Revised Pages of the September 2013 Planning Board Draft **ATTACHMENT 1**
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SEPTEMBER 2013

White Oak Science Gateway Master Plan

PLANNING BOARD DRAFT

Montgomery County Planning Department
montgomeryplanning.org

WHITE OAK SCIENCE GATEWAY PLANNING BOARD DRAFT MASTER PLAN

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VISION

Reimagining existing centers – and providing a framework for reinvestment - is vital to this community's longevity. This Plan seeks to leverage White Oak's assets and establish the foundation upon which the area can evolve into a community that offers more opportunities to live-work-play locally.

One of this area's greatest strengths is the consolidated headquarters of the Food and Drug Administration (FDA) at the White Oak Federal Research Center (FRC). FDA brings thousands of employees and visitors to its state-of-the art campus, presenting synergistic opportunities to reimagine and rethink the possibilities for surrounding communities. FDA could serve as a gateway to attract companies that offer high quality employment in fields such as health care, pharmaceuticals, life sciences, and advanced technology.

The Plan envisions White Oak's major centers – Hillandale, White Oak, and Life Sciences/FDA Village evolving from conventional, auto-dependent suburban shopping centers, business parks, and light industrial areas into vibrant, mixed-use, transit-served nodes. Redevelopment of the centers must be carefully integrated with existing residential neighborhoods and designed to enhance the entire area's quality of life, appearance, walkability, and sense of place. Existing residential neighborhoods will be maintained and enhanced within a physical environment that meets the community's needs and aspirations.

This Plan provides a blueprint to connect White Oak's centers to each other and the broader region through a transit system that includes Bus Rapid Transit as an integral component. An enhanced open space, trail, and bikeway network that incorporates the area's natural environmental features will provide opportunities for a range of outdoor experiences.

Land Use Supported by Transit

~~The County is studying a comprehensive bus rapid transit system that would utilize portions of existing roadways for exclusive bus service.~~ A Bus Rapid Transit system is essential to achieve the vision of this Master Plan. Improving transit service within existing corridors is intended to reduce congestion and reliance on automobiles while improving transportation capacity and meeting demands for existing and future land uses. ~~The Planning Department is preparing a~~ The 2013 *Countywide Transit Corridors Functional Master Plan* ~~that~~ identifies the corridors and right-of-way requirements for a Bus Rapid Transit (BRT) system.

Proposed BRT corridors in the WOSG Plan area include US 29, New Hampshire Avenue, and Randolph/Cherry Hill Road. This Plan's goal is for future growth to be supported by a BRT system that will serve the local area while connecting it to major destinations and to the existing and proposed transit services in the region. A BRT system with proposed stations at the Plan's centers could help spur reinvestment and redevelopment, as well as support new growth, by providing a more efficient transit alternative in an area that has been stymied due to a lack of road capacity and underserved by high quality transit. The urban design framework combines the BRT system ~~currently under study~~ with the locations of the existing commercial centers to promote development within areas centered on future transit nodes (see Figure 1).

The US 29 BRT corridor extends from the Silver Spring Transit Center to Burtonsville. The New Hampshire Avenue corridor extends from the Colesville Park and Ride Lot to the Fort Totten Metrorail Station. This Plan recommends a transit station at the White Oak Center that could serve as a transfer hub between the BRT routes on US 29 and New Hampshire Avenue. Along New Hampshire Avenue, the Plan recommends BRT stations at FDA's main entrance and at Hillandale (see Map 13 on page 64). The BRT corridor ~~under consideration~~ along Randolph Road and Cherry Hill Road would connect White Oak with Glenmont and White Flint/Rockville Pike. In addition, enhanced local bus service, perhaps a circulator bus loop, is expected to link the communities of White Oak to the BRT stations to better serve the entire area.

The following two pages (22 and 23) should be deleted from the Planning Board Draft Master Plan.

~~Land Use-Transportation Balance~~

~~Traditionally, master plans seek to balance the recommended land use densities (at build-out) and the transportation infrastructure needed to support the planned development. But traffic congestion in the eastern County, particularly on US 29, has been a long-standing problem and previous master plans have acknowledged the difficulty of achieving balance. The 1981 Master Plan stated that "…projected demand for roadway capacity in the planning area cannot be satisfied." (page 158) Sixteen years later, the 1997 *Fairland Master Plan* confirmed that this statement was still true and stated "It will not be possible to add sufficient capacity through roadway improvements alone." (page 87)~~

~~The previous master plans for this area (the 1997 *White Oak Master Plan* and the 1997 *Fairland Master Plan*) determined that balance would be achieved if eight grade-separated interchanges were built on US 29. Four of the eight interchanges were constructed by the Maryland State Highway Administration. The other four interchanges have not been built and are not currently funded for construction, so the area is not considered to be in land use-transportation balance today, even though there has not been significant new private sector development.~~

~~Like the previous Master Plans, this Plan does not achieve land use-transportation balance, even with a proposed BRT network and construction of the remaining interchanges to support mixed land uses and higher densities. It is worth noting that the land use-transportation analysis is based on assumptions devised to test a future scenario. With regard to land use, the analysis assumes that many properties, even those with existing buildings, will redevelop to the highest possible density allowed by zoning. This development assumption is made in order to determine a "worst case" scenario for traffic modeling purposes. Likewise, the analysis assumes that most of the transportation infrastructure – transit, roads, interchanges – needed to support the land use scenario will be built, even if it is currently not funded or programmed for construction. Both the potential build-out of the hypothetical land use scenario and the implementation of the recommended transportation network are long term endeavors that may take 20 years or longer.~~

~~Properties without existing improvements (Site 2, Percontee, and WAH) are more likely to develop sooner because it is easier to develop vacant land than redevelop land that has structures, businesses, tenants, and parking, and is producing income. Most of the White Oak area is developed, but for traffic modeling purposes, the Plan assumed that the undeveloped properties, as well as places like the White Oak and Hillandale shopping centers, will redevelop to fairly high densities. The traffic model also assumed the ultimate build-out of the FDA campus. The modeling does not distinguish between the development potential of more probable near-term sites versus ones that are less likely to redevelop. With these assumptions, the amount of potential development in the traffic model is relatively high. Yet, in reality, maximizing density rarely, if ever, occurs and certainly not all at once. Market demand and~~

~~absorption rates are limiting factors as are development regulations, including parking, environmental, and open space requirements, setbacks, height, and use restrictions.~~

~~Traditional strategies to achieve land use-transportation balance – such as decreasing densities or building new roads – would not allow this Plan to address its specific challenges and constraints. If the land use densities allowed by the Plan were reduced, it could be more difficult to support the high-quality transit service needed to achieve the Plan's vision or spur the kind of reinvestment many community members seek and that the County has already established as an important public policy for its Site 2 partnership. External traffic from Howard and Prince George's Counties, which Montgomery County does not control, is a major contributor to traffic congestion in this area. Even if Montgomery County limited development, as it has done in the eastern County in the past, regional and local traffic will continue to congest the highway network. Options to increase traffic capacity by enhancing the local road network are limited within this Plan area due to existing development patterns, land ownership, and environmental resources.~~

~~If this Plan's vision is to be achieved, stakeholders, including the County, must acknowledge and accept that there is an imbalance between the potential land use and the transportation infrastructure necessary to support full development. This Plan recommends proceeding with a revised planning framework that manages future growth through both Master Plan staging and the regulatory review process. The regulatory "checks and balances" require new development to meet adequate public facilities tests, including Transportation Policy Area Review, Local Area Transportation Review, and school capacity, all regulated by the County's Subdivision Staging Policy, which is reviewed and revised regularly. In addition, this Plan's recommended staging will limit and monitor the amount of development that is allowed to proceed prior to the provision of certain infrastructure improvements. In other words, while this Plan is not technically in balance, the Plan's staging recommendations and related regulatory implementation processes (discussed in the Implementation and Staging chapter) will provide a reasonable approach to match future growth with needed public facilities.~~

Add the sentence as shown below to page 42 in the Land Use and Zoning chapter.

Existing Public Uses

The Life Sciences/FDA Village Center includes over 60 acres of publicly owned land and facilities (see Map 10). The State of Maryland has a vehicle emissions station, a full service Maryland Vehicle Administration (MVA) office, a National Guard Armory, and a State Highway Administration (SHA) maintenance facility. A United States Post Office distribution center is adjacent to the SHA facility on Plum Orchard Drive. WSSC has offices and a lab facility on Tech Road on a 10-acre site formerly owned by the Washington Post Company. Montgomery County Public Schools' West Farm Bus Depot sits on a 15-acre site on Bournefield Way. M-NCPPC's Stonehedge Local Park is located on Old Columbia Pike and the Paint Branch Stream Valley Park forms the boundary between the Life Sciences/FDA Village and White Oak centers. The Plan recommends that all properties in this node, including publicly owned land, be rezoned to promote flexibility over the long term. At the same time, the Plan supports the continued operation of public uses in this area with the expectation that existing and future uses can co-exist. When properties adjoining public uses develop or redevelop, proposed non-residential uses and open spaces should be oriented toward the industrial uses to provide a buffer.

The following edits should be made to the Transportation chapter.

TRANSPORTATION

The White Oak area is near a number of major, regional roadways that serve both regional and local traffic (see Map 12). Interstate 95 parallels US 29 two and a half miles to the east in Prince George's County. I-495 forms the southern boundary of the Plan area, with an interchange at New Hampshire Avenue. The 18-mile Intercounty Connector (MD 200) runs east-west between I-95 and I-270 with access via full interchanges on US 29 and New Hampshire Avenue and a partial interchange at Briggs Chaney Road (entrance only for westbound traffic).

In the Plan area, two major highways – US 29 and New Hampshire Avenue – intersect at an interchange and connect the communities of White Oak to each other and to the surrounding region. US 29, the major north-south transportation facility in the eastern County, extends 26 miles from the Maryland/Washington, D.C. line to Howard County. New Hampshire Avenue, which originates in Washington, D.C., traverses Prince George's County before it crosses into Montgomery County where it extends about 25 miles from the County line to MD 108. US 29 is the most critical roadway for this Plan due to its potential impacts on development and the area's future.

Transportation problems, and attempts to solve or relieve traffic congestion, have characterized the eastern County for 30 years. The 1981 *Master Plan for Eastern Montgomery County Planning Area* devised a concept called "transit serviceability" that was deemed problematic and no longer appropriate by the 1997 Master Plans. In 1986, the County imposed a development moratorium in the eastern County through the Adequate Public Facilities Ordinance. In 1990, the County Council adopted a Trip Reduction Amendment to the 1989 Plan. Development has continued to the north in Howard County, increasing regional travel demand and traffic volumes in the US 29 corridor.

Like many suburban locales, the White Oak area has limited options for new vehicular connections. This area is particularly constrained by existing development, ownership patterns, the large federal property, and environmental resources. These physical constraints limit opportunities to improve circulation and connectivity, which forces all local traffic onto the major highways. The federal government will not allow public access through the Federal Research Center, which could otherwise provide a local connection between New Hampshire Avenue and Cherry Hill Road.

The transportation network serving this area will require high quality transit improvements as well as additional road infrastructure to support the potential development envisioned by this Plan. The Plan recommends major infrastructure projects, including a Bus Rapid Transit network.~~, which are phased to support future growth. A biennial monitoring program will assess the pace of development and the need for infrastructure delivery.~~

Traffic Modeling Analysis

A traffic modeling analysis of three different scenarios was conducted to determine the adequacy of the roadway network assumed in each scenario and to identify potential improvements to support development that would achieve the Plan vision. The three scenarios were:

1. The Existing Conditions scenario included all existing development and the existing transportation network.

2. The 2040 Round 8.0 COG Forecast scenario included existing development, pipeline, and some additional development based on existing zoning. It did not include the proposed BRT network. It did include the grade-separated interchanges on US 29 recommended by the 1997 Plans at Stewart Lane, Industrial Parkway/Tech Road (within the Plan area) and at Musgrove Road, Fairland Road, Greencastle Road and Blackburn Road (outside the Plan area). These interchanges, with the exception of US 29 at Industrial Parkway/Tech Road, are currently in the State's FY 2013-2018 Consolidated Transportation Program. This scenario also included extending Industrial Parkway through Site 2 to connect with FDA Boulevard.

3. The Alternative Master Plan Scenario assumed a significantly higher level of development based on the land use associated with the Plan vision for the three activity centers at White Oak, Hillandale, and the Life Sciences/FDA Village Center. It included all of the grade-separated interchanges and road improvements assumed in the 2040 scenario with the addition of rebuilding and reopening the Old Columbia Pike bridge over Paint Branch (that parallels US 29) to vehicular traffic. This scenario also assumed a BRT network. The traffic modeling was based on development recommended in the Public Hearing Draft and certain assumptions about which properties would redevelop. The Planning Board Draft recommends slightly higher densities on several properties, which does not change the modeling assumptions.

The Plan area is located within the Fairland/White Oak Policy Area, which covers most of the eastern County. The traffic modeling analysis included a review of the forecasted speed of travel by automobile for the policy area using the Transportation Policy Area Review (TPAR) methodology. Land use and transportation infrastructure is forecasted to be ~~out of~~in balance in the Fairland/White Oak Policy Area at build-out of the alternative Plan scenario as measured by the Subdivision Staging Policy's TPAR roadway adequacy test. The TPAR test evaluates the forecasted speed of travel on each arterial road within the policy area in its peak direction of travel (as derived from the regional transportation demand model) against uncongested, "free flow" speed, and weight-averages the results of all arterials in a policy area by vehicle miles of travel (VMT). The ratio of forecasted speed to uncongested speed is consistent with the type of analysis recommended by the Transportation Research Board's *Highway Capacity Manual (HCM*).

The Subdivision Staging Policy's roadway adequacy standard for the Fairland/White Oak Policy Area is a minimum ~~45~~42.5 percent ratio of forecast speed to uncongested speed (mid-point of Level of Service "D"). A ratio that is lower than this standard is considered to be inadequate. For the Fairland/White Oak Policy Area, a TPAR analysis was performed assuming that the level of development in the Plan area reaches the build-out amounts in the alternative scenario (see Figure 7). This analysis assumed a BRT network is implemented to serve the Plan area and a 30 percent non-auto driver mode share (NADMS) is achieved for workers within the Plan area. It also assumed that additional interchanges are constructed on US 29 and the bridge over Old Columbia Pike is rebuilt and open to traffic. These recommendations are supportive of reaching area-wide land use-transportation balance in the Fairland/White Oak Policy Area. However, the resulting policy area ratio of 38 percent of forecast speed to uncongested speed is well below the minimum ~~45~~42.5 percent policy area adequacy standard.

When analyzing whether a policy area is in balance, County policy explicitly excludes traffic associated with interstate highways (I-495, I-270, and I-370) and the Intercounty Connector (MD 200) from the area-wide transportation test in recognition of the high proportion of through and regional trips on these roads. ~~US 29~~ would ~~functions, in part, as a limited access facility between the County line and New Hampshire Avenue~~ with the implementation of ~~planned, but un-built, grade-separated along this roadway~~. The corridor is also only one of three (I-495 and I-270 being the others) in the County that has seen an overall increase in Average Annual Daily Traffic (AADT) during the past seven years. This suggests that the corridor functions in a manner similar to I-495 and I-270 in that it has a higher percentage of through trips with longer than average trip length for the segment within the Fairland/White Oak policy area.

The TPAR analysis for this Plan tested a condition assuming all traffic associated with US 29 between New Hampshire Avenue and MD 198 was excluded. This test was based on the assumption that, when the remaining planned grade-separated interchanges are built, the road will function as a limited access freeway through much of the policy area, rather than as a conventional major highway. Another rationale for excluding this roadway segment from the analysis recognizes that significant amounts of US 29 traffic is regional, through travel, similar to traffic on I-270. In the context of this test, the TPAR analysis estimates the ratio of forecast speed to uncongested speed in the policy area to be 42 percent, which is a significant improvement from the 38 percent ratio that included all US 29 traffic (see Figures 5 and 6). ~~However, t~~The policy area 42 percent ratio of forecast speed to uncongested speed is ~~still~~close enough to ~~below~~ the ~~minimum 45~~42.5 percent policy area adequacy standard to achieve roadway adequacy. This finding recognizes the long-range planning horizon of the Plan and the fact that full build-out of the Plan is unlikely.

Traffic forecasts indicate that, while the current intersection performance is generally adequate within the Plan area, in the future it will worsen and reach inadequate service levels at many locations (under any land use scenario) without the construction of the un-built, planned interchanges. ~~Even with the interchanges and BRT, there is an imbalance between land use at total build-out of the alternative Plan scenario and the transportation network.~~

If US 29 is considered a limited access highway in the context of Transportation Policy Area Review, Local Area Transportation Review (LATR) would still be applicable and would have to be addressed by applicants submitting development proposals ~~(unless an Alternative Implementation Mechanism, discussed on page 96, is approved)~~.

At least three key factors contribute to the forecasted area-wide level-of-service conditions in the Fairland/White Oak (FWO) Policy Area described above:

- Regional traffic, primarily from nearby Howard and adjacent Prince George's Counties over which the County has little control, contributes significantly to traffic congestion in the area

- Options to significantly expand local or regional roadway capacity are limited, due largely to existing development and environmental constraints

- Travel within the Plan area represents a sub-set of the amount of travel in the Fairland/White Oak Policy Area. In general, Plan recommendations designed to be supportive of achieving adequate travel conditions in the Plan area (e.g., the achievement of aggressive non-auto driver mode share goals and the realization of transit-oriented development densities) are not applicable to the greater Fairland/White Oak Policy Area.

~~This Plan recommends the Local Area Transportation Review (LATR) standard be raised from 1475 critical lane volume (CLV) to 1600 within the Plan area after significant mobility enhancements – the stage two triggers – have been implemented. At that time, a Transportation Management District should also be established and a policy area created that matches the boundaries of this Plan (see Implementation section). The rationale for a 1600 CLV standard stems from the Plan-recommended BRT network that would serve the area and offer a viable alternative to automobile travel. This is consistent with the County's policy of accepting greater levels of roadway congestion in areas where high quality transit options are available.~~

This Plan recommends the Local Area Transportation Review (LATR) standard be raised from 1475 critical lane volume (CLV) to 1600 within the Plan area. This recommendation is in recognition of the potential for significantly enhanced transit service in the area which will likely be encouraged by the proposed new TPAR transit adequacy test recommended by this Plan. The rationale for a 1600 CLV standard stems from the Plan-recommended BRT network that would serve the area and offer a viable alternative to automobile travel. This is consistent with the County's policy of accepting greater levels of roadway congestion in areas where high quality transit options are available.

Intersection performance, assuming the Master Plan Development Scenario with the *full complement* of un-programmed improvements, is described below and shown on Figure 5. The

full complement of the un-programmed improvements assumed in support of the intersection analysis includes:

- BRT Network
- Old Columbia Pike Bridge opened to vehicular traffic
- Planned US 29 grade-separated interchanges
- New local roads proposed in the Life Sciences/FDA Village Center
- Intersection geometric improvements

Within the Plan area, the following intersection is projected to operate above the recommended standard of 1600 CLV:

- New Hampshire Avenue and Powder Mill Road

Outside of the Plan area, but within the Montgomery County portion of the study area, the following intersections are forecasted to operate above 1600 CLV:

- Old Columbia Pike and Musgrove Road in Fairland
- US 29 and University Boulevard in Four Corners

Outside of the Plan area and within the Prince George's County portion of the study area, the following intersections are forecasted to operate above 1600 CLV:

- Powder Mill Road and Cherry Hill Road
- Fairland Road and Briggs Chaney Road
- Powder Mill Road and Beltsville Road
- Powder Mill Road and Riggs Road

Intersection performance, assuming the Master Plan Development Scenario with a *selected subset* of un-programmed improvements, is described below and shown on Figure 6. The selected subset of un-programmed improvements assumed in support of the intersection analysis includes:

- BRT Network
- Old Columbia Pike Bridge opened to vehicular traffic
- Planned US 29 grade-separated interchanges

Within the Plan area, the following intersections are projected to operate above the recommended standard of 1600 CLV:

- New Hampshire Avenue and Powder Mill Road
- New Hampshire Avenue and Mahan Road/Schindler Lane
- Cherry Hill Road and Broadbirch Drive/Calverton Boulevard
- Cherry Hill Road and Plum Orchard Drive/Cloverpatch Drive
- Cherry Hill Road and FDA Boulevard

Outside of the Plan area, but within the Montgomery County portion of the study area, the following intersections are forecasted to operate above 1600 CLV:

- Old Columbia Pike and Musgrove Road in Fairland
- US 29 and University Boulevard in Four Corners

Outside of the Plan area and within the Prince George's County portion of the study area, the following intersections are forecasted to operate above 1600 CLV:

- Powder Mill Road and Cherry Hill Road
- Fairland Road and Briggs Chaney Road
- Powder Mill Road and Beltsville Road
- Powder Mill Road and Riggs Road

The TPAR Roadway Adequacy Analysis retains and accepts the classification of each Policy Area by its level of transit service: Urban (with ~~and without~~ Metrorail), Suburban, and Rural. TPAR specifies acceptable levels of average roadway congestion levels in the peak traffic directions within each Policy Area where the Adequacy Standard differs from Urban, Transitional Transit Corridor, Suburban, and Rural Policy Areas (see Table 2).

~~Table 2 Standards of Acceptable Roadway Average Level of Service~~
To be Replaced with Revised Table 2 (below)

Proposed Roadway (Arterial) Level of Service Standards	
Policy Area Categories	**Acceptable Average Arterial Level of Service**
Urban with Metrorail	Average congestion of "D/E" borderline in the peak flow directions
Urban without Metrorail	Average congestion of "D/E" borderline in the peak flow directions
Suburban	Average congestion of Mid-"D" or less in the peak flow directions
Rural	Average congestion of "C/D" borderline in the peak flow directions

Revised Table 2 Standards of Acceptable Roadway Average Level of Service

Proposed Roadway (Arterial) Level of Service Standards	
Policy Area Categories	**Acceptable Average Arterial Level of Service**
Urban with Metrorail	Average congestion of "D/E" borderline in the peak flow directions
Transitional Transit Corridor	Mid-way between Urban and Suburban Policy Area Levels of Service in the peak flow directions
Suburban	Average congestion of Mid-"D" or less in the peak flow directions
Rural	Average congestion of "C/D" borderline in the peak flow directions

This Plan recommends that the application of TPAR in the White Oak and Fairland/White Oak policy areas requires~~s~~ that observed transit travel speeds are a minimum 25 percent higher than free-flow travel speeds by automobile in order to achieve transit adequacy. This Plan recognizes the potential of this requirement to encourage the realization of high-quality BRT service in the Plan area.

Travel Demand Management

This Plan recommends a 25 percent Non-Auto Driver Mode Share (NADMS) goal for employees and residents in the White Oak Center and Hillandale Center of the Plan area based on the area's future transit service (assuming BRT) and connectivity opportunities.

This Plan recommends a 30 percent NADMS for all new development, residential and commercial, in the Life Sciences/FDA Village Center of the Plan area based on the area's future transit service and connectivity opportunities.

Mode Share Goals

Non-Auto Driver Mode Share (NADMS) is the percent of travel to work trips via transit (bus or rail), walking, biking, or carpooling during the peak travel period of a typical weekday. Urban areas typically have a high NADMS while rural areas often have a low NADMS. High NADMS numbers typically correspond to urban areas that tend to be more walkable, are better for cyclists, and have a higher level of transit service and a mix of uses.

The location of the Plan area near the edge of the County's urban ring communities is one constraint that results in an NADMS that is below that of Bethesda and Silver Spring — areas with more development density and Metrorail stations. Proposed mode share targets for employees working in the Plan area are based on analysis of observed travel behaviors in other County activity centers with a high quality of transit service. The Plan's NADMS goal is based on a gradient of NADMS, as shown below, which is highest in the urban, down-County planning areas and lower farther from the region's urban core.

Non-Auto Driver Mode Share Goals*

Area	Master Plan Goal
Germantown	25%
WOSG Master Plan	**25-30%**
Bethesda	37%
Silver Spring	50%
White Flint	50%

*With the exception of the WOSG Master Plan Area, all NADMS goals are applicable to ~~E~~employees working in the respective Plan area. See discussion above for the applicability of NADMS goals in the WOSG Master Plan Area.

Based on 2010 U.S. Census data, current non-single occupant vehicle travel to jobs by employees working in the Plan area is estimated at 14 percent. Based on data derived from the County's Census Update Survey, current non-single occupant vehicle travel to work trips by residents living in the Fairland planning area is estimated at roughly 20 percent. As the Plan area becomes a more vibrant mixed-use center, one objective will be to ensure that transit, bicycling, and walking remain viable options for future residents who also choose to work in the Plan area.

The following edits to the Implementation chapter reflect the Planning Board's decision to remove staging from the Master Plan.

IMPLEMENTATION ~~AND STAGING~~

~~Staging~~ Overview

Growth and change must be managed and timed with the delivery of the infrastructure necessary to support it. ~~Transforming the White Oak area requires a transit and road network that will support increased densities and changes to the built environment and mix of uses over a long period of time. This Plan seeks to guide future public and private investment and development in a manner that meets the area's needs thereby collectively benefitting and enhancing the communities of White Oak. This Plan's staging recommendations address the timing of development in relation to the infrastructure needed to support it.~~

The Subdivision Staging Policy (SSP) is used to establish the policies and procedures for administration of the Adequate Public Facilities Ordinance (APFO), which, as of the time of this Plan, involves three tests for adequacy: Transportation Policy Area Review (TPAR), Local Area Transportation Review (LATR), and the Public Schools Facilities Test. The goal of the APFO is to ensure that transportation and school facilities have sufficient capacity for the Planning Board to approve specific projects during the regulatory approval process. The 2012-2016 SSP concluded that the Fairland/White Oak Policy Area (which covers this Plan area and most of the eastern County) has inadequate roadway transportation capacity conditions. Under the current regulatory procedures, any new development in this area must fully mitigate the incremental traffic impact by adding capacity, implementing a trip reduction program, or making a transportation mitigation payment that would contribute toward an eventual improvement addressing the particular inadequacy.

~~In addition to the APFO requirements in the SSP, this Plan recommends staging to ensure that infrastructure, particularly BRT, and other mechanisms to reduce single-occupant vehicle travel, are in place before significant amounts of development (i.e., beyond Stage 1) are allowed to proceed in the three activity centers where the bulk of development is anticipated. Outside of the three centers, development is not subject to the Master Plan staging. Staging helps achieve the desired level of growth and ensures that the transportation network is sufficient to accommodate the next phases of growth. This Plan calls for staging development tied to infrastructure and transportation management goals (see Table 6).~~

~~Experience shows that the full density allowed by zoning is rarely built, and certainly not all at once. Market demand and absorption rates are two of the limiting factors. Therefore, the maximum potential development of the zoning proposed in this Plan is almost certain to be more density than will be used over the life of the Plan. Keeping track of the actual development that occurs will be particularly important to assess how the area is developing, the need for and programming of infrastructure, and whether the vision is being achieved. These issues will be tracked by a biennial monitoring program, as discussed below. This Plan may need to be amended if transit and road infrastructure are not being programmed and constructed.~~

This Plan recommends that the County create a new White Oak Policy Area that is coterminous with the boundaries of the Master Plan area. The SSP will need to be amended to include this new policy area. The new policy area's goals, including more specific non-auto driver mode share (NADMS) targets, should be included in the SSP amendment. ~~and should reflect the creation of an alternative implementation mechanism, as described below~~.

In order to achieve the BRT service needed to support the development recommended in this Plan, all transportation impact taxes, TPAR transportation mitigation payments , and TMD fees collected in this area should be utilized to implement BRT in Fairland/White Oak and White Oak policy areas until the BRT routes are operational.

~~**Alternative Implementation Mechanism**~~

~~This Plan recommends that an alternative implementation mechanism be developed that could replace the customary Adequate Public Facility Ordinance (APFO) review process and/or transportation impact taxes, in whole or in part. This Plan will be implemented over a long period of time, on a property-by-property basis, through a combination of public and private initiatives such as redevelopment and upgrading of private properties; public projects funded through Federal, State, and County Capital Improvement Programs; and public/private partnership projects. In addition to these implementation methods, other sources for funding infrastructure improvements need to be pursued, such as a development district, a transportation impact tax, or a special benefit assessment.~~

~~Achieving this Plan's vision will be challenging given the scale, type, and cost of the transportation infrastructure necessary to support future development. The Plan recommends that an alternative implementation mechanism be developed that would identify solutions to these challenges. The goals of the alternative implementation mechanism should include reducing single-occupant vehicle trips, providing sureties to ensure the achievement of NADMS targets, and creating an alternative to the standard APFO review process for private financing of transportation infrastructure. Applicants would have the option to either follow the regular development process or utilize the alternative implementation mechanism.~~

~~Once this Master Plan is approved and adopted, the County Council should establish a Technical Work Group (TWG) to devise and work out the details of an alternative implementation mechanism that will help achieve the Plan's goals and vision. The TWG should include all relevant public and private sector stakeholders involved with implementing the Master Plan (including the Planning Department, County and State agencies, property owners, and the local community). The County Council should direct that, within nine months of its formation, the TWG produce an alternative implementation mechanism for the Planning Board to evaluate as part of an SSP amendment, which will be considered by the County Council.~~

~~Any alternative implementation mechanism must involve County and State or Federal partnerships with the private sector and should, at a minimum, include the following elements:~~

- An equitably shared transportation funding program that adequately finances the necessary infrastructure improvements and creates alternatives that will encourage non-single-occupant vehicle trips.
- An adequate infrastructure financing and construction phasing plan to ensure planning, design, and construction of the transportation infrastructure needed to serve the new development in a timely manner, as well as a procedure for allocating implementation costs to individual projects.
- A requirement that each new project or any redevelopment within the Plan area achieve a minimum 30 percent NADMS at full build-out. For phased development projects, prior to full build-out, at specified phases of the project, the developer should commit to a graduated NADMS goal at the time of regulatory approval, with implementation guaranteed by adequate sureties. For smaller, or single-phase, projects the TWG should propose an appropriate NADMS target and/or methods for smaller projects to participate most effectively in the White Oak Transportation Management District.
- An independent and comprehensive monitoring and verification program to track NADMS at all development phases and ensure timely delivery of the transportation infrastructure.
- All funding from the alternative implementation mechanism should go toward transit that improves mobility and increases NADMS in the Plan area.

Staging Requirements

Within the Plan area, there is currently about 11 million square feet of existing commercial development and half of this amount, 5.5 million, consists of the FDA's headquarters facility on New Hampshire Avenue and the Army's Adelphi Laboratory Center on Powder Mill Road at the County line. Approximately 3.4 million commercial square feet are in the Life Sciences/FDA Village Center area; another one million is in the White Oak area, half of which consists of retail uses at the White Oak Shopping Center; and there are 750,000 square feet of commercial space in Hillandale, including the shopping center, several office buildings, and the National Labor College. There are 7,118 existing dwelling units in the Plan area, of which 4,858 are multi-family and 2,260 are single-family (includes townhouses).

There is just over one million square feet of approved, un-built development in the "pipeline," most of which is Washington Adventist Hospital (about 802,000 square feet). The remaining approved, un-built development (225,000 square feet) was allocated by the original West Farm preliminary plan to two adjacent sites on Plum Orchard Drive that are now publicly-owned, the SHA maintenance facility and the United States Postal Service distribution center. Table 5 summarizes existing development, COG forecast development, and this Plan's alternative development scenario.

Through the 1990 *Trip Reduction Amendment to the 1981 Eastern Montgomery County Master Plan*, trip reduction restrictions were placed on certain properties in the Cherry Hill Road Employment Area. This Plan supports the removal of those restrictions so these property owners are not at a disadvantage relative to other developers in the area. Property owners

~~who executed voluntary trip reduction agreements with the Planning Board may take action to have these restrictions removed from the land records.~~

Table 5 should be moved to the Land Use and Zoning chapter (page 28) and the tables should be renumbered.

Table 5 Existing and Potential Development

	Existing	Existing & Approved	2040 COG (adjusted)	2012 Master Plan Scenario*
Commercial (sf)	11,187,298	12,000,000	15,854,064	25,434,851
Single-Family dus	2,260	2,260	2,404	2,785
Multi-Family dus	4,858	4,858	5,194	12,903
Total Dwelling Units	7,118	7,118	7,598	15,688
Jobs	27,688	31,168	40,063	70,312
Plan Area J/H ratio	3.8/1	4.3/1	5.2/1	4.4/1

*Reflects densities from February 2012 traffic modeling; does not reflect the maximum potential densities allowed by the Plan's full recommended zoning.

~~**Stage 1**~~

~~Stage 1 allows for approval of an additional 4 million square feet of new commercial and/or residential development, which reflects the zoning capacity of the portions of the two 1997 Master Plans that this Plan amends, and is the approximate amount of development in the adjusted COG forecast (see Table 5).~~

~~11 million square feet existing commercial development~~
~~+ 1 million approved, un-built (pipeline) commercial development~~
~~+ 4 million square feet of additional new commercial or residential development~~
~~16 million square feet total Stage 1 development~~

~~In Stage 1, the Plan recommends allocating development to each of the three major nodes in recognition of the importance of the individual centers of White Oak, Hillandale, and Life Sciences/FDA Village in successfully achieving this Plan's vision. In Hillandale and White Oak, the ability to add housing in places now exclusively devoted to commercial activity offers a potentially significant redevelopment incentive. In the Life Sciences/FDA Village Center, where redevelopment has already been established as an important County public policy, emphasizing non-residential development in the initial stages appropriately supports that policy.~~

~~Development projects will be required to demonstrate how they are addressing the Plan vision and how the Plan's urban design guidelines (regarding areas such as building relationships, compatibility, and public spaces) for the particular center are being achieved. While the three centers are allocated a total of 6 million square feet, no more than 4 million square feet may be developed in the Plan area in Stage 1. For example, if the White Oak and Hillandale centers receive building permits with 500,000 square feet of new development in each area, there would be 3 million square feet available in the Life Sciences/FDA Center during Stage 1. Or, if~~

~~the White Oak and Hillandale centers receive building permits totaling 750,000 square feet in each center, there would be 2.5 million square feet available in the Life Sciences/FDA Village Center during Stage 1.~~

~~The 4 million square feet of additional new development available in Stage 1 will be geographically allocated to each of three areas (with new development density allocated at the time a building permit is issued) as follows:~~

- ~~*White Oak Center* will have up to 1.5 million square feet for either commercial or residential development or a mix of commercial and residential uses per the recommended zoning.~~
- ~~*Hillandale Center* will have up to 1.5 million square feet for either commercial or residential development or a mix of commercial and residential uses per the recommended CR zones.~~
- ~~*Life Sciences/FDA Village Center* will have up to 3 million square feet of commercial or a combination of commercial and residential development, with residential development limited to a maximum of 1 million square feet.~~

~~The Planning Board may approve a development that does not conform to the above geographical allocation if development activity at the respective Centers proceeds at an uneven pace such that restricting development to these geographical distributions is not in the public interest. If, for example, there are development projects in the Life Sciences/FDA Village Center that exceed the 3 million square feet allocated to that area in Stage 1 and, at the same time, there is no proposed development in the other centers, the Planning Board could decide to allow more than 3 million square feet, but no more than the total of 4 million square feet in Stage 1.~~

~~In addition, if a Preliminary Plan in one of the major activity centers – that is existing and valid when the Plan is approved – expires during the course of Stage 1, the development capacity associated with it becomes available to the major activity center it is in. All of the pipeline development in the Plan area is in the Life Sciences/FDA Village Center and consists primarily of the approval for Washington Adventist Hospital. Currently, this approved, un-built project is part of the 12 million square feet of existing and approved development in Stage 1. If the hospital's Preliminary Plan expires, this amount of development would shift from the category of existing and approved development to the category of additional new development in the Life Sciences/FDA Village Center, while the total in Stage 1 would remain the same.~~

~~A biennial monitoring report will be produced by the Planning Department during the spring of odd-numbered years, starting in 2017. It will include a section describing any recommended amendments to existing Project Description Forms (PDFs) in the CIP or new PDFs to be added to the subsequent biennial CIP (developed for public hearing in the spring of even-numbered years). This monitoring report could also address whether any changes to the Subdivision~~

~~Staging Policy (SSP) or Master Plan staging are needed, a particularly important element considering that the SSP and this Master Plan cannot anticipate the full range of circumstances that will arise in the future. The Planning Board and County Council may consider changes to the SSP at any time (i.e., they need not wait for a biennial review), but they must consider the performance of the SSP at the time of the biennial review.~~

~~Before Stage 1 begins, all of the following must occur:~~

- ~~Approve and adopt the Sectional Map Amendment (SMA).~~
- ~~Create a new Policy Area (a subset of the Fairland/White Oak Policy Area) using the boundaries of the Plan area, but retain the CLV congestion standard for the new Policy Area at 1475.~~
- ~~Establish and fund a White Oak Transportation Management District (TMD) coterminous with the Master Plan boundaries.~~
- ~~Develop a monitoring program within 12 months of adopting the Sectional Map Amendment.~~
- ~~The Planning Board must develop a biennial monitoring program that includes periodic assessment of development approvals, public facilities and amenities, the status of new facilities, and the CIP and SSP as they relate to the White Oak area. The program must include a Comprehensive Local Area Transportation Review (or comparable analysis) that will identify and recommend for Council approval and action specific projects and services necessary to promote adequate transportation service. The program should include a regular assessment of the staging plan and determine if any modifications to the Master Plan or SSP are necessary. The biennial monitoring report must be submitted to the Council and Executive prior to the development of the biennial CIP.~~
- ~~The Planning Board must establish an advisory committee of property owners, residents and interested groups that are stakeholders in the redevelopment of the Plan area, as well as representatives from the Executive Branch, to evaluate the assumptions made regarding congestion levels and transit use. The committee's responsibilities should include monitoring the Plan recommendations, identifying new projects for the Amenity Fund, monitoring the CIP and SSP, and recommending action by the Planning Board and County Council to address issues that may arise.~~
- ~~Document the baseline non-auto driver mode share (NADMS) for the new policy area through monitoring and traffic counts.~~

~~Stage 2~~

~~16 million square feet of Stage 1 development~~
~~+5 million square feet of Stage 2 additional new commercial development~~
~~+2000 Total Stage 2 additional residential dwelling units~~

~~Before Stage 2 begins, the following must occur:~~

- ~~The County Council must increase the CLV congestion standard for the new Policy Area that was created in Stage 1 to 1600 (which is the current standard in Bethesda/Chevy Chase, Kensington/Wheaton, Silver Spring/Takoma Park and the Germantown Town Center).~~

~~In addition, before Stage 2 begins, mobility enhancements must be achieved and must include programming of one of the following infrastructure improvements:~~

- ~~BRT on US 29 from the Silver Spring Transit Center to the Burtonsville Park and Ride Station must be fully funded for implementation and construction within the first six years of the County's CIP or the State's Consolidated Transportation Program (CTP).~~

~~OR~~

- ~~BRT on New Hampshire Avenue from US 29 to the Takoma/Langley Transit Center must be fully funded for implementation and construction within the first six years of the County's CIP or the State's Consolidated Transportation Program (CTP).~~

~~OR~~

- ~~Mobility improvements identified by the most recent biennial monitoring review that provide transit capacity equivalent to one of the BRT segments listed above must be fully funded for implementation and construction within the first six years of the County's CIP or the State's Consolidated Transportation Program (CTP).~~

~~OR~~

- ~~Development can proceed beyond Stage 1 if all Stage 1 development has received a use and occupancy permit and, based on a comprehensive mobility assessment by the Planning Department and Planning Board, the County Council decides through an SSP amendment that mobility is adequate to support some or all of the Stage 2 development.~~

~~**Stage 3**~~

~~21 million square feet of Stage 1 and Stage 2 development~~
~~+ Any additional development allowed by zoning~~

~~Before Stage 3 begins, all of the following must occur:~~

- ~~The three activity centers (see Map 5 on page 27) have attained on average at least 25 percent NADMS for all redevelopment and new development, as confirmed by the White Oak Transportation Management District.~~
- ~~BRT on US 29 must be operating from the Silver Spring Transit Center to the Burtonsville Park and Ride Station (alone or in combination with the New Hampshire Avenue BRT described in Stage 2 above).~~
- ~~If BRT on New Hampshire Avenue from the Colesville Park and Ride Station to the Takoma/Langley Transit Center has not yet been programmed, it must be fully funded for implementation and construction within the first six years of the County's CIP or the State CTP.~~
- ~~Mobility improvements identified by the most recent biennial monitoring review that provide transit capacity equivalent to one of the BRT segments listed above must be fully funded for implementation and construction within the first six years of the County's CIP or the State's Consolidated Transportation Program (CTP).~~

~~**Table 6 Staging Plan Summary**~~

~~**Stage 1**~~ ~~4 million sf commercial or residential development~~	~~**Stage 2**~~ ~~5 million sf commercial 2000 dwelling units~~	~~**Stage 3**~~ ~~remaining development allowed by zoning~~
~~**PREREQUISITES TO EACH STAGE**~~		
~~Approve SMA~~ ~~Develop monitoring program~~ ~~Establish and fund White Oak TMD~~ ~~Create new WOSG Policy Area~~ ~~Document NADMS~~	~~Raise WOSG Policy Area CLV to 1600~~ ~~Fund US 29 BRT~~ ~~***OR***~~ ~~Fund New Hampshire Avenue BRT~~ ~~***OR***~~ ~~Mobility improvements that provide equivalent capacity to BRT are fully funded for construction~~ ~~***OR***~~ ~~After a comprehensive mobility assessment, if the Council decides through an SSP amendment that mobility is adequate, and all Stage 1 development has use and occupancy permits, development can proceed~~	~~US 29 BRT is operational~~ ~~Fund New Hampshire Avenue BRT if this did not occur in Stage 2~~ ~~Mobility improvements that provide equivalent capacity to BRT are fully funded for construction~~ ~~Three activity centers have attained on average at least 25% NADMS~~

~~Development capacity in each stage will be allocated at building permit (rather than at Preliminary Plan) through a Staging Allocation Request (SAR).~~

Sectional Map Amendment

Following the Plan's approval by the County Council and adoption by The Maryland-National Capital Park and Planning Commission, a Sectional Map Amendment (SMA) will apply the Plan's recommended zoning to the official zoning map of the County.

Design Guidelines

The Planning Board will approve design guidelines that will help guide developers, the community, and staff in implementing the Plan.

Public Benefits in the CR Zone

The CR Zone has two development methods: standard and optional. The standard method allows up to 0.5 FAR in the CR Zone and up to 1.0 FAR in the CRT Zone and requires compliance with a specific set of development standards. The optional method allows for greater density and height but requires projects to provide public benefits to achieve the incentive density above the standard method density. The additional optional method density may be achieved through a series of incentive increases that can be combined to achieve the

maximum allowable density. Public benefits provided under the optional method are drawn from among seven categories outlined in the Zoning Ordinance.

The following list of public benefits should be considered priorities during project development and review of optional method projects in the CR Zone within the boundaries of this Plan. This list is not mandatory nor does it preclude consideration of other benefits listed in the CR Zone to achieve the maximum permitted FAR. The requested benefits should be analyzed to make sure that they are the most suitable for a particular location, are consistent with the Plan's vision, and that they will satisfy the changing needs of the area over time. When selecting these benefits, the Planning Board should consider community needs as a determining factor.

- Major public facilities
  - Bus Rapid Transit
  - Bus circulator to connect centers to BRT stations
  - Elementary school
  - Parks and Trails
- Transit proximity
- Connectivity between uses, activities, and mobility options
  - Trip mitigation
  - Neighborhood Services
  - Streetscape
  - Way-finding
- Diversity of uses and activities
  - Affordable Housing
  - Dwelling Unit Mix
  - Care Centers
- Quality building and site design
  - Structured Parking
  - Public Open Space
- Protection and Enhancement of the Natural Environment
  - Energy Conservation and Generation
  - Tree Canopy

County Capital Improvements Program

The Capital Improvements Program (CIP), which is funded by the County Council and implemented by County agencies, establishes how and when construction projects are completed. The CIP cycle starts every two years when regional advisory committees and the M-NCPPC hold forums to discuss proposed items for the six-year CIP. ~~This Plan's land use and staging recommendations will require the inclusion of the following projects as elements of the CIP. Some projects may include private sector participation.~~

In the Plan area, priority should be given to the following CIP projects:

- bus rapid transit ~~(as described in this Plan's staging element)~~

- reonstructing the Old Columbia Pike bridge over the Paint Branch
- a new elementary school, if needed
- routes and facilities in the proposed bike and trail network, particularly the shared use loops in the Life Sciences/FDA Village Center and in the White Oak Center, including the proposed connection to FDA.