

# Fairlee / MetroWest TDM Development Program Recommendations

## Final Report – Summary DRAFT

June 20, 2005

This draft document presents an executive summary of the Fairlee/MetroWest Transportation Demand Management (TDM) Development Program background, process, and recommendations. The project Advisory Team is currently reviewing the DRAFT Final Report. Following incorporation of additional edits by the Advisory Team, the Final Report will be available in early July 2005.

### **Project Background**

In December 2004, the Fairfax County, VA, Board of Supervisors approved a change to the County's Comprehensive Plan for certain land units within the Vienna Transit Station Area. The plan change was made in order to provide the opportunity for mixed-use transit-oriented development (TOD) at the Vienna-Fairfax-GMU Metro Station.

The December 6, 2004, Board Motion notes:

*"TDM measures employed during the initial and subsequent development phases will have an objective of reducing vehicular trips in the peak hours by a specified amount, with the exact number to be negotiated between the County and the applicant based upon the number and types of units and uses being developed. In general, at build out, it is expected that, for the residential portion of the development, a reduction in peak hour trips of 47% should be achieved through the use of transit and other means; for the office portion of the development, a peak hour trip reduction of 25% is expected to be achieved through the use of transit and other means.*

*"The TDM program will be evaluated initially in at least three stages during the development process; first at the time of rezoning, second before and during construction and third after project completion or 'build out.' In the first stage of evaluation, at the time of rezoning, a development application should demonstrate that TDM [measures] will be provided to achieve the peak hour trip reduction goals stated above."*

Following the December 6, 2004, action of the Board of Supervisors, Fairfax County utilized a competitive bid process to select UrbanTrans Consultants (along with subcontractor LDA Consulting) to develop TDM program recommendations for the proposed Fairlee/MetroWest project, and to evaluate the peak-period vehicle trip

reduction potential of the proposed project (with the inclusion of the TDM program recommendations). The project is not intended as a comprehensive traffic impact study.

Fairfax County assembled an Advisory Team to lead the effort in partnership with the UrbanTrans team. Members of the Advisory Team included:

- Linda Smyth, Fairfax County Board Supervisor, Providence District
- Ken Lawrence, Fairfax County Planning Commissioner, Providence District
- Representatives from the Fairfax County Department of Transportation and Department of Public Zoning
- Citizen representatives from the surrounding neighborhoods
- Representatives of the development team

### **Project Overview**

The Fairlee-MetroWest TDM Development Program involved conducting five main research tasks to inform the development of TDM recommendations and the assessment of the trip-reduction potential of the TDM program:

- 1) Forecasting peak-period vehicle trip generation for the proposed development using established ITE and Fairfax County trip generation rates.
- 2) Assessing existing commuting / travel patterns, along with transportation-related attitudes and preferences, within the existing Vienna Transit Station Area (the area defined by the Fairfax County Comprehensive Plan as an approximately ½-mile radius from the transit station). Methods utilized included:
  - a. Resident & Employer Surveys: Surveying residents and employees in the study area to assess their attitudes and preferences about travel choices and to understanding current travel behavior and demographic information.
  - b. Traffic Counts: Counting vehicles entering/exiting existing subdivisions, and observing vehicle occupancy during the peak periods.
  - c. Census Analysis: Utilized 2000 Census and Journey to Work data, along with 2005 demographic data to understand demographic and household information and commute patterns, for the Transit Station Area and surrounding areas.
- 3) Investigating TOD “best practices” and lessons-learned throughout the region and across the country.
- 4) Understanding current TDM programs offered within Fairfax County as a whole, and identifying opportunities and barriers to successful TDM implementation at the Fairlee/MetroWest site.
- 5) Meeting with, responding to, and receiving input/suggestions from neighborhood groups and residents within the study area. The project team held six meetings in two months with neighborhood members, including a community open house held on June 1.

The Advisory Team used the information gathered from these research tasks to develop specific TDM program recommendations for Fairlee/MetroWest, and to forecast peak period vehicle trip reduction resulting from the combination of the proposed mixed-use, transit-oriented development, and the recommended TDM program for the development.

Lastly, the team developed an on-going monitoring and evaluation program, along with supplemental TDM strategies for future implementation should monitoring systems find trip generation in excess of target levels (utilizing target ranges and strategies tied to project phasing).

**Baseline Trip Generation**

UrbanTrans forecasted peak-period vehicle trip generation for the proposed project using established Institute of Transportation Engineers (ITE, *Trip Generation*, 7<sup>th</sup> Edition) and Fairfax County trip generation rates and policies. ITE trip generation rates used for all proposed land uses except The baseline peak-period vehicle trip reduction forecasts for each land use, along with the resulting target reductions (per the reduction targets set by the Fairfax County Board of Supervisors in the December 2005 Board Motion), are summarized below.

Land Use	Size	Baseline (peak-hour vehicles)	Reduction Required (peak-hour vehicles)		Target (peak-hour vehicles)
			Residential – 47%	Office – 25%	
Residential	2,248 units	904	425		479
Office	300,000 sq. ft.	452		113	339

**Fairlee/MetroWest TDM Program Recommendations**

The Fairlee/MetroWest TDM program recommendations made are based on (1) the findings of the research and analysis conducted through the five tasks described in the project overview; (2) on national research on travel behavior, TDM programs and program effectiveness, and national TOD experience; and (3) on the direct professional experience of the project team in planning, implementing, and evaluating TDM programs nationally.

The TDM program recommends implementation of a combination of five types of TDM strategies to achieve the target trip reduction levels. The information below highlights key program recommendations. Complete strategies, along with phasing and budget details, will be available in the Final Report.

1. **Parking Management.** The parking management strategies utilize innovative pricing strategies to manage the demand for parking, facilitate and encourage alternative mode usage, and to encourage lower levels of vehicle ownership among residents. Recommendations limit condo units to one parking space as a bundled asset with the sale of the condo, and develop a graduated fee scale for purchase of additional spaces. Office uses are recommended to “unbundle” leasing and pricing for office space from leasing and pricing for parking spaces, to facilitate “parking cash out” options for employees, and utilization of market rate pricing for all office parking.
2. **Physical Facilities.** These strategies cover physical site elements, including specific recommendations of on-site retail uses needed to support the TDM

- program (including small-scale grocery, child care, copy/business center, café/restaurant, dry cleaning, and banking). Also includes recommendations for off-site pedestrian/bicycle connectivity, provision of on-site wireless services, bicycle racks, a bike station, and shower/locker facilities (for office uses).
3. **TDM Programs & Services.** Includes recommendations to purposefully target residential sales efforts to ideal target markets (i.e., current transit users, employees along the orange/blue lines, teleworkers), integrate one-on-one transportation training for new residents, distribute SmarTrip cards to all residents/employees, add SmarTrip card value through promotions, support on-site shared-car (FlexCar, ZipCar) programs, implement safe routes to schools programs, develop a MetroWest transportation website portal, along with other support strategies.
  4. **TDM Program Management.** Includes recommendations to create an on-site TDM program manager (one FTE at build-out), as well as an on-site transportation storefront (in a retail space location, integrated with the bike station). Additionally, includes training of residential sales staff (during sales/leasing phases) to integrate all TDM programs and strategies into the residential sales and move-in interactions with new residents.
  5. **TDM Funding Mechanisms.** The goals of the funding mechanism recommendations are to provide for long-term, sustainable funding of the TDM program before and after project build-out, and to use funding mechanisms to support non-SOV travel patterns. In addition to initial developer contributions during the construction phase, on-going funding will come from graduated condo fees (and rental leasing agreements), where supplemental user fees will be based on the number of parking spaces linked to a unit, as well as from per square foot fees from office tenants. Additionally, revenues generated from on-street parking meters will also be directed to the TDM program.

### **Trip Reduction Analysis**

In an effort to assess the trip reduction potential of the proposed MetroWest project, with the addition of the recommended TDM strategies outlined in the previous section, UrbanTrans conducted extensive research on trip generation modification methodology. This research led to utilization of a 6-step analysis and validation process:

1. Establish trip generation rates.
2. Understand the household demographics.
3. Identify if any trips are inter or intra-related to the site's land uses.
4. Identify TOD and TDM attributes and programs and their forecast changes to residential land use trip generation.
5. Identify TOD and TDM attributes and programs and their forecast changes to office land use trip generation.
6. Use Center for Urban Transportation Research TDM model to validate office trip reduction methodology and findings.

The trip reduction assessment identified the following sources of trip reduction attributed to the physical, transit-oriented design of the site itself, and to the integration of the TDM program recommendations:

1. Age-Restricted Residential: Linked to the inclusion of 368 condo units with 55+ age restriction, and lower trip rates associated with the residential use.
2. Internal Trips (internal capture): Trips that will take place entirely within the project as a result of the mix of uses (e.g., travel from a condo to the on-site café, and back home).
3. External Linked Trips: Trips that would be chained to another site trip and therefore not create a new trip (e.g., travel from the office building to an on-site copy center, then onto a meeting external to the site).
4. Transit Proximity: Linked to the orientation of uses with within walking distance of transit and existence of pedestrian-friendly design characteristics.
5. On-Site Transportation Programs: On-site TDM programs and services.
6. Active Parking Management: Parking pricing and time management for residential, office, and on-street uses.
7. Residence-to-Office: Commute to work trips captured within the site by people working and living on site.

The full details of the trip reduction analysis and findings will be available as part of the final report in early July 2005, following final review from the project Advisory Team.

### **Monitoring and Evaluation**

The Fairfax County Board of Supervisors require that "The TDM program will be evaluated initially in at least three stages during the development process; first at the time of rezoning, second before and during construction and third after project completion or 'build out.'"

Rigorous monitoring and evaluation are absolutely critical to the proposed TDM development program. To ensure credibility and performance, the monitoring and evaluation program must assess whether the development and implemented TDM measures are, in fact, meeting the forecast peak-period vehicle trip reduction targets.

The peak-period vehicle trip reduction targets are the baseline of this measurement process, and as such, the following methodology outlines a vehicle-based measurement system. The vehicle-based measurement system should be supplemented by onsite, online surveys of residents and employees, with a goal only to continue to refine and improve TDM program and service offerings. The monitoring and evaluation program should measure vehicle trip generation for the project as a whole utilizing machine, cordon vehicle counts supplemented by in-person, manual counts to assess vehicle occupancy and trips not associated with on-site resident or office uses.

The monitoring process below is recommended for implementation during the final two phases identified by the Board Motion.

1. During the construction period: measure performance of the initial phases of development, evaluate relative to interim trip reduction target ranges.
  - o If trip reduction performance not on track, implement additional, more aggressive TDM measures, and then employ a supplemental monitoring and evaluation phase to again assess performance between the initial monitoring phase and full build out.

2. One year after project completion or “build out:” measure performance of the development as a whole relative to the baseline trip reduction targets.

Fairfax County Department of Transportation should lead the monitoring and evaluation processes at each of the phases, utilizing independent, outside contractors as needed. Funding for these activities should be provided by the project developer, utilizing a separate escrow account to fund independent contractors managed by Fairfax County.

Results of each monitoring and evaluation phase should be reported to the Board of Supervisors and available publicly.