MEMORANDUM

Date: July 16, 2010
To: Jeanine Cavalli, PMC
From: Sam Tabibnia
Subject: Pittsburg/Bay Point BART Master Plan – Transportation and Parking Assessment

This memorandum summarizes the following in support of the proposed Pittsburg/Bay Point BART Master Plan:

- Parking requirements for developments in the Master Plan area
- Potential parking management and Transportation Demand Management (TDM) strategies that can be implemented in the project area to reduce dependence on single-occupant automobile and reduce parking demand.
- Design guidelines for the project area to improve livability and enhance pedestrian circulation within the project area.

Some of the concepts presented in this memorandum were previously presented in the Existing Conditions Report (August 2009) for the project area. These concepts will be further developed and refined for the Master Plan and Access Plan documents that will be prepared.

PARKING REQUIREMENTS

The following parking supply requirements are recommended for the various uses within the Master Plan area:

- Multi-Family Residential: 1.15 spaces to 2.0 spaces per dwelling unit
- Senior Housing: 0.5 spaces per dwelling unit
- Retail/Flex: 2.0 space to 3.0 spaces per thousand square feet

These parking requirements are lower than typical suburban developments because it is assumed that project residents, employees, and customers would have higher transit usage than typical suburban developments due to the proximity to the BART station. Potential transit village residents will choose to live in the project area because of the closeness to the BART station, and therefore will have lower automobile reliance and ownership rates than typical suburban households. For example, analysis of Bay Area Travel Survey data shows that the residents living within a half-mile of a rail transit or ferry station are four times more likely to use transit than...
those living more than a half-mile away.\(^1\) The survey data also shows that about one-third of the residents living within a half-mile of a rail or ferry station do not own an automobile.

Note that the wide range for the retail/flex uses reflects the parking needs for specific uses within the land use category. For example, uses primarily serving BART commuters and local residents, such as coffee shops or dry-cleaners, will require little parking as most customers would already be at the site. However, uses that can attract customers from a larger area, such as sit-down restaurant or grocery store, would require more parking.

These parking requirements also assume implementation of aggressive transportation demand management (TDM) and parking management strategies in the project area. These strategies are further discussed in the following section of this memorandum.

**PARKING MANAGEMENT AND TRANSPORTATION DEMAND MANAGEMENT STRATEGIES**

This section describes potential parking management and Transportation Demand Management strategies that can be implemented in the project area to reduce dependence on single-occupant automobile and reduce parking requirements for the project.

These recommended parking strategies have three primary purposes:

- To encourage non-auto access to BART and the proposed Transit Village, while recognizing that not all BART and Village patrons would have a non-auto access alternative;
- To support local businesses by maintaining parking availability in the retail areas;
- To improve community livability and mitigate on-street patron parking in residential areas through expanding the existing Residential Parking Permit Program and/or initiating a Parking Benefit District.\(^2\)

The following strategies will be evaluated for their potential to manage parking demand at and around the project area:

- Shared parking between the BART Station and adjacent residential or commercial developments - “Shared Parking” is defined as the ability to share parking spaces as the result of two conditions: variations in the accumulation of vehicles by hour, by day, or by season at individual land uses, and relationships among land uses that result in visiting multiple land uses on the same auto trip. Potential shared parking opportunities in the project area include
  - Parking spaces used by BART riders during the day can be used by area residents at night;

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\(^1\) Characteristics of Rail and Ferry Station Area Residents in the San Francisco Bay Area: Evidence from the 2000 Bay Area Travel Survey, Metropolitan Transportation Commission, September 2006.

\(^2\) Parking benefit district is a program through which the local jurisdiction returns all or a portion of the parking revenue generated through meters or non-resident parking permits in a specified district to an entity representing the district for maintenance, security, beautification or other projects in the district. This concept can be applied in both residential and non-residential areas.
Parking spaces used by area employees during the day can be used by area residents at night.

Unbundled Residential Parking - When parking is bundled (a parking space is included in an apartment rent or is sold with a condominium) into apartment tenant leases or condominium prices, the true cost of parking is hidden. For example the price for an apartment with one parking space may be rented for $1,000 per month. However, if the parking spaces were unbundled, the rent for the apartment may be $900 per month, plus $100 per month for the parking space. Unbundled parking would help tenants understand the cost of parking, and may influence a resident’s decision to own a car. Unbundling parking typically reduces overall parking supply by about 10 to 15 percent. In addition, it can also make housing more affordable by not forcing residents who do not own a car to pay for parking. Two unbundling parking strategies that can be implemented in the project area:

- Provide reserved parking spaces for sale or lease separately from the cost of housing. Under this strategy, reserved residential parking would continue to be provided. Since not all residents would own a vehicle, the overall parking supply can be reduced.
- Provide residential parking passes for unreserved spaces for sale or lease separately from the cost of housing. Under this strategy, which is more aggressive than the previous strategy, no reserved residential parking area would be provided. Residential parking can potentially be shared with other parking. Thus, parking spaces used by residents at night would be used by area employees or BART riders during the day.

Automatic Parking Space Counting System (APSCS) - APSCS should be incorporated into the overall design and construction of the major parking facilities. The system would include electronic changeable message signs installed at parking entrances, within larger parking facilities, and along major roadways, such as West Leland Road, Bailey Road, and potential SR 4 to inform drivers of the location and number of available parking spaces. This would maximize utilization of all parking facilities, and reduce excessive circulation and driver frustration. By increasing efficiency and helping users to locate available parking spaces, this measure could also increase the effectiveness of the parking supply and reduce parking supply.

Attended Parking - Attendant (and valet) parking can be used to increase the efficiency of the parking supply by allowing vehicles to be parked along parking garage drive aisles. Attendant parking can increase the effective parking supply by as much as 15 percent depending on the garage design.

Metered On-Street Parking - providing metered parking along Bailey Road, West Leland Road, and within the proposed Transit Village would deter drivers from parking on-street all day and provide short-term parking for local commercial uses. On-street parking can also be used to reduce the off-street parking supply.

Parking Pricing - Setting low short-term parking rates and high long-term (over six hours) rates can discourage employees from driving to work and/or determine where they park. The effectiveness of pricing strategies on parking demand varies depending on the

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3 Reforming Parking Policies to Support Smart Growth, Metropolitan Transportation Commission, June 2007.
parking fee and the cost and availability of parking in the surrounding area. Parking pricing must also account for impacts on BART riders and competitiveness with nearby retail uses. Considering that other retail centers in the area provide free parking, retail uses in Transit Village will most likely provide free customer parking. Proper parking pricing strategy, combined with other strategies, can reduce area employee parking demand by five to 30 percent.4

- Parking Benefit District – a parking benefit district within the project area or in adjacent and nearby developments (both existing and proposed) would implement metered parking or issue parking permits to non-residents. The parking revenue can be used to improve the local neighborhood including potentially providing discounted/free transit tickets for residents.

- Parking Monitoring – Parking demand in the parking facilities constructed in the early phases of the project should be monitored and if necessary parking supply and strategies for later phases of the project should be adjusted to reflect the observed parking demand.

- Car-Sharing – Car-sharing is a neighborhood-based, short-term vehicle rental service that makes cars easily available to members. Car-sharing can eliminate the need for automobile ownership, especially if near quality transit service and mixed-use developments. Car-sharing can also be used by area employees who commute to work by transit but may need a car during business hours. In San Francisco, around 60 percent of households that owned vehicles before joining a car-sharing program have given up at least one of them within a year.

- Project Area Transit Information Center – A central hub should be designed within the project area and near BART entrance to provide a visible and on-site location for transit information, including real-time arrival and departure information for BART and Tri-Delta Transit.

- Wayfinding – A comprehensive wayfinding signage program will support and encourage pedestrian and bicycle trips to the BART Station and the transit village. The signage should be branded and be prioritized on key pedestrian routes within the project area and surrounding neighborhoods.

- Bicycle Support Facilities - Bicycle support facilities to encourage bicycling include bicycle parking facilities in both residential and commercial developments (such as racks, indoor/long-term parking, lockers, and showers, and potentially a bike sharing or rental program to facilitate regional connections.

- Resident EcoPass – Under this strategy, project area residents would be provided a transit pass. The transit pass or “EcoPass” will offer significant benefits including: a monthly subsidy towards transit usage, a steady funding stream for enhanced transit service, and a “self selection” incentive – whereby more transit-inclined residents will be attracted to live in the project area. The cost of the transit pass can be included in monthly homeowners’ association dues or rent, or it can also be subsidized by revenue from the parking benefit district.

- Employee TDM Programs - All employers in the project area should be required to participate in TDM programs to encourage the use of transit and facilitate walking and

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4 Reformatting Parking Policies to Support Smart Growth, Metropolitan Transportation Commission, June 2007.
bicycling among their employees through both incentives and disincentives. A Transportation Management Agency within the Master Plan area can coordinate TDM efforts for employers in the project area. Elements of the TDM programs may include:

- Information Boards/Kiosks - Employers would display transit routes and schedules; carpooling and vanpooling information; and bicycle lanes, routes, paths and facility information on information boards/kiosks or direct employees to web resources.
- Commuter Benefits - The TDM program would include participation in the Commuter Benefits program for tax-free paycheck deductions of transit and bicycle commuter expenses.
- Employee EcoPass. – Employers would purchase or subsidize transit passes for their employees.
- Carpool/Vanpools - Employers will offer carpool and vanpool matching services, subsidies, and priority accommodation. Designated and convenient spaces in parking facilities will be provided free to vanpools and carpools.
- Guaranteed Ride Home Program - These programs allow transit riders to use a complimentary or reduced price taxi service to get home in case of an emergency or when transit service is not available.
- Compressed Work Weeks, Flex Time, and Telecommuting. Through these strategies, employees would adjust their work schedule to reduce vehicle trips to the worksite.

Many of the strategies discussed in this section complement each other. Although there are overlaps between these strategies, when combined these strategies can drastically reduce the traffic generated and the parking supply needed for the proposed project.

DESIGN GUIDELINES

Research has shown that people walk more when destinations are within close proximity, along flat routes with easy street crossings, and through interesting areas with storefronts, street trees, street furniture, parks, and other pedestrian-oriented amenities. The proposed preferred Master Plan land use concept includes the following characteristics and design elements that encourage the use of non-automobile transportation modes:

- Mix of residential and commercial uses with sufficient density and proximity to transit; different uses within walking distance of one another.
- Proximity to the BART Station which provides regional transit access.
- Proximity to the Tri-Delta bus transit center which provided transit access to the east Contra Costa County area.
- Commercial uses along heavily traveled pedestrian routes
- Minimized bus and truck turning within the project area which allows for pedestrian friendly intersections
• Bicycle facilities including on-street bicycle lanes and off-street paths that provide bicycle circulation within the project area and connect the project area to adjacent bicycle facilities such as bicycle lanes on Bailey Road and West Leland Road.

• Aggressive parking management strategies that reduce parking supply.

In addition to new residential and commercial buildings, the Master Plan will provide for significant infrastructure improvements, including new streets. While all travel modes would be accommodated and vehicular access would be maintained, the design guidelines provided below are intended to enhance the walking experience and encourage walking for areas developed around the Station and the proposed Transit Village. All new streets and intersections will be designed to maximize pedestrian safety and enhance the quality of the pedestrian experience by designing for slower traffic speeds, safer pedestrian crossings, and more attractive and ample pedestrian zones (e.g., sidewalks). Design principles include:

• Avoid the use of multilane streets (more than one lane in each direction)

• Minimize one-way streets

• Design short blocks (less than 500 feet long) and provide pedestrian pass-throughs on long blocks

• Design most streets to self-enforce speeds of 25 mph or less by including design elements such as narrow travel lanes (10 or 11 feet wide), short block lengths, and adjacent parallel parking lanes.

• Based on preliminary analysis, traffic signals are not expected within the project area. However if they are needed, signals should provide short cycles, pedestrian actuation, and pedestrian scramble phases\(^5\) where feasible.

• Design compact intersections – with short crossing distances and small corner radii (20 to 30 feet). Consider replacing parking lanes with pedestrian bulbouts at intersections. Bulbouts reduce pedestrian crossing distances, increase pedestrian visibility, and reduce speeds for turning vehicles. Corner bulbouts should not intrude on bicycle travel ways.

• Consider the following at crosswalks and mid-block pedestrian crossings:
  
  o Adequate sight distance;
  
  o Advanced vehicle stop bars on stop-controlled approaches;
  
  o Use of different materials, striping patterns, or raised crosswalks along high volume pedestrian corridors.

• Make walking interesting through design, variation, landscaping, and mixed use

• Provide direct pedestrian and bicycle connections to adjacent uses.

• Provide wide sidewalks with buffer zones – sidewalks at least five to six feet wide with six-foot wide planting strips and/or on-street parking lanes and/or bicycle lanes between the sidewalk and the road curb.

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5 A pedestrian scramble phase stops traffic on all approaches to a signalized intersection to allow pedestrians to diagonally cross the signalized intersection.
- Install pedestrian-level lighting on high-use sidewalks and pedestrian paths surrounding the site and within the site.
- Provide frequent crossing opportunities – at least every 300 feet near pedestrian trip generators.
- Provide frequent pedestrian amenities (benches, water fountains, newspaper racks) with consistent design and placement on sidewalks with high pedestrian usage.
- Minimize the number of driveways on streets with high pedestrian usage to reduce interruptions to pedestrian flow. Consider consolidating parking facilities and providing central parking facilities that can be used by multiple uses.
- Provide secure and convenient bicycle parking throughout the project area for BART riders, transit village residents, employees, and visitors.

**RESOURCE DOCUMENTS**


