- \$43,470,000 for estimated waterborne operating subsidy until 2030
- \$5,370,000 for capital improvements

This Adoption Action is in keeping with BCMPO’s:

- shift away from major highway construction toward reliance on alternative modes
- increasing recognition of environmental benefits which, in the case of WaterBus, include hybrid-electric propulsion with bio-diesel fueling

The Vision BROWARD Report referenced above is a resource document for the Regional Business Alliance in Southeast Florida. This Alliance is now finalizing recommendations



for a regional transportation funding initiative to more adequately address the full range of regional transportation needs. Vision BROWARD is specifically endorsing a dedicated local funding source to help attract additional matching federal dollars.

SFRTA is only beginning to examine the potential for regional waterborne transit. On December 3, 2004, the Citizens Advisory Committee of the SFRTA was briefed by Mr. Bob Bekoff, President of Water Taxi, Inc., on the regional waterborne potential. This briefing included reference to successful international models such as the configuration of infrastructure and equipment in service in Brisbane and Sydney, Australia.

The next step in the process is detailed short range operational planning, primarily involving BCT and Water Taxi, Inc. Responding to the pattern of accelerated development and roadway congestion adjacent to Broward's inland waterways, the following issues will be addressed:

- when and how will the new downtown commuter service be structured and funded?
- when and how will an extension of WaterBus service further inland along the New River be structured and funded
- to what extent can additional private developer contributions/transit impact fees be directed to WaterBus implementation
- what level of support can the Florida Department of Transportation (FDOT) provide in the placement, final design and construction of supporting infrastructure, such as:
 - new homebase and intermodal terminal for waterborne transit along the Intra-coastal Waterway
 - park and ride, shelters, ticket kiosks and other capital improvements along the new route structure.

It is recognized by all parties that major regional improvements, such as fast-ferry service to adjoining counties is beyond the current capability of local government in Southeast Florida. The planning, design and implementation of this component of the waterborne system will require the close support of USDOT, FDOT, SFRTA, and individual MPOs. An optimal, early Action Plan would include:

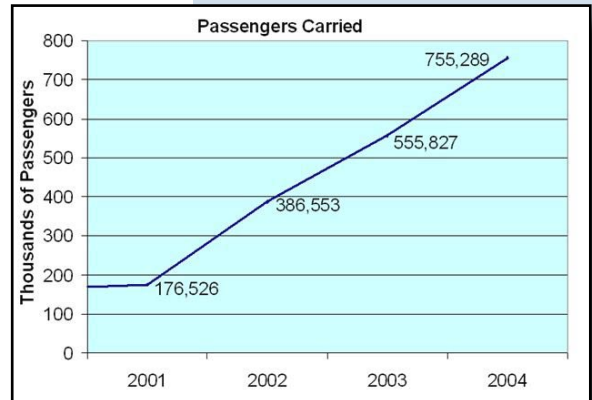
- enhanced access to the federal Ferry Boat Discretionary Grant (FBDG) program (start-up grants have been previously received)
- designation of regional waterborne transit corridors in a cooperative effort by FDOT, SFRTA and participating MPOs (regional transit corridor designation is required by new state legislation)
- recognition of these corridors in FDOT's Strategic Intermodal System (SIS) Plan (which will have priority for state funding)
- local construction and testing of prototype fast-ferry vessels for Southeast Florida (acceptable low wake vessel design is critical but achievable)

Waterborne transit in Southeast Florida is joining other efforts around the country to get this mode up on the "radarscope" and to keep it there.

Bruce Wilson is Senior Transit Advisor for Water Taxi, Inc. Previously, he served as Staff Director to the BCMPO. You can contact him at wilsonplan@bellsouth.net

(1) Ralph Duncan, "Waterborne Transportation: The Forgotten Man", Fall 2002 Issue of the TPD Newsletter

(2) Andrew K. Bennett, "Adding Waterborne Transit to the Planner's Toolbox", December 2004 Issue of the TPD Newsletter



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a reception or conference session, or posted to the listserv. Most of all, thanks to the members of the Executive Committee, particularly Joe Marking, who as treasurer, mentor and confidant over the last 10 years has helped me immeasurably. You all make this worthwhile, and my hat's off to you. It's been fun.

May 20th is Bike to Work Day

The toughest thing about my weekly bike to work is coming home after a long day around 6 PM or so, when the air is cool and windows are open, and the tantalizing scent of home cooking wafts out to the street. I guess it's not so bad, but it does make my stomach growl and my feet pedal faster toward home. Being a flatlander here in Florida, I know that I have it relatively easy over my fellow bike commuters who live in more hilly or inclement climates. I am also fortunate to have pretty good facilities for most of my ride.

In the spirit of putting people first in our transportation plans, all of the month of May is Bike to Work Month, and Friday, May 20th is Bike to Work Day (www.bikemonth.com). Bicycling is a great solution to many of our current challenges – public health, air pollution, traffic congestion and sprawl development. Promotions like Bike to Work Day help make bicycling and bicyclists more visible and accepted on our roadways, where too often there are conflicts and crashes with motorists. Unfortunately, many of our streets and communities are not friendly for bicycle riding or commuting. That needs to change. Where cycling is embraced and supported, communities benefit economically and socially.

So I challenge you to bike to work on May 20th, or at least sometime during the month of May. We have 1,500 TPD members; we ought to be able to get 10 percent of us to ride to work one day. That's 150 people for all of you with journalism degrees. I think we can do it. How about it?

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Prince George's County's existing parking requirements were used as a baseline for reducing the parking proposed in the new TOD Parking standards for the West Hyattsville TOD. New TOD parking standards were set for the West Hyattsville TOD. The West Hyattsville parking strategy relied on three types of structured parking to supply the parking required by the proposed TOD plan. The plan alters the existing parking standards by converting minimums to maximums.

The West Hyattsville TOD Parking Strategy recommends using a distance based parking strategy (within a quarter of mile and outside a quarter of a mile) with incentives for car sharing. For example, the parking requirements for residential parking where transit passes are provided are reduced by five percent. As "car sharing" contracts are included, the residential parking requirements would be reduced by another 5 percent. In addition, an on-street parking credit adjacent to a specific block will be used to reduce off-street parking requirements for that block.

Implementing the recommended TOD Parking Standards will reduce required parking, compared to the Prince George's County code for non-TDOZ by approximately 22 percent.

TOD Trip and Parking Calculator

As described in this article, mixed-use development and proximity to transit affect travel mode choices and reduce the number of vehicle trips generated by a development. Thus, a mixed-use TOD has a significant amount of vehicle trip reduction impacting the amount of parking required.

Transit Effects on Travel Behavior

Significant evidence in past research shows that travel changes are associated with TODs at a macro scale. TODs can result in up to a 25 to 30 percent decrease in vehicle miles traveled (VMT) per household near major transit stations, while the number of individual station-area boardings could increase by more than 50 percent (compared to non-TOD neighborhoods). More specific research will be necessary to determine the quantifiable impact of TODs on travel at the local level.

The types and mix of land uses influence the demand for transit as well as non-motorized modes, such as walking and bicycling. In addition, residents of higher density residential areas are more likely to walk to transit. The *ITE Trip Generation Handbook* presents information on the effects of transit on trip generation and includes transportation impact factors for developments around bus transit corridors and light rail stations.

Mixed-Use Effects on Travel Behavior

Ongoing research shows that land use density, diversity, design, and distribution of destinations have a relationship with travel behavior and are an important factor in reducing automobile use. When several activities are available in a mixed use development, the average trip distance decreases and more people are inclined to use other modes of travel such as walking or biking for shorter trips. In addition, increased density provides an increase in potential transit riders.

Mixed-use influences travel demand in many ways, but the most significant impact has been found to be on mode choice. Studies conducted in Florida show that mixed-use developments ranged for internal capture rates with a mean internal capture rate of 24.6 percent. The study found that simply mixing uses does not ensure internal capture, but diversity and density played an important role. In addition, density was found to be particularly important for smaller mixed-use developments in these studies.

The *ITE Trip Generation Handbook* presents a chapter on multi-use development with internal capture rates and a methodology for estimating multi-use trip generation. The handbook states that "the internal capture rates should increase with an increase in proximity, density and number of complementary land uses within a multi-use development."

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TOD Demand “Calculator”

To estimate the vehicle trips associated with a TODs and parking demand, PB PlaceMaking has been developing quantitative tools to better estimate TOD parking demand and vehicle trips. For projects in the Capital Beltway area and California, a TOD trip calculator has been developed which uses the land use mix (diversity and amount of each land use type) of the TOD, density of the TOD, proximity to transit, and type of available transit service as inputs into the TOD trip calculator. The traditional ITE trip generation is estimated by the calculator, and reduction trip factors related to density thresholds, mixed-use development (amount and type of each land use results in different reduction factors per land use type and location), and proximity to bus or rail transit are applied in the TOD trip calculator.

This calculator has been used to estimate the number of trips anticipated for proposed TODs, number of trips expected to be reduced by the TOD, and the resulting parking demand associated with the TOD. It has been found to be useful for land use and transportation planning of TODs and for developing TOD project strategies.

Conclusions

Getting the parking right is at the core of capturing the benefits of TOD. In establishing parking codes, jurisdictions often simply use other localities’ parking codes or strategies, which often lead to parking problems. Furthermore, experience has shown that strict adherence to local parking codes or Institute of Transportation Engineers (ITE) parking data often creates oversupplies of parking in many places. The traditional parking data and parking codes are focused on individual land use developments without interaction between mixed uses and does not account for proximity to transit.

There is no single formula that should always be used to reduce parking in TODs. Parking needs for TODs can vary widely across locations, even within the same jurisdiction, and depends on many factors as described in this article. Thus, the general findings offered here should be tempered with additional research that accounts for local factors that affect parking demand, such as: the specific residential, office and commercial tenant mix; the density and diversity of land use; the quality of the local transit service; applicable trip reduction requirements and/or incentives; residential demographics; and site conditions (e.g., pedestrian circulation constraints, parking spillover potential).

New national research to advance state of the practice on TOD performance will be undertaken soon (TCRP H-27A). There is very little definitive information on the actual performance of TODs from either the traffic or a parking perspective. Therefore, over 100 TODs and 100 joint development projects have been identified for this research project. In the surveys conducted for TCRP H-27, the ability to reduce parking was one of the most common TOD incentives cities offer, yet cities also rated optional parking reductions as one their least effective incentives because it was rarely used by developers. The new research for TCRP H-27 will form the basis of new ITE and ULI guidance on parking ratios for TOD.

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A list of references will be supplied by the authors upon request.

HIGHER TRANSIT VISIONS FOR TOMORROW

by Lawrence J. Fabian

In the 21st century, smarter new options for urban mobility and living are within our grasp. To take advantage of them, policy shifts that have sound bases in urban economics are required. Traffic and parking management, focused district maintenance, and density-friendly zoning and building codes can help decongest urban centers. Cell phones and the Internet create new ways to provide public transport. New forms of rail – called automated people movers (AP Ms) – are smarter and more flexible, and significantly more attractive to the public.

APMs: Metros, Airports, and More

Some APMs are high-performance, driverless metros. Those who venture abroad know that mass transit plays a much larger role in Europe and Asia. Driverless metros in Paris, Singapore and Copenhagen, but also in Rennes, Toulouse, and Lille in France, provide impressively high levels of service. Others are underway in Brescia, Perugia, and Turin in Italy, and in Lausanne (Switzerland). In London the emerging Docklands high-rise district is intertwined with the flexibility of its high-performance “Light Railway”. Smart cable-drawn shuttles offer effective services in Laon (France), Oeiras (outside Lisbon), and a district of Milan. Personal Rapid Transit (PRT) promises even higher levels.

In the U.S., APMs are common at a smaller-than-metro scale at large airports – Atlanta, Chicago, Newark, Orlando, and San Francisco, to name a few. They now serve and help define airfront districts – e.g. JFK Corporate Square in Queens, NY – an 8-minute APM ride from JFK Airport. They have been used – with limited success – to improve downtown mobility in Detroit, Jacksonville, and Miami.

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Land Use, continued from page 3

not only topographic (or political) barriers to expansion, but also to heavy reliance on public water and sewer systems, production homebuilding practices, and changing demographics.

The neighboring Puget Sound region in Washington State has more recently undertaken measures to influence transportation through land use policies. In 1990 the region adopted a transportation and land use vision for the area, VISION 2020. This plan was integrated within the state’s 1990 Growth Management Act (GMA) framework. VISION 2020 called for focusing growth in 21 urban centers and eight manufacturing/industrial centers. The urban centers were to include concentrations of population and employment in mixed-use, walkable environments, connected by high-capacity transit service.

There is evidence to suggest that both the GMA and VISION 2020 are having the intended effects. Average single-family permit densities increased from 3.8 units per acre in 1996-2000 to 5.3 units per acre in 2002, while average multifamily permit densities showed a jump from 22.0 to 38.3 units per acre between these two time periods. In King County, the proportion of new development occurring in rural areas was cut in half, from eight to four percent, compared to the 1996-1998 period, while within the county’s urban area, 53 percent of all new residential permits issued in 2002 were on redevelopable land. The other three counties in the region continue to show higher proportions of rural development and greater amounts of farmland loss, although the density of new development also has increased in recent years. Empirical data show that regional VMT per capita stopped increasing and instead remained nearly constant over the 1990s, suggesting that growth management policies may be helping to limit growth in vehicle travel. Seattle’s MPO has begun to monitor travel time and speed data, which in the future should provide a more comprehensive picture of transportation performance. The MPO also is monitoring city plans and zoning ordinances, and has found strong evidence that cities are changing land use policies to provide higher-density, pedestrian friendly development patterns in designated urban centers. Despite these apparent successes, VISION 2020’s stated objective of concentrating growth in “urban centers” has been realized slower than expected, especially within suburban jurisdictions.

Below is an example of a “new urbanist” project in an inner suburb of Minneapolis, supported by a state Livable Communities grant.



The Minneapolis-St. Paul metropolitan area is nationally known for its strong regional governance through the Metropolitan Council. Of particular interest are tax-base revenue sharing policies and the Metropolitan Urban Services Area (MUSA), which limits provision of wastewater services to an area designated to accommodate 20-year population forecasts. Research suggests that the MUSA has been effective at achieving orderly, contiguous development patterns, but has had little or no effect on the density or design of development in the region. Neither the MUSA nor the tax-base revenue sharing were undertaken with transportation objectives, and their effect on transportation conditions, if any, has not been measured. A recent “smart growth” modeling study projected that implementing widespread changes to community design practices could result in a 13 to 17 percent reduction in regionwide VMT. While walkable, mixed use developments and higher-density infill projects are beginning to appear in the region, it is too early to measure their regional transportation

impacts or to speculate on the extent to which they will represent typical development patterns in the future.

In 1992 New Jersey adopted their State Development and Redevelopment Plan (SDRP) to “guide public and private development toward compact, mixed-use landforms that make the most efficient use of existing and planned infrastructure, as well as other systems, to meet present and future growth projections.” A 2001 forecasting evaluation of the plan estimated that, if fully implemented, road needs would be reduced by 23 percent and transit commute ridership increased by 150 percent compared to a “trend” scenario. Implementing the plan

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also would reduce land consumption by 34 percent and have significant benefits for other environmental and community indicators. Evaluation studies have found, though, that the history of localized-level planning and a lack of regulatory power on many planning issues have made the SDRP difficult to implement. Within the past few years, the State has undertaken renewed efforts to align its spending and rule-making decisions with the SDRP and to coordinate activities among state agencies in support of the plan. As of 2004, the State is working to set up monitoring systems to track transportation and other performance measures related to the SDRP.

Florida adopted its Growth Management Act in 1985. The act transformed the State's environmental protection regulations into a collection of forward-looking growth management policies and associated programs. While comprehensive in scope, the State has been faulted for a lack of implementation of the policies and regulations included in the act.

Particular attention has been paid to Florida's concurrency regulation, which has been criticized as a well-intentioned but ineffective policy for controlling growth. For one, concurrency emphasizes expanding the transportation system to accommodate new development instead of tempering demand for travel through sustainable development. Nevertheless, due to rapid population growth and the slow pace of new infrastructure construction, congestion in Florida's largest metropolitan areas has still grown beyond levels specified in various local concurrency management plans. Concurrency also has been accused of contributing to sprawl by restricting development in infill areas with high existing congestion, instead forcing it to more far-flung suburban areas with excess capacity. Furthermore, because adjacent municipalities rarely coordinate their comprehensive plans and development decisions, even if one municipality's roads are sufficient to handle new development, impacts can spill over to adjacent areas.

What can be learned from the experiences of these states and regions? Overall, both models and empirical evidence suggest that land use strategies – if successfully implemented – can indeed play a role in reducing vehicle travel and associated impacts. Implementation of state and regional policies in most areas, though, has been weak because of limited ability to affect land use decisions at the local level. Furthermore, many areas' initiatives are too recent to yet observe widespread changes to land use patterns or to measure the resulting impact on transportation conditions. Policy implementation will have to be improved and monitoring systems that measure specific outcomes established if we are to improve the level of confidence by state and regional leaders that comprehensive planning initiatives can affect our travel patterns and provide substantial transportation benefits.

Please see **Summary Of Growth Scenario Modeling Results** (next page).

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Acknowledgments: This research was conducted for the National Cooperative Highway Research Program, Project 25-25. The views expressed in this article, though, are those of the authors alone. Please contact the authors for a list of references.

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A Bold Future-Oriented Program

Transit officials and advocates can develop a convincing case for more investment in public transport, but only if they let go of concepts that served the first half of the twentieth century. The American Society of Civil Engineers (ASCE) has become the recognized repository and exchange place of technical information about APMs. The 10th International Conference on APMs takes place this spring in Orlando, May 1-4, 2005. For more information, visit www.asce.org/conferences/apm05.

Architects and planners will join engineers in exploring new options for mobility and development. Come help them nurture this professional garden, so fertile with APM seeds. Behind these efforts is a deep appreciation of the benefits of people-oriented districts at airports, downtown, and in outlying districts.

Larry Fabian is the director of Trans.21, an international clearinghouse of planning information on automated people movers. He can be reached at lfabian@airfront.us.



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Summary Of Growth Scenario Modeling Results

Region	Transportation Findings	Other Findings	Methodological Notes
Minneapolis-St. Paul	<ul style="list-style-type: none"> • 13-17 percent reduction in VMT • 6-10 percent reduction in congested vehicle-hours 	<ul style="list-style-type: none"> • 12-14 percent reduction in infrastructure costs • 47-52 percent reduction in new land developed 	Land use alternatives: 57-75 percent of new development in compact, walkable communities
	<ul style="list-style-type: none"> • 2 percent reduction in VMT 	<ul style="list-style-type: none"> • 64 percent reduction in new local roads required • 25 percent reduction in arterial and regional road costs 	Transportation modeling did not consider urban design or non-motorized trip-making
New Jersey (central)	<ul style="list-style-type: none"> • 10-18 percent reduction in suburban vehicle-trips • 9-12 percent reduction in peak-period VMT • 11-21 percent increase in peak travel speeds 		Findings do not reflect conditions in two core cities (Trenton, New Brunswick) due to modeling limitations
New Jersey (statewide)	<ul style="list-style-type: none"> • 150 percent increase in transit use 	<ul style="list-style-type: none"> • 23 percent reduction in new roads and road costs • 34 percent reduction in new land developed 	
Portland	<ul style="list-style-type: none"> • 6 percent reduction in VMT • 53 percent reduction in vehicle-hours of delay (VHD) 		
Seattle	<ul style="list-style-type: none"> • 3-5 percent reduction in VMT • 1-2 percent increase in VHD 	<ul style="list-style-type: none"> • 1 percent increase in infrastructure costs • 47-58 percent decrease in open space consumed 	Transportation modeling did not consider urban design or non-motorized trip-making

Highlights of the Upcoming APA 2005 National Planning Conference for Transportation Planners

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

The upcoming American Planning Association's 2005 National Planning Conference at the new Moscone West Conference Center in downtown San Francisco from March 19-23, 2005, is full of enlightening mobile workshops and sessions for the professional transportation planner. While copies of the preliminary program was mailed to all APA and AICP members earlier this year, additional information regarding the Conference can be obtained from APA's website at: <http://www.planning.org/2005conference> and through the local website at <http://www.apa2005sf.com>.

The Conference's Local Host Committee and APA staff have endeavored to provide a wide variety of mobile workshops and sessions for planners. For transportation planners, the following summarizes by date the planned sessions and mobile workshops that involve some aspect of transportation planning:

Saturday, March 19, 2005

The TRB Access Management Manual (S)

Impacts of Sprawl and Auto Dependence and Effective Response Strategies (S)
 Innovations in Pedestrian Planning (S)
 Safe Routes to School (S)
 San Francisco Urban Bikeways (MW)
 San Francisco's Transit First Policy (S)
 TND Streets/Uniform Fire Code Conflicts (S)
 When Highways are Main Streets (S)

Sunday, March 20, 2005

Air Quality and Transportation Choices (S)
 Bicycle and Pedestrian Planning (S)
 Bike Across the Golden Gate Bridge (MW)
 Freeway Removal and Neighborhood Planning (MW)
 Managing District Parking (S)
 Port of Oakland Planning Initiatives (MW)
 Private Development Around Transit (S)
 Roads to Trails Planning (S)
 Stimulating Economic Revitalization through Light Rail Planning (MW)
 What's Next in Federal Transportation Policy (S)

Wednesday, March 23, 2005

Coordinated Land Use and Transportation Research (S)
 Improving Transportation and Urban Form for Health (S)
 Rail and Trail Smart Growth (MW)
 Smart Growth Street Design (S)
 Using Transportation Dollars to Build Community (S)

Codes: (S) – Session (MW) – Mobile Workshop

Monday, March 21, 2005

Commuter Rail Line's Extreme Makeover (MW)
 Growth Management Strategies Through Transportation (S)
 Integrating Land Use and Transportation Planning (S)
 Passenger Ferries and Intermodal Transportation (S)
 Promoting Seamless Connections (S)
 Research on Transit, Walking, and Other Non-Auto Alternatives (S)
 Security Planning for Transit (S)
 The Great Highway (MW)
 The High Cost of Free Parking (S)
 TOD Using Public-Private Partnerships (MW)
 Win-Win Resolutions for Airports and Communities (S)
 Zoning for Transit-Oriented Development (S)

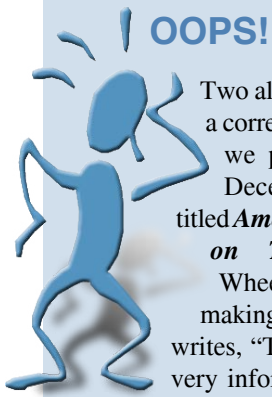
In addition to the San Francisco Bay Area's many attractions and all of the planned mobile workshops and sessions, the semi-annual TPD business meeting and reception is scheduled for 6:00 p.m. on Monday, March 21, 2005 (see notice on page 1 for details).

Given both the sheer number and breadth of the sessions and mobile workshops being offered at the Conference, APA staff and the Local Host Committee are planning on a record turnout. Reasonable airfares are available to the three Bay Area airports (SFO, OAK and SJC). More information on travel and hotel accommodations can be found through <http://www.planning.org/2005conference/housing.htm>.

Tuesday, March 22, 2005

Airport Practices for Environmental Enhancement (MW)
 Airport/Land Use Compatibility Planning (S)
 Bay Area Rapid Transit Meets Local Planning for Smart Growth (MW)
 Beltways and Sprawl Revisited (S)
 Bicycle Boulevards (MW)
 Bus Rapid Transit (S)
 Customer-Based Transportation Level of Service Policies (S)
 Fruitvale Station Transit Village (MW)

K.L. (Dan) Wong, AICP MITE is a Senior Transportation Planner with the San Francisco Airport Commission and Chair of APA-TPD Airports Committee. He has been active on the Local Host Committee in the planning for the upcoming 2005 APA National Planning Conference. 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. He can be contacted at dan.wong@flysf.com.



Two alert readers sent in a correction to an article we published in our December issue entitled *America Votes “Yes” on Transit*. Kenya Wheeler of PB Place-making in San Francisco writes, “Thank you for the very informative article in the December 2004 APA

Transportation Planning Division Newsletter that provided a nationwide overview of how transportation funding measures fared in the November 2004 election. In California, there was one change to election results that likely occurred after your print deadline. The final election results for the Sonoma County, CA 0.25% sales tax increase (Measure M) was 67.2% yes to 32.8% no, which (barely) provides the 2/3 majority required to pass a special tax in California. Source: <http://www.co.sonoma.ca.us/regvoter/elections/2004/041102/results.asp>”.

And Doug Sibley, retired Senior Transportation Planner Caltrans District 4 in Oakland, writes “I found the article and chart listing November 2004 transportation election results around the U.S. misleading in identifying results. The Sonoma County California results are inaccurate. Not only did the County Sales Tax measure PASS with a 67.2% yes vote (2/3 yes vote required to pass), the implication of “Lost 66-34%” is that 66% voted against the measure. The Solano County California vote did fail but with a 63.7% yes vote, just short of the 2/3 vote required. Since passing requirements vary around the county, the article and chart would have been more accurate to report yes vs no votes and what the passing requirement was for each listing.”

Editor’s note: as Ms. Wheeler noted, the original article was written immediately after the election and did not reflect changing election results.

Snippets from FHWA

National Site Visits on Transportation and Growth Report

The National Cooperative Highway Research Program (NCHRP), the American Association of State Highway and Transportation Officials (AASHTO), and the Federal Highway Administration (FHWA) announce the release of the report, “National Site Visits on Transportation and Growth” documenting nationwide practices for integrating transportation and land use. The report will be available on-line via the AASHTO Center for Environmental Excellence, <http://environment.transportation.org/> and the USDOT Transportation Planning Capacity Building Program website at www.planning.dot.gov in late February 2005.

Scenario Planning Roundtable Report

FHWA and FTA have released a report entitled, “Scenario Planning: A Framework for Developing a Shared Vision for the Future.” This report provides the proceedings of the September 2003 National Roundtable of transportation leaders and other specialists to discuss the trends, effective practice and available technical tools to support scenario planning. The report will be available on the FHWA Office of Planning website at www.fhwa.dot.gov/planning/index.htm in late February 2005. For more information, contact, Sherry B. Ways, FHWA at (202) 366-1587 or sherry.ways@fhwa.dot.gov.

New Transportation Planning Capacity Building CD-Card

The USDOT Transportation Planning Capacity Building (TPCB) Program recently issued a CD-card that provides an overview of the program, and contains key publications and sample case studies, in addition to links to other resources available on the TPCB website (www.planning.dot.gov). The TPCB Program is designed to help decision makers, transportation officials, and staff resolve the increasingly complex issues they face when addressing transportation needs in their communities. This comprehensive program for training, technical assistance, and support is targeted to State, local, regional, and tribal governments, transit operators, and community leaders. For more information, contact Liz Fischer (elizabeth.fischer@fhwa.dot.gov or 202.366.0349).

Bike to work day!

Don't forget, **Bike-to-Work Day** is Friday, May 20, 2005! (See Whit Blanton's *From the Chair*, page 1)

Great biking info can be found at www.bikemonth.com - so get going, get pedaling and have a great ride to work!



TPD News

Over 25 members and friends attended the January business meeting held at TRB. Following are a few key highlights:

- Upcoming election of TPD officers to happen electronically. Elected candidates will take office in March at APA's National Conference.
- Additional \$400 budgeted for student paper competition, including \$200 for Honorable Mention.
- Airports-in-the-Region committee is going strong
- TPD will undertake a membership drive with "2,006 by 2006" as our stated goal.
- Spirited discussion of FHWA's **Transportation Planning Excellence Awards**.
- overview of tribal transportation programs (interest can be communicated to Bill Smeck at smeck@planning.org).
- TPD will have sessions on Bus Rapid Transit and District Parking Management at APA National in San Francisco
- We will soon have a new website manager--we have three very qualified candidates for the position
- A reminder that our newsletter is "going electronic". A desire for news from MPOs and state DOTs was expressed (Note from the editor: we would welcome articles and news from MPOs and DOTs. Please contact me – see contact information on page two of this newsletter).

APM05 - 10th APM conference

Interest in higher-order transit technology is high, and hundreds of world transport professionals are focusing in on Automated People Movers and "APM05" -- the 10th APM conference of the highly acclaimed ASCE series to take place in Orlando, May 1-4, 2005. Many new APM projects are underway in the airport sector, and a new wave of innovative landside projects is emerging now that air traffic levels are up from the 9-11 fall-off. New interest in PRT -- the highest performance APMs with taxi-like service over a network -- recognize the planning and service advantages. Driverless metros are hot in the very heart of Europe's rail transit industry, and innovative land use development strategies with APM shuttles and PRT are being explored. Come explore how these world developments will define tomorrow's urban transportation.

Attend APM05. Stake out visibility with a sponsorship. Exhibit in its lively booth area. For more information, contact Larry Fabian at lfabian@airfront.us.



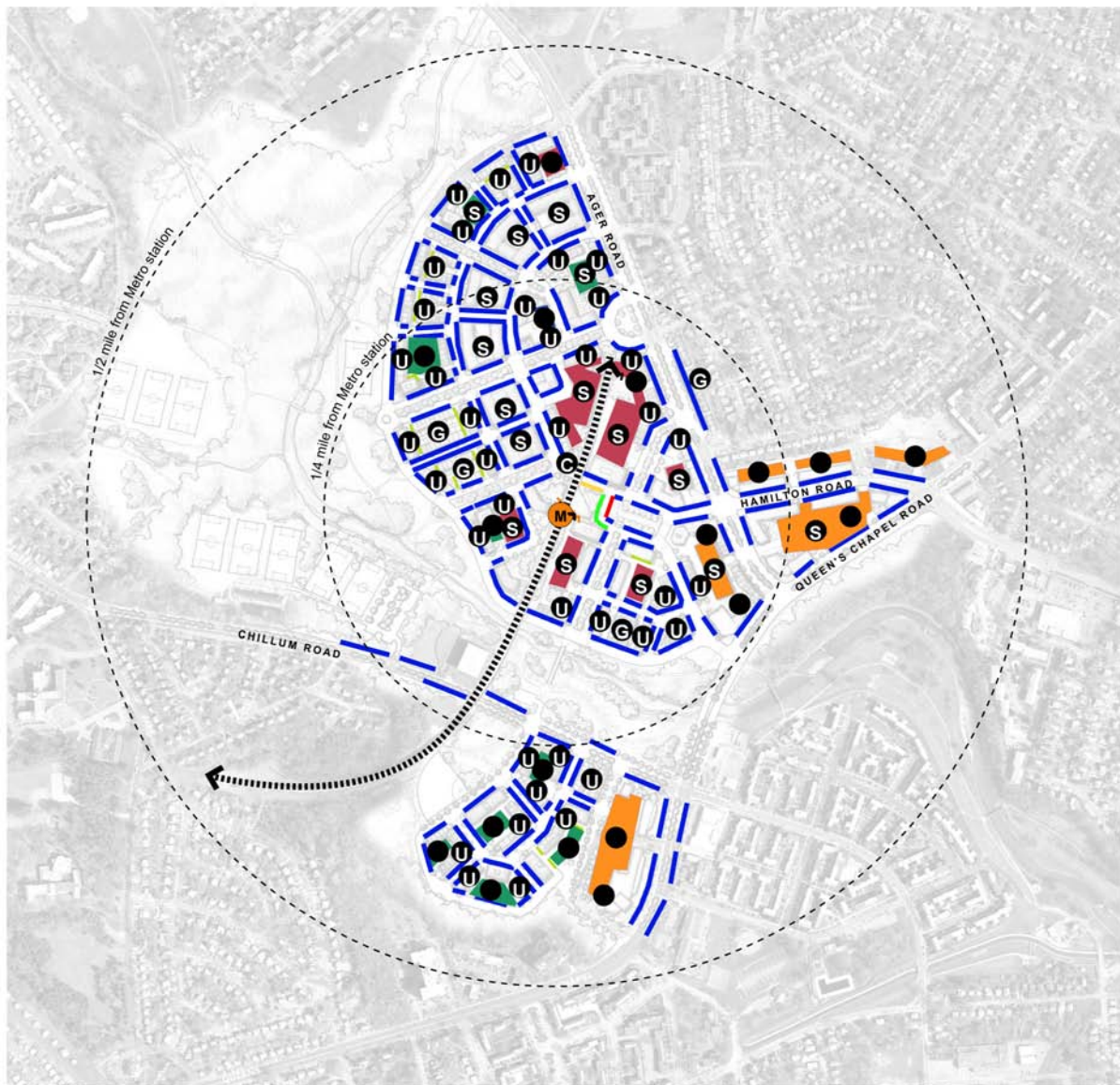
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-  Taxi
-  Kiss & ride



JUNE 2004

