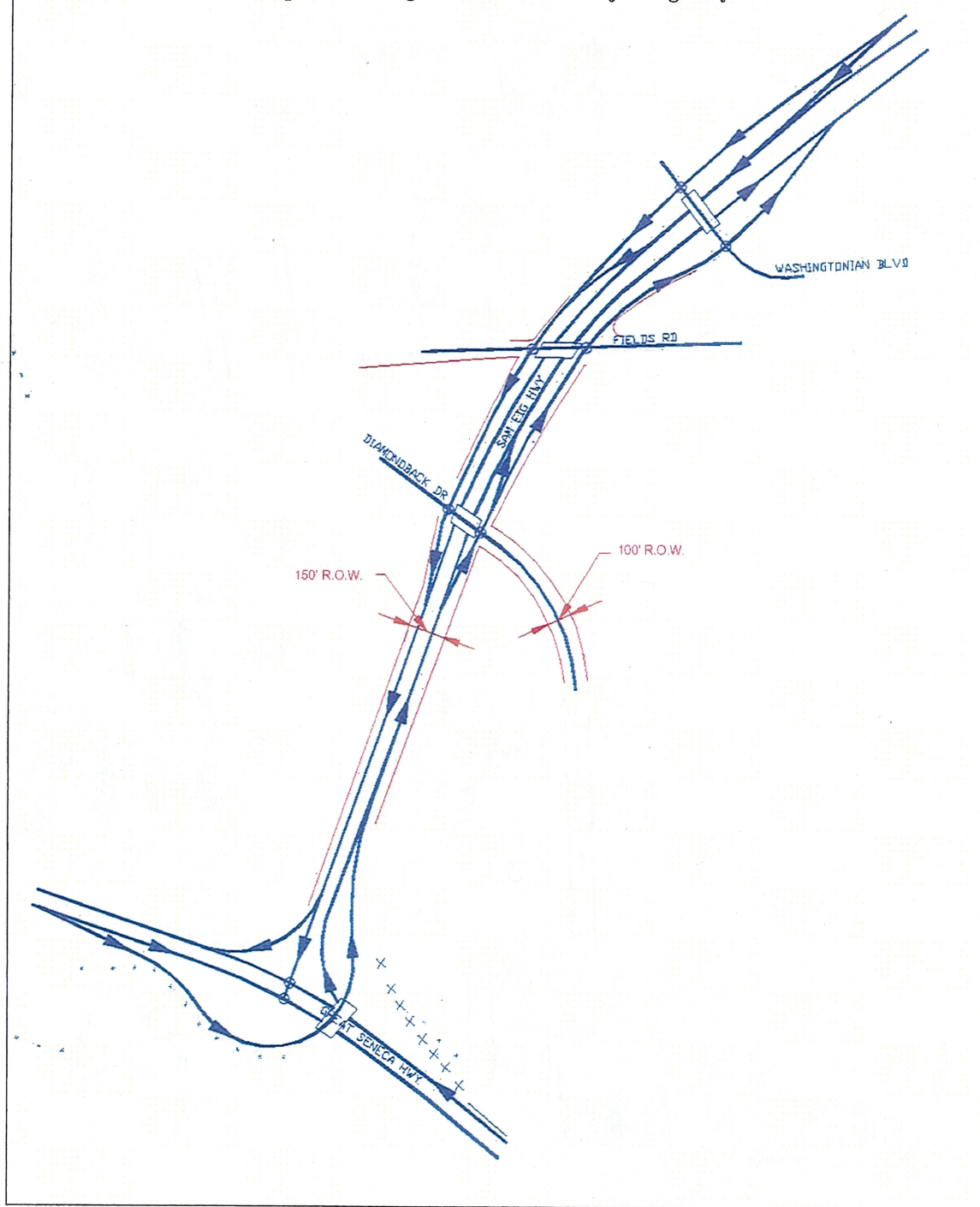


**Figure 17: Illustrative concept of Sam Eig as a Controlled Major Highway**



**Key West Avenue (MD 28)**

This Plan shows the need to accommodate buildout levels of development on an expanded roadway network. The predominant east-west vehicle movement in the Plan area is accommodated on Key West Avenue, following construction efforts to expand that roadway and reroute through traffic to it, as evidenced by its designation as MD Route 28.

Were buildout levels of proposed land uses to occur, in order to proceed to that level of development in accordance with the staging plan, this plan sees the need to ultimately reconstruct Key West Avenue (MD 28) within a 200' wide right-of-way between Great Seneca Highway and Shady Grove Road to provide a consistent design treatment including a wide landscaped median, four through travel lanes (in each direction), and a separate curb lane that can provide multiple functions. During peak periods, the curb lane should serve as a through lane for transit vehicles only and a right turn lane for other vehicles.

The staging recommendations in the Plan require a decision on the ultimate configuration for Key West Avenue prior to Stage 3 of development (buildout). The recommended 200' wide right-of-way would facilitate the development of urban-diamond interchanges at Great Seneca Highway and Shady Grove Road with Key West Avenue elevated above the cross streets. The roadway would need to be reconstructed as an urban boulevard between the two interchanges, and the distance between existing building faces would accommodate the wider right-of-way.

### **Longdraft Road (A-33)**

Longdraft Road forms the boundary between the City of Gaithersburg and the Gaithersburg West Master Plan. The east side of Longdraft Road is in the City of Gaithersburg and the west side is part of this Master Plan. The 1985 Master Plan classified Longdraft Road from Pheasant Run Drive (in the City of Gaithersburg) to the railroad as an arterial (A-33). The 1985 Plan also identified sections of Longdraft Road and Watkins Mill Road as an arterial route (A-17) that would extend from Quince Orchard Road to Great Seneca Creek with a recommended right-of-way of 80 feet and 4 travel lanes. This proposed route assumed that Watkins Mill Road would be extended from its current terminus at Route 355, across I-270. At Clopper Road, Pheasant Run Drive would connect Watkins Mill Road with Longdraft Road.

At the request of the City of Gaithersburg, the County Department of Transportation (DOT) studied this route and recommended using Clopper Road, rather than Pheasant Run Drive, as a link between Watkins Mill Road extended and Longdraft Road. This Plan recommends that Longdraft Road and Watkins Mill Road be classified separately as A-33 and A-17, respectively. This Plan recommends that the arterial designation for the northernmost portion of Longdraft Road, from Clopper Road to the railroad, be removed.

In 2004, DOT initiated a facility planning study for Longdraft Road from Quince Orchard Road to Clopper Road. The study examined whether this 2-lane, 1 1/2 mile section of Longdraft Road should be widened to accommodate existing and future traffic projections. In addition to potential roadway improvements, the study examined bicycle and pedestrian enhancements. In July, 2008 the County Council T&E Committee determined the Longdraft Road facility planning study should not proceed to Phase II, referring the elements recommended by the Planning Board and resident Coalition to other programs within DOT's capital and operating budgets to move forward. By doing so these elements likely will be implemented sooner than if they remained within a project planning study.



- Renumber Longdraft Road as A-33 (from A-17) from Quince Orchard Road to Clopper Road (excluding the section from Longdraft Court to Golden Post Lane, which is completely within the City of Gaithersburg).
- Remove the arterial designation of Longdraft Road north of Clopper Road to the railroad.

### **Watkins Mill Road (A-17)**

As discussed above, Watkins Mill Road and Longdraft Road were recommended in the 1985 Master Plan as an arterial route (A-17) from Quince Orchard Road on the south to Great Seneca Creek on the north. This Plan recommends that the two roads continue to be designated as arterials, but considered as separate routes with individual numbers. A portion of Watkins Mill Road (from Route 355 to just north of Windbrooke Drive) is in the City of Gaithersburg and is designated as an arterial. The City of Gaithersburg has planned an extension of Watkins Mill Road south of Route 355 to Clopper Road, with a new interchange at I-270. The extension of Watkins Mill Road and the new I-270 interchange are funded for planning and engineering in the State's 2004 Comprehensive Transportation Program. This Plan supports the City's efforts to complete this connection.

Watkins Mill Road from Windbrooke Drive to Great Seneca Creek is in Montgomery Village and is not within the boundaries of the Gaithersburg West Master Plan. There are four public schools along this section of Watkins Mill Road and the community has raised concerns about traffic safety. The 2004 CIP included a traffic calming project to analyze options to reduce travel speed and improve safety on this road. This project is required by the County Council before construction of a new interchange at I-270 and Watkins Mill Road extended.

- Classify Watkins Mill Road (A-17) from Great Seneca Creek to 400 feet north of Windbrooke Drive as an arterial with an 80-foot right-of-way and 4 lanes.
- List the right-of-way requirements for Watkins Mill Road from Clopper Road to 400 feet north of Windbrooke Drive as "not applicable," since this section is in the City of Gaithersburg.
- Support further study to address traffic safety and the potential for traffic calming measures along Watkins Mill Road in Montgomery Village.
- Support the extension of Watkins Mill Road from Route 355 to Clopper Road in the City of Gaithersburg.

The Plan recommendations also include:

- Removal of the proposed grade-separated interchange between Darnestown Road and Shady Grove Road, as the intersection is forecast to operate near capacity with an at-grade solution. Land use and travel demand distribution will focus east-west travel along Key West Avenue (MD 28), requiring a higher infrastructure investment at plan build-out, including a grade-separated interchange at Key West Avenue junction with Shady Grove Road.
- Retention of Darnestown Road as a four-lane arterial, recognizing adjacent community interest in a down-classification of the roadway but also the need for four lanes of capacity and an arterial function
- Retention of Game Preserve Road as an unclassified master plan roadway, recognizing adjacent community and Rustic Road Advisory Committee interest in a rustic road classification. Analysis performed during plan development indicates that the roadway currently has safety concerns that do not support rustic road classification. The interest in

reclassification is prompted in part by concerns regarding through traffic that will be reduced by the completion of the parallel arterial Watkins Mill Road between MD 355 and MD 117.

- Reduction in the number of through travel lanes on Oakmont Avenue from four lanes to two lanes, but retention of a reconstructed Deer Park Bridge over the CSX tracks, recognizing the need to retain a grade-separated arterial roadway function for the adjacent commercial area and neighboring communities.



## **Master Planned Business Streets**

The Gaithersburg West Master Plan has a street network that includes major highways, arterials, and master-planned business streets. These streets are required elements of the Master Plan and associated development; these streets should be built according to County design standards to accommodate both regional (for major highways and arterials) and local (for business streets) travel needs.

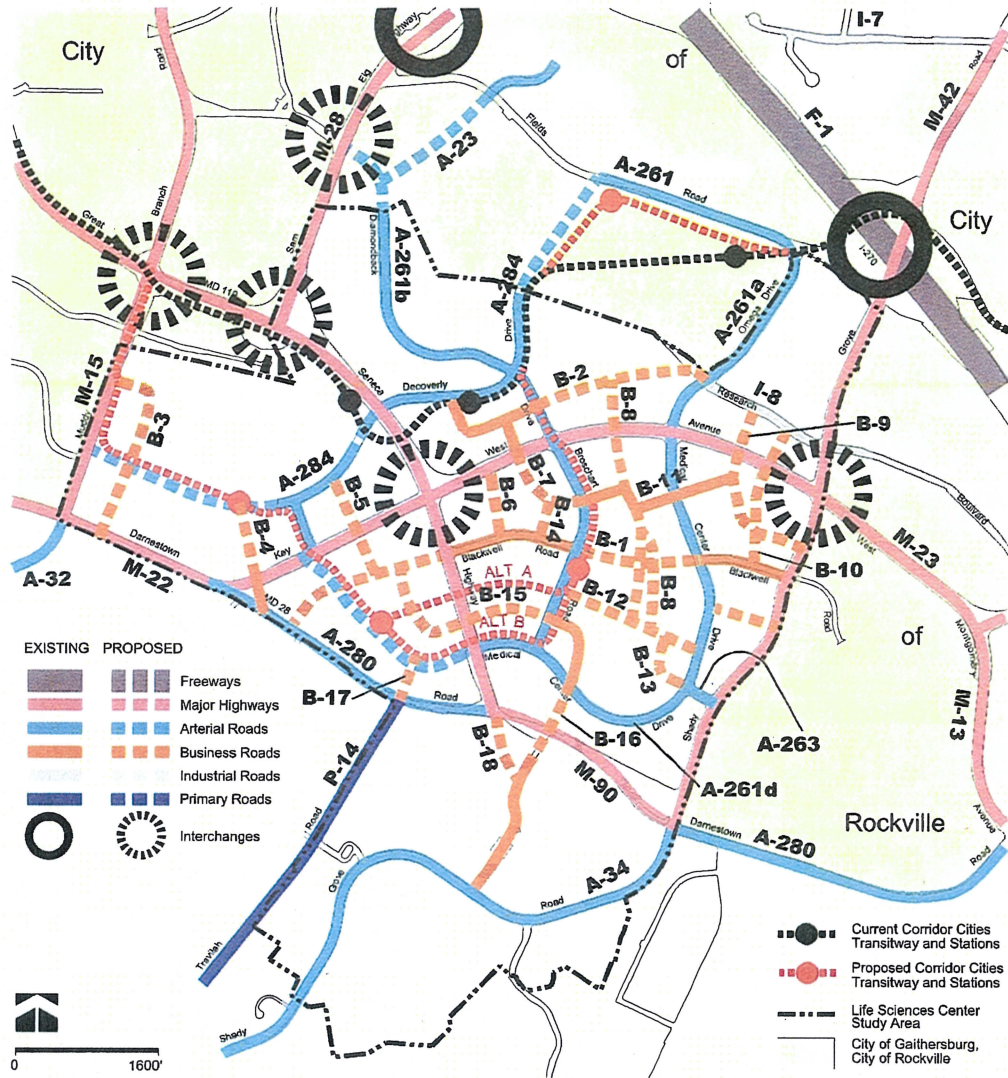
Section 49-31 of the County Code defines the functional classification system for roadways, including:

- A Major Highway is a road meant nearly exclusively for through movement of vehicles at a moderate speed. Access must be primarily from grade-separated interchanges and at-grade intersections with public roads, although driveway access is acceptable in urban and denser suburban settings.
- An Arterial is a road meant primarily for through movement of vehicles at a moderate speed, although some access to abutting property is expected.
- A Business District Street is a road meant for circulation in commercial and mixed-use zones.
- A Primary Residential Street is a road meant primarily for circulation in residential zones, although some through traffic is expected.

The Gaithersburg West Master Plan takes into consideration the County's Road Code (Chapter 49) developed in 2006 and design standards (Executive Regulation 31-08) developed in 2007 and 2008. Executive Regulation 31-08 stresses the need to develop context-sensitive solutions; street designs that reflect and emphasize the planned adjacent land uses. The design guidance reflects that while the County formally has rural, suburban, and urban areas, a continuum exists both across and within those three designations.

The business street system is therefore intended to be a slow-speed environment, with both the public and private realms designed to emphasize a 30 MPH target speed.

Figure 18: LSC Street Network



### Secondary Grid of Local Streets

The Figure on page 37 of the Plan describes a secondary street system that will be developed to nest within the Major Highway and Arterial street system. These streets are designed to facilitate site access (particularly for the larger development sites) and improve the granularity and permeability of the network to enhance pedestrian and bicycle mobility.

In addition to pedestrian connectivity, the tighter grid of roads can extend operational flexibility options such as left turn restrictions at major congested intersections and access management along major roads. These business streets are predominantly two lanes, with parking on one (60' wide ROW) or both sides (70' or 100' ROW). They should include curb extensions at crosswalks to further reduce pedestrian exposure to vehicular traffic.



The locations of roads (in the Master Plan of Highways figure on page 37) where development is in place provide an opportunity to thread between existing buildings and environmental constraints while still providing a grid network for pedestrians and vehicles. Their final alignments will be subject to further engineering evaluation at the time of new development or redevelopment.

Notable new roads include:

- B-1, Blackwell Road should be extended on to the PSTA site to Medical Center Drive Extended (A-261d), or if possible, to Darnestown Road so as to provide a business district road parallel to Key West Avenue specific to the LSC.
- B-2, a new road connection of the Discoverly development access road to Research Boulevard.
- B-3, B-4, new roads to connect the LSC Belward District to the highway network. Connection to the existing signalized intersection with Darnestown Road helps preserve mobility for pedestrians as well as vehicles.
- B-8, a new road connecting the LSC Central District to Key West Avenue. The section south of Blackwell is shown as split into two one way pairs with a green, walkable space between to take advantage of the space between existing hospital buildings.
- B-16, a new road connection from Medical Center Drive to Travilah Gateway Drive. This connection, also constructed as a local business district street, would provide a direct pedestrian connection across Darnestown Road between the LSC Central District CCT stop, the Universities at Shady Grove (USG) site and the Traville development. It may also be necessary to realign the current USG entrance of Travilah Gateway Drive to better match a new road opposite Darnestown Road.
- B-18, would be a new road extending Great Seneca Highway south of Darnestown Road to connect to Travilah Gateway Drive. The connection, constructed as a local business district street, would also provide a direct pedestrian connection across Darnestown Road into LSC South along the most direct path for persons walking from a future CCT stop on the PSTA site. This connection would provide an additional access point at an already signalized location.

## D. Bicycle and Pedestrian System

The bicycle and pedestrian system recommendations for Gaithersburg West will be implemented through a combination of land use and zoning policies, local street network implementation, and pedestrian access and safety improvements.

### Bikeway Network

Figures on pages 70 and 73 of the Draft Master Plan propose a bikeway system with three key elements:

- An off-road, shared-use path system that connects

Gaithersburg West to other areas of the County via

- bikeways adopted in the Countywide Bikeways Functional Master Plan (2005)
- Shared-use paths along major highways and arterial roadways, separating cyclists from higher speed vehicles
- An emphasis on slower, signed-shared bikeways on new roadways within the Life Sciences Center area. These roads would use a 30 MPH target speed to facilitate shared space, rather than separated modal facilities and the Road Code emphasis on bike accommodation on all streets.

Off-road shared use paths and on-road bicycle accommodations serve different users; where a majority of the avid cycling community is interested in quality on-road bike accommodation. However, the higher speeds of the highways and arterials in the plan area encourage separation of cyclists from vehicles on those roads. The number of off-road paths in the Plan is therefore significant; building on the adopted paths from the Countywide Bikeways Functional Master Plan.

In September 2007, the Planning Board supported the staff position on the Road Code that generally marked bike lanes should be provided as a matter of course on roads with daily traffic volumes of more than 20,000 vehicles per day or a posted speed of 45 MPH or greater.

### Pedestrian and bicyclist access and safety

Pedestrian and bicyclist access and safety in the LSC area will be pursued through several initiatives, including:

- design standards to implement the County's Road Code,



Figure 19: Gaithersburg West and LSC Bike Network



- design guidelines for private sector development in the plan area,
- zoning requirements for bicycle parking and other amenities, and
- engineering, education, and enforcement programs under the County Executive's Pedestrian Safety Initiative.

In 2007, the County Council adopted several amendments to Chapter 49 of the County Code concerning streets and roads to improve pedestrian and bicycle accommodation, stormwater management, and context-sensitive design. In December 2008, the Council approved Executive Regulation 31-08 AM, Context Sensitive Road Design Standards, which specify certain design standards and processes for implementing the revised road construction code, most notably the typical cross-section standards for many types of roads and streets, the required stormwater management criteria for capturing runoff within the right-of-way, and considerations for establishing target speeds and street tree placement. Continued effort is needed to complete the range of street design standards and intersection design standards that will be needed to promote pedestrian and bicyclist access and safety in new or reconstructed roadway design.

The Planning Board will adopt Design Guidelines within the LSC that will provide guidance for the pedestrian realm to improve access, comfort and safety, including:

- building orientation to maximize pedestrian accessibility
- street tree planting
- design treatments for sidewalks and driveways
- street lighting
- signing and marking

The draft Plan proposes application of the LSC zone for much of the LSC area. This zone is designed to facilitate pedestrian access and safety through several means:

- pedestrian-oriented activity at street level with uses such as storefront retail and restaurants,
- safety-oriented environmental design including clearly marked sidewalks and crosswalks,
- street trees providing canopy and landscaping on all streets, including street furniture such as benches, trash receptacles, and planters, and
- continuous, direct, and convenient connections to transit stations for pedestrians and bicyclists.

As both public and private sector projects are implemented, all agencies need to elevate pedestrian and bicycle access and safety considerations in the review of design and operational elements, including:

- maximum curb radii of 30',
- signal timing, including pedestrian countdown signals that provide the ability to complete roadway crossing at a speed of 2.5 feet per second or slower, and at

least five seconds of startup time (and greater time where pedestrian volumes result in platooning),

- maximum crosswalk lengths of 60' between pedestrian refuges
- accessible bus stop locations at or near marked crosswalks,
- signing and marking per the Manual on Uniform Traffic Control Devices, including marked crosswalks on all approaches to signalized intersections and elimination of lane markings across intersections,
- street lighting designed to improve the visibility of pedestrians at levels specified by the Illuminating Engineering Society of North America, and
- design of mixed-use streets and pedestrian walkways/alleys using Crime Prevention Through Environmental Design criteria.

### **E. Staging**

The Gaithersburg West Master Plan recommends a staged implementation that requires the completion of certain transportation infrastructure within each stage and a progressive achievement toward the planned NADMS in stages generally proportional to the assumed land use growth. Approximately 3.7 million square feet of non-residential development is approved and un-built in the LSC pipeline of development. This increment of development is not subject to the Plans's staging requirements as long as a project's Preliminary Plan continues to be valid. The following staging requirements apply to the LSC Central, West, and Belward Districts.

#### *Stage 1*

Before Stage 1 begins, the following actions must take place:

- Fund and begin operating the Greater Shady Grove Transportation Management District (TMD);
- Create a LSC policy area with urban standards and characteristics;
- Document the baseline of non-auto driver mode share (estimated at 16%) through monitoring and traffic counts and;
- Include the entirety of the Rickman property, located along Travilah Road, into the new LSC Policy Area.

Stage 1 allows up to 6 million square feet (including existing and pipeline of development) of non-residential development recommended by this Plan. This increment of development is calculated at the low end of density that reasonably supports higher investment in transit such as Bus Rapid Transit, one of the modes being considered for the CCT. The initial review of this Plan's land use recommendations, facility needs, and staging is expected to occur during Stage 1.

#### *Stage 2*

Before Stage 2 begins, the following actions must take place:



- Relocate the Public Service Training Academy (PSTA);
- Fund the CCT from the Shady Grove Metro Station to Belward property in the County's six-year Capital Improvement Program (CIP) or State Consolidated Transportation Plan (CTP);
- Fund the LSC Loop trail in the County's six-year CIP;
- Construct and open to traffic a least one public street connection across both the Belward property and the PSTA to provide a direct connection between Key West Avenue, Muddy Branch Road, and Great Seneca Highway and;
- Document a five percentage point increase over the baseline for the non-auto driver mode share.

Stage 2 allows up to 12 million square feet (including existing and pipeline development) of non-residential development recommended by this Plan.

### *Stage 3*

Before Stage 3 begins, the following actions must take place:

- Begin operating the CCT from the Shady Grove Metro to Clarksburg;
- Determine the need for an elementary school in LSC West (on the PSTA site);
- Document a 15 percentage point increase over the baseline for non-auto driver mode share and;
- Fully fund the widening of Key West Avenue and the interchanges the LSC area, or transportation projects providing equivalent mobility, in the County's six-year CIP or the State CTP.

Stage 3 allows up to 15 million square feet (including existing and pipeline development) of non-residential development.

### *Plan Evaluation Six Years After Adoption*

State law requires revisiting master plans every six years. This Plan's review will be particularly important in assessing how the area is developing, impacts on infrastructure delivery, and if the vision is being achieved. The review of the Plan should examine:

- the ratio of jobs to housing – are local workers occupying the housing?;
- the built form's evolution;
- absorption rates to determine the rate of needed infrastructure delivery;
- costs to the County;
- the CCT's delivery schedule;
- traffic generation and roadway performance and;
- the area institutions' investment in the Plan's vision.