County of Fairfax, Virginia

MEMORANDUM

DATE: November 6, 2009

TO: Bernard Suchicital
Policy and Plan Development Branch, FCDPZ

FROM: Leonard Wolfenstein, Chief
Transportation Planning Section, TPD, FCDOT

SUBJECT: North County APR #08-IIII-6DS, Middleton Farms

The Fairfax County Department of Transportation (FCDOT) offers the following comments regarding the traffic impact study submitted per the Chapter 527 requirements regarding the proposed changes to the Comprehensive Plan indicated in the subject Area Plan Review (APR) nomination. VDOT has prepared comments, which have been acknowledged in this memo and are attached to the final staff report. FCDOT's comments are as follows:

Current Comprehensive Plan Guidelines and Background Information

- Many of the road improvements identified on the Fairfax County Transportation Plan Map have not been constructed in the immediate area the nominations. The only road that has been constructed to the level shown on the Map is northbound Sunrise Valley Drive to the future Route 28 Metrorail station. There are two interchange improvements shown on the Map. One is at Route 28 and McLearen Road and the other is located at Route 28 and Frying Pan Road. The interchange at Route 28 and McLearen has been constructed while the interchange at Route 28 and Frying Pan Road is currently under construction and should be completed by the end of 2009. Centreville Road is shown as a six lane improved road from Route 50 to the Town of Herndon but the only segment that has been improved to 6 lanes is the segment north of Frying Pan. Construction is currently on going to improve the road to four lanes from West Ox Road north to Frying Pan. Additionally, right-of-way is being preserved from West Ox to Frying Pan to build the road to the ultimate six lane section as shown on the Transportation Plan Map. Centreville Road is currently two or four lanes from West Ox south towards Route 50. McLearen Road is only 4 lanes and is shown to be improved to 6 lanes. Frying Pan is also shown to be improved to 6 lanes but it is only two or four lanes. The Plan also shows a new four lane collector road to be constructed on the nominator's site.
- Road improvements are not the only transportation improvements identified for the site and the area. Stream valley trails along Frying Pan Branch and Horse Pen Run are also identified. These are critical elements that should be constructed along with other improvements on the site. These trails provide for other means of access to and from the site from the surrounding residential neighborhoods, other nearby non-residential

Fairfax County Department of Transportation
4050 Legato Road, Suite 400
Fairfax, VA 22033-2895
Phone: (703) 877-5600 TTY: 711
Fax: (703) 877 5723
www.fairfaxcounty.gov/fcdot

FCDOT
Serving Fairfax County for 25 Years and More

development, and to the future Route 28 Metrorail station located approximately one mile from the site.

- Fairfax Connector bus Route 929 currently provides service to the southern portion of the site on Park Center Road with the ultimate destination being the Herndon-Monroe Park and Ride. The route runs every 30 minutes and only during the peak periods on weekdays. Fairfax Connector Route 927 runs north of the site but turns down Coppermine Road, which is a little over a quarter mile from the northern most point of the site. It also runs every 30 minutes to the Herndon-Monroe Park and Ride. The County has a Draft Transit Development Plan (TDP), which is a comprehensive 10-year plan for bus service (Fairfax Connector and Metrobus) throughout the entire County. The draft plan recommends increased service on Routes 927 and 929 from every 30 minutes to every 15 minutes during the peak period. As shown in the draft TDP, the 929 route will be modified to go down Route 28 with the ultimate destination being the future Route 28 Metrorail station. With the new collector constructed on the nominator's site, this will allow bus service to traverse through the site and provide a valuable and direct connection from this site to the Metrorail station. There is no planned modification to the 927 route but it will serve two Metrorail stations (Route 28 and Herndon-Monroe) in the future.
- To achieve the current maximum of 0.35 FAR in the Comprehensive Plan, the developer should provide a transit stop in addition to constructing the new four lane road. While at first envisioned to be a bus form of transit, the developer should not preclude other forms of transit from being utilized as the need may arise.

Traffic Impact Analysis Results from the 3DS Traffic Study
(Includes FCDOT Comments)

- Trip reductions are assumed in the traffic impact analysis. The trip reductions are for retail pass-by, internal capture, and transit. They are as follows:
    - Transit – 5% (office and hotel)
    - Internal Capture – 10% (office and hotel)
    - Retail Pass-by – 25% (retail only)
- Tables 1-3 below outline intersection level of service, road segment congestion, and total trips for the proposed density. All 2030 values assume build-out of the Constrained Long Range Plan (CLRP) transportation network. The analysis also assumed additional transportation improvements associated with the 2030 background because of proffers from nearby developments. The trips from these developments were also included into the 2030 background traffic. The proffers were not attached to the traffic impact analysis; therefore, they have not been verified for accuracy by FCDOT.

Table 1
Intersection Level of Service (LOS) – With the Proposed Density of 0.40 FAR

#	Intersection	2008 Existing	2030 Comp Plan	2030 with APR 6DS	2030 with 6DS & improvements **
(1)	Sunrise Valley Drive/ Frying Pan Road *	AM - C/F PM - C/F	AM - D PM - C	AM - D PM - C	AM - D PM - C
(2)	Centreville Road/ Frying Pan Road (1)	AM - D PM - E	AM - F PM - E	AM - F PM - E	AM - F PM - E
(3)	Towerview Road/ McLearen Road (1)	AM - A PM - A	AM - C PM - C	AM - C PM - C	AM - C PM - C
(4)	Centreville Road/ McLearen Road	AM - D PM - D	AM - F PM - F	AM - F PM - F	AM - F PM - F

* Non-signalized only for existing conditions
** Improvements are only intersection improvements

(1) Signal timing adjustments

- As shown in Table 1 two of the intersections (Centreville Road/Frying Pan Road and Centreville Road/McLearen Road) fail during both the morning and afternoon peak hour. The overall level of service at Centreville Road/Frying Pan Road during the AM peak hour is equivalent to about three minutes of delay and about one minute of delay during the afternoon PM peak hour. The nomination would increase the delay at Centreville Road/Frying Pan Road by 10 seconds in the AM hour (5% increase) and 2.5 seconds in the PM peak hour (4% increase). There are several approaches that fail but the major one is the AM left turn from eastbound Frying Pan to northbound Centreville Road. This could be due to vehicles accessing non-residential development, such as offices, south of the Dulles Toll Road or vehicles heading towards the Route 28 Metrorail station park and ride garage.
- According to the traffic study, the studied intersection with the worst delay is Centreville Road/McLearen Road. The overall delay is equivalent to six minutes in the AM peak hour and more than four minutes in the PM peak hour. The nomination increases the delay by approximately a half second in the AM peak hour and one second in the PM peak hour. This road has several approaches that are failing considerably. While the study shows that this increase in density would add a very minimal amount of traffic to this intersection, any increase would only exacerbate the problem in 2030.
- Additionally, the analysis did not include the new road through the site as shown on the Transportation Plan Map and therefore potentially underestimates the trips heading south out of the site. The more detailed traffic analysis required at the time of rezoning should examine the effect of this new road on the Centreville Road/Frying Pan Road and Centreville Road/McLearen Road intersections.

- Signal timing is the only improvement suggested by the nominator. Signal timing and modifications was offered as a mitigation measure at select intersections within the study area. It should be noted that VDOT operates traffic signals in networks where signal cycles are determined to allow for network optimization (as opposed to a single intersection). The feasibility of signal modifications would need to be evaluated as part of a network and not a single intersection.

Table 3
2030 Link Analysis – With the Proposed Density of 0.40 FAR

Roadway	Section	AM/PM Peak Hour	Existing	2030 Comp Plan V/C Ratio	2030 APR 6DS V/C Ratio
NB Sully Road (28)	North of Frying Pan	AM	0.61	0.52	0.52
SB Sully Road (28)	North of Frying Pan	AM	1.34	1.13	1.14
NB Sully Road (28)	South of McLearen	AM	0.72	0.60	0.61
SB Sully Road (28)	South of McLearen	AM	0.69	0.58	0.58
EB Frying Pan Rd	East of Sunrise Valley	AM	0.81	2.07	2.08
WB Frying Pan Rd	East of Sunrise Valley	AM	0.99	1.85	1.94
NB Centreville Rd	North of Frying Pan	AM	0.59	1.10	1.11
SB Centreville Rd	North of Frying Pan	AM	0.40	0.41	0.42
NB Centreville Rd	South of McLearen	AM	0.94	2.40	2.41
SB Centreville Rd	South of McLearen	AM	0.39	0.77	0.77
EB McLearen Rd	East of Towerview	AM	0.61	0.90	0.90
WB McLearen Rd	East of Towerview	AM	0.59	0.95	0.95
NB Sully Road (28)	North of Frying Pan	PM	1.11	0.95	0.95
SB Sully Road (28)	North of Frying Pan	PM	1.28	1.08	1.08
NB Sully Road (28)	South of McLearen	PM	0.64	0.54	0.54
SB Sully Road (28)	South of McLearen	PM	0.82	0.69	0.69
EB Frying Pan Rd	East of Sunrise Valley	PM	0.83	2.08	2.17
WB Frying Pan Rd	East of Sunrise Valley	PM	1.72	1.92	1.94
NB Centreville Rd	North of Frying Pan	PM	0.37	0.55	0.57
SB Centreville Rd	North of Frying Pan	PM	0.97	0.98	0.99
NB Centreville Rd	South of McLearen	PM	0.57	1.31	1.32
SB Centreville Rd	South of McLearen	PM	0.87	1.61	1.61
EB McLearen Rd	East of Towerview	PM	0.74	1.07	1.08
WB McLearen Rd	East of Towerview	PM	0.55	0.65	0.65

- FCDOT requested that the nominator provide a link capacity analysis on Centreville Road and Sully Road north and south of the site. The segments on Centreville Road and Sully Road between Frying Pan Road and McLearen Road were not included because the traffic between Frying Pan and McLearen would not be destined to the site. A volume to capacity ratio above 1.0 means that the roads are saturated with vehicles. The link analysis shows that five of twelve links in the AM peak hour and six of twelve links in the PM peak hour all experience a v/c ratio above 1.0. The link capacity analysis looks at

all vehicle movement on a specific road and not just through traffic. In this instance, many of the links, such as Centreville Road south of McLearen Road and Frying Pan Road east of Sunrise Valley Drive fail because of vehicles turning left or right at the intersection. Therefore, many of the links experiencing high volume to capacity ratio could probably not be mitigated solely through road widenings but by improving the intersections.

- The traffic study suggested possible improvements to the road network that could be needed as a result of the current Comprehensive Plan. The Plan Amendment traffic increase is marginal compared to what is estimated in 2030. The study suggested possibly improving Frying Pan Road and McLearen Road to eight lanes and Centreville Road to ten lanes as part of the County's Transportation Plan Update. Both the study and VDOT comments regarding these improvements state that any potential widening beyond what is currently shown on the Transportation Plan Map should be evaluated only after Phase 2 of the Dulles Metro silver line extension to Loudoun County is operational. FCDOT concurs with VDOT that any road improvements beyond what is shown on the Map should only be examined after rail is operational.
- The new collector road through the site could also help alleviate additional vehicle traffic on Centreville Road north of Frying Pan Road associated with this development as well as other nearby developments. The new road would provide a parallel facility to Route 28 and Centreville Road that would connect to Sunrise Valley Drive linking directly to the future Route 28 Metrorail station.
- The traffic analysis submitted only looked at the 0.40 FAR option. The middle option was not included; therefore, all transportation recommendations are to amend the highest option in the Comprehensive Plan from a 0.35 FAR to a 0.40 FAR.
- Refer to VDOT's memorandum dated October 16, 2009 for additional technical information regarding the traffic impact analysis conducted for this APR nomination. All of the recommendations from VDOT have been evaluated and incorporated into this memo where appropriate.

Table 5
Trip Generation – Comprehensive Plan vs. Proposed Density Increase
(Includes Trip Reductions)

Nomination	AM Peak	PM Peak	Daily	Percent Inc. Daily Trips
Comp Plan	1,328	1,542	12,904	---
0.40 FAR	1,488	1,729	14,300	11%
Trip Increase	160	187	1,396	

- The table above shows trip generation estimates that could be generated from the density increase. It also shows the daily percentage increase above the highest option in the current Comprehensive Plan.

RECOMMENDATIONS

- The new four lane collector road should be constructed prior to any development beyond the current Comprehensive Plan base density of 0.15 FAR.
- This development can be accommodated from a transportation perspective as it will add a new link that provides a parallel facility to Route 28 and Centreville Road. This road can be a major benefit by providing a direct connection from the future Route 28 Metrorail station to McLearen Road for pedestrians, bicycles, vehicles, and buses.
- The traffic analysis assumed two turn right-turn lanes, a through-left lane, and a left turn lane exiting the site north to Frying Pan Road. The more detailed analysis at rezoning should evaluate two dedicated through lanes on this northbound approach as shown on the Transportation Plan Map. Additionally, two southbound lanes should also be included on this new road. Northbound Sunrise Valley Drive has the required number of lanes to receive traffic from the site; however, southbound Sunrise Valley Drive does not. When the new road is constructed, southbound Sunrise Valley Drive should be restriped and/or improved so that there are two through lanes in addition to the needed right and left turn lanes.
- Right-of-way should be dedicated on the north side of the property to widen eastbound Frying Pan Road from two lanes to three lanes. A right turn lane on eastbound Frying Pan Road into the site should also be included in the dedication.
- It is recommended that any development beyond the current the Comprehensive Plan base of 0.15 FAR be phased as transportation improvements are identified and constructed. This includes improvements to the roads and intersections on the road network surrounding the Middleton Farms site.
- Additionally, as development occurs a network of pedestrian and bicycles trails should be developed on site and integrated with the larger area.
- A TDM program must also be established and include FCDOT-approved TDM measures. Fairfax County's Draft Transit Development Plan (TDP) shows enhanced bus service adjacent to the site connecting directly to the Route 28 and Herndon-Monroe Metrorail stations. The Middleton Farms site should contribute to the increase headways on Fairfax Connector Routes 927 and 929.
- The Comprehensive Plan calls for a transit stop on this site. The type of stop should be determined upon a more detailed traffic analysis and in consultation with the Fairfax Connector and/or the Washington Metropolitan Area Transit Authority (WMATA).

Please contact Mike Garcia at Michael.Garcia3@fairfaxcounty.gov or 703-877-5673 should you need further information or clarification of these comments.

cc: Dan Rathbone, FCDOT

Angela Rodeheaver, FCDOT
Dan Southworth, FCDOT
Mike Garcia, FCDOT

W:\mgarc8\North County APR 2008-09\VDOT\Middleton Farms (III-6DS)\08-III-6DS TIA Comments.doc