

TRANSPORTATION

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TRANSPORTATION

The transportation strategy has been designed to maximize the use of transit, pedestrian, and bicycle amenities, to encourage a shift – from private autos to alternative, more sustainable modes of transportation, consistent with the City’s Transportation Master Plan. As set out in the City’s Eco-City Plan as well as the Urban Ecology - Sustainability Chapter (Chapter 6), transportation plays a key role as the Plan area redevelops and as residents, and visitors are offered a number of mode choices with which to travel.

The geography that gives Beauregard its special character – also somewhat constrains traditional roadway street-grid connectivity. The topography, I-395, existing roadways, developed parcels, and existing parks limit some opportunities for additional east-west streets. However, the Plan recommends a significant increase in the existing street network through the provision of the required street grid. In addition, the transportation network is required to include a dedicated high capacity transit corridor, buses, shuttles, car sharing, pedestrian amenities, and bicycle facilities. An aggressive Transportation Management Plan (TMP) will be required and parking will be managed, shared, priced, and designed to minimize car trips. The Plan is designed to allow employees and residents access to commercial and transit services within a traditional 1/4 mile walk-shed. Recommendations include strategies to manage transportation demand, expansion of the street grid and connectivity, provide additional transit capacity, incorporate an expansive bicycle and pedestrian network and create a culture of people first in a complete streets context.

A. TRANSPORTATION NETWORK:

The transportation network builds on the existing network of primary and local streets, by developing a new street grid to the extent possible, within the Plan area, to distribute vehicular traffic, improve traffic flow, and increase pedestrian and bicycle connectivity (Figure 49A). As part of

the transportation analysis, a number of transportation network improvements were determined to be needed. The improvements described below, as well as other proposed transportation improvements needed by 2035 are further described in Figure 50 and Table 6.

- **Ellipse at Seminary Road / Beauregard Street** – An Ellipse at the intersection of Seminary Road and Beauregard Street will improve the traffic flow. The Ellipse will eliminate left turns from both directions along Seminary Road, and redirect those movements in a configuration similar to a traffic circle in a more efficient manner as right turns.

The primary benefit of the Ellipse is that its configuration reduces potential conflict points due to the elimination of the left turn movements along Seminary Road. It also provides more capacity for vehicle storage and therefore improves overall traffic operations along Seminary Road and North Beauregard Street. Other benefits of the Ellipse include improved pedestrian and bicycle access across Seminary Road, and improved aesthetics and opportunities for a better urban design as compared to today's street configuration.

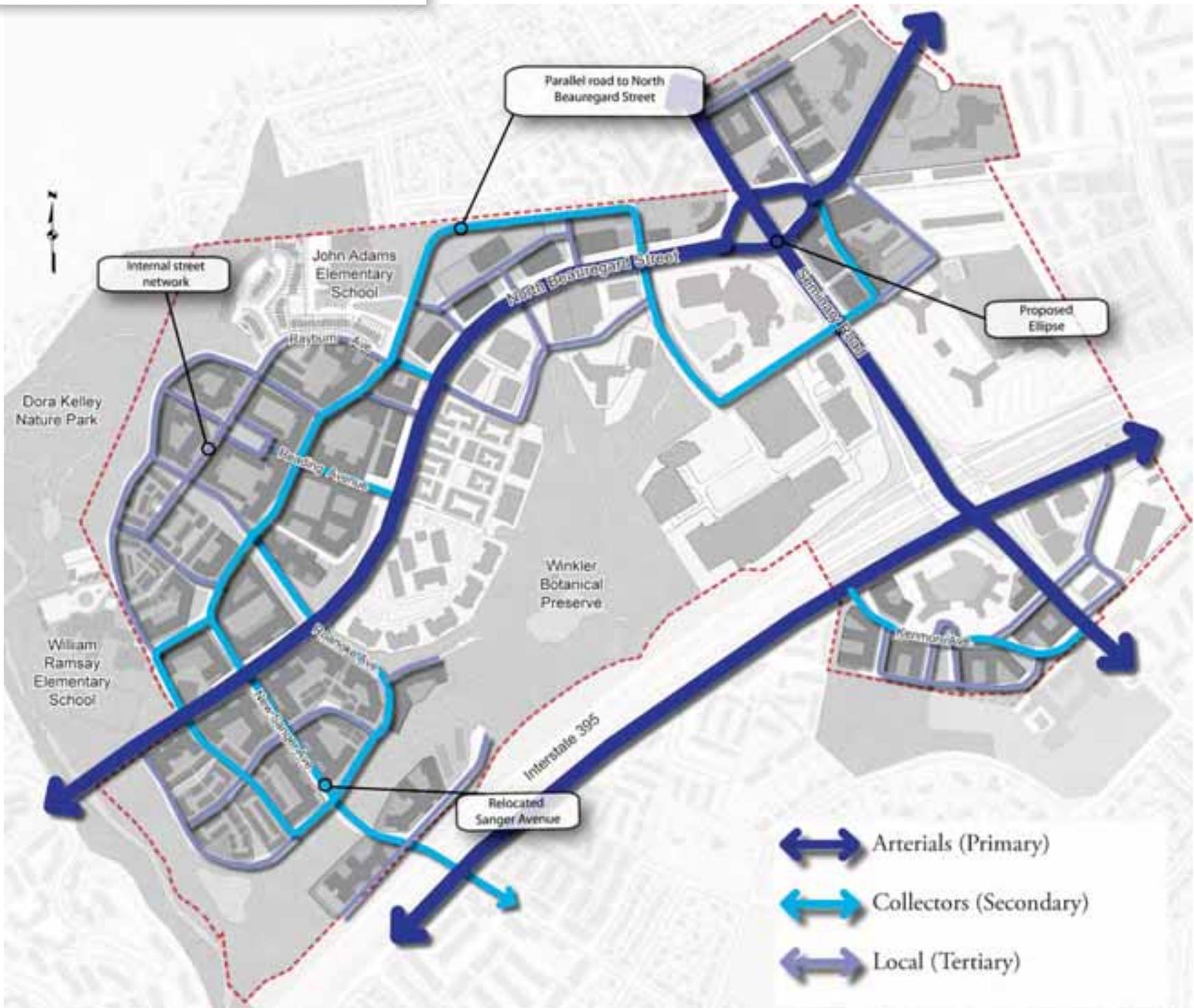
The Plan provides a coordinated opportunity to construct the Ellipse which benefits multiple properties. Due to its scale and cost, and required coordination, construction of the Ellipse would not be possible without the Plan and the roadway network would be overburdened.

- **Parallel Road to Beauregard Street** – The new road will be parallel to Beauregard Street from Sanger Avenue in the south, to Mark Center Drive. It will be a collector type of roadway serving more localized traffic of the Plan area.
- **Transitway** – The transitway in the Plan area will connect to the Van Dorn Metrorail station, using Beauregard Street (with a short diversion through Southern Towers and Mark Center), Sanger Avenue and Van Dorn Street. The transitway is consistent with the City Council approved transitway location. This rapid transit service will also connect to Shirlington and the Pentagon. The transitway will provide access for high capacity transit in a dedicated guideway along most

Transportation Improvements at Ellipse



Figure 49A: Roadway Classifications



of its length, and include elements such as larger stations with real-time information, wayfinding, improved transit headways, and rapid transit vehicles with greater capacity than a typical local bus.

The Transitway has been designed to incorporate enhanced landscaping.

- **Roadway improvements in vicinity of Seminary Road / I-395** – A series of road improvements and pedestrian improvements will be constructed in the vicinity of Seminary Road at Interstate 395, as well as at Beauregard Street and Seminary Road, primarily to help mitigate the recently constructed Washington Headquarters Service BRAC-133 Building.
- **Internal Street Network** – A more interconnected grid of streets will be built to provide pedestrian, cyclist and vehicular connectivity within and adjacent to the Plan area.
- **New High Occupancy Vehicle (HOV) Ramp**—The traffic analysis assumes the proposed new HOV ramp to and from the south at the I-395/Seminary Road interchange. This ramp will be used by high occupancy vehicles, including transit, vanpools and carpools. The need for, and design of the ramp will be fully determined after the pending environmental analysis is complete.
- **Relocated Sanger Avenue**—The segment of existing Sanger Avenue between Sheffield Court and Beauregard Street will be relocated to intersect with Beauregard Street approximately 400 feet north of the existing Sanger Avenue intersection and connect to the new road west of, and parallel to Beauregard Street (Figure 49A).



Figure 49B: North Beauregard Street



Figure 50: Proposed Transportation Improvements

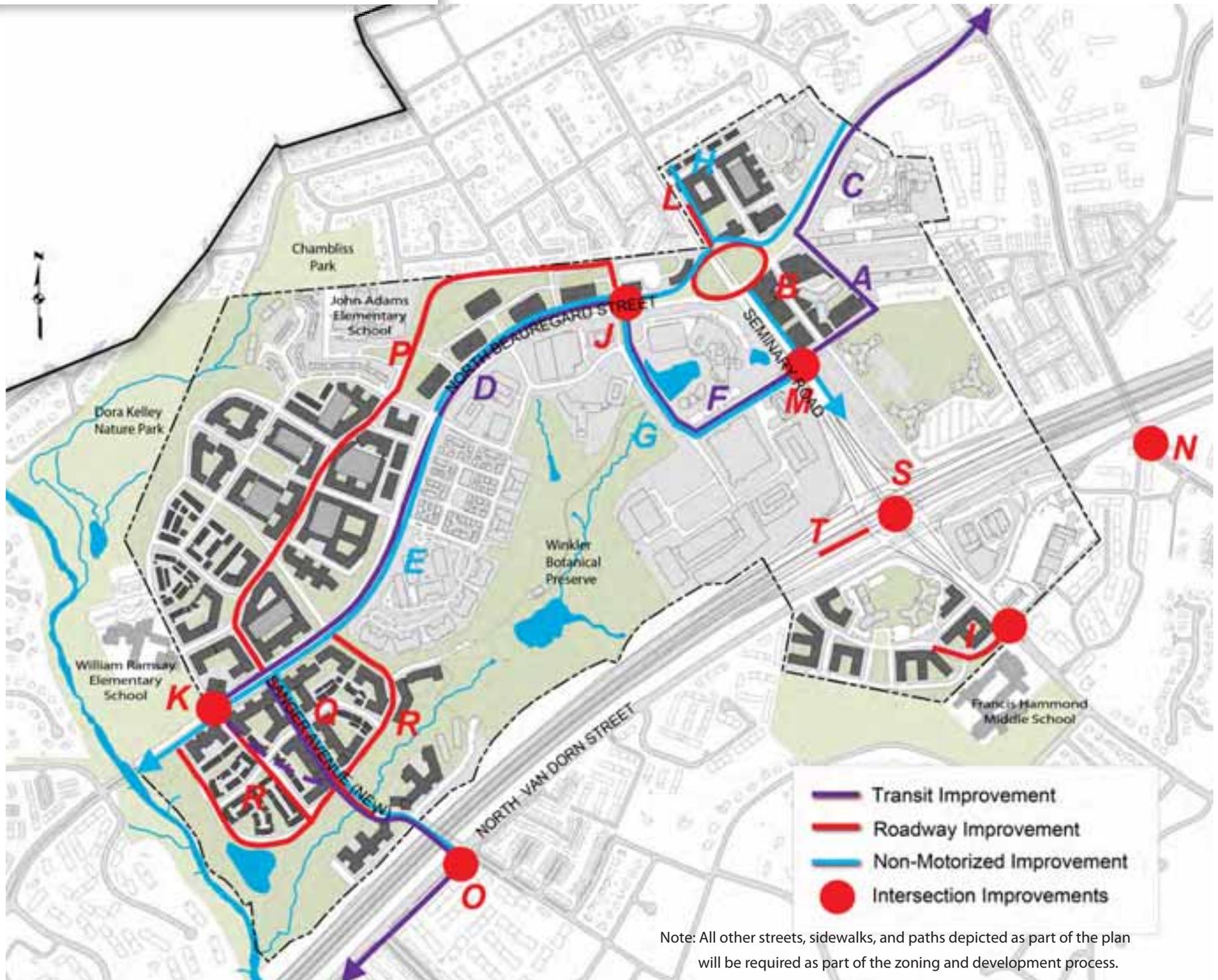


Table 6: Proposed Transportation Improvements

| REF. | LOCATION | IMPROVEMENT |
|------|--|--|
| A | Southern Towers | New road and rapid transitway through Southern Towers |
| B | Beauregard at Seminary | Ellipse at Seminary Road and Beauregard Street |
| C | Beauregard north of Southern Towers | Transitway Improvements for Bus Rapid Transit |
| D | Beauregard between Mark Center Drive and Existing Sanger | Provide necessary right of way and widen Beauregard Street and construct a transitway |
| E | Beauregard between Fillmore Avenue and Holmes Run | Build Multi-use trail (For bicycles and pedestrians) |
| F | Mark Center Drive (Beauregard to Seminary) | Transitway Improvements for Bus Rapid Transit |
| G | Mark Center Drive (Beauregard to Seminary) | Provide on-street bicycle facilities |
| H | Seminary Road from Fairbanks Avenue to Library Lane | Construct multi-use trail on north side of road |
| I | Relocated Kenmore Avenue and Library Lane | Realign Kenmore Road to align with intersection of Seminary Road at Library Lane; Improve pedestrian crossing across Seminary Road |
| J | Beauregard Street at Mark Center Drive | Add northbound right turn lane Reconfigure westbound approach as 3 lanes - 1 left, 1 thru and 1 right turn lane |
| K | Beauregard St at Existing Sanger Avenue | Reconfigure Sanger Avenue approaches to consist of a one left turn lane and a shared thru/right lane in the eastbound direction, and a right turn lane in the westbound direction. Provide permissive left-turn phasing for the Sanger Ave left turns Provide permissive right turn phasing for westbound Sanger Ave |
| L | Seminary Road at Heritage Lane | Add westbound left turn lane |
| M | Seminary Road at Mark Center Drive | Widen Mark Center Dr. to allow for southbound dual left turn lanes. |
| N | Van Dorn Street at Braddock Road | Northbound and Southbound Lane Approach improvements (One Left, one Thru and one Shared Thru/Right in each direction) |
| O | Van Dorn Street at Sanger Ave / Richenbacher Ave | Restriping and widen sidewalk on north side under I-395 bridge Restripe westbound approach to have a left, and a shared thru/right turn lane |
| P | New Parallel Road to Beauregard Street | Construct new parallel road west of Beauregard between Mark Center Drive and relocated Sanger Avenue |
| Q | Relocated Sanger Avenue | Construct new Sanger Avenue Construct transitway and construct multi-use-trail |
| R | New Local Streets Parallel to Relocated Sanger Avenue | Construct new local streets |
| S | Seminary Road at I-395 | VDOT Near / Mid Term improvements (Associated with BRAC-133) |
| T | Seminary Road at I-395 | VDOT Long Term improvements (Transit/HOV ramp to and from the south) |

Figure 51: Intersections Studied in Transportation Analysis



- Key to Intersections**
1. Route 236 at Beauregard St
 2. Beauregard St at N Chambliss St
 3. Beauregard St at Gloucester Rd/ Lincolnia Rd
 4. Beauregard St at Quantrell Ave
 5. Beauregard St at N Armistead St
 6. Beauregard St at N Morgan St
 7. Beauregard St at Sanger Ave
 8. Beauregard St at Reading Ave
 9. Beauregard St at Rayburn Ave
 10. Beauregard St at Highview Lane
 11. Beauregard St at Mark Center Dr
 12. Beauregard St at Seminary Rd
 13. Beauregard St at Fillmore Ave
 14. Beauregard St at W Braddock Rd
 15. Beauregard St at King St
 16. Seminary Rd at S George Mason Dr
 17. Seminary Rd at Dawes Ave
 18. Seminary Rd at Echols Ave
 19. Seminary Rd at Mark Center Dr/ Southern Towers
 20. Seminary Rd at Ramp to I-395 South
 21. Seminary Rd at Ramp from I-395 North
 22. Seminary Rd at Ramp from I-395 South
 23. Seminary Rd at Ramp to I-395 North
 24. Seminary Rd at Library Lane
 25. Seminary Rd at Hammond School
 26. Seminary Rd at N Pickett St
 27. Seminary Rd at N Jordan St
 28. N Van Dorn St at Taney Ave
 29. N Van Dorn St at Sanger Ave/ Richenbacher Ave
 30. N Van Dorn St at Kenmore Ave
 31. N Van Dorn St at W Braddock Rd
 32. W Braddock Rd at Hampton Dr

Note: All marked intersections are signalized.

- **Pedestrian and Bicycle Network**—Streets within the Plan area will include pedestrian facilities with varying sidewalk or path widths in context of the surrounding uses. Off-street bicycle facilities will be built along Beauregard Street, Seminary Road, and Sanger Avenue (Figure 52). There will be improved pedestrian and bicycle access to commercial, recreational and transit within the Plan area, and connectivity to adjacent neighborhoods and schools.

B. TRANSPORTATION ANALYSIS:

The comprehensive transportation study undertaken in the development of this Plan examined the transportation impacts within the defined Plan area, as well as the surrounding area (Figure 51) and coordinated studies/analysis completed for Virginia Department of Transportation (VDOT), Department of Defense (DOD), and Federal Highway Administration (FHWA) initiatives. The transportation study area for the transportation study extended beyond the Plan boundaries and included 32 intersections that were studied during both the AM and PM peak hours (Figure 51).

The transportation analysis performed for the Plan is a planning-level study that evaluates the impacts associated with the Plan. The study assumed a 25 year build-out period and assumes changes in regional traffic patterns over that period. All future redevelopment applications associated with the Plan will require additional traffic studies to analyze specific impacts based on specific development plans for each site and will include additional transportation data available at that time and more refined development information. The studies will also update the traffic impacts associated with specific development and refine the recommended improvements to the transportation.

The proposed redevelopment within the Plan area assumed a horizon year of 2035 for purposes of the transportation analysis. Three scenarios were analyzed:

- **2010 Existing Conditions**
 - Assumes existing development and transportation network.
- **2035 Baseline Scenario**
 - Assumes regional growth through 2035;
 - Approved and unbuilt development in Alexandria;
 - Transitway;
 - Roadway improvements associated with BRAC-133; and
 - Transit/HOV ramp to and from the south at I-395 and Seminary Road.
- **2035 Development Scenario**
 - Assumptions from Baseline Scenario;
 - Development build-out in the Plan area; and
 - Additional roadway improvements, such as the Ellipse, needed to support 2035 development.

The analysis assumes increases in traffic attributed to regional growth including approved development in the Plan area and planned development in neighboring jurisdictions for future (2035) scenarios. The Plan provides new roadway connectivity and enhanced transit facilities in and through the Plan area which provides travel choices in terms of route and mode. The study showed that with the construction of all the recommended roadway and transit improvements, the transportation network operates more efficiently in the 2035 Development Scenario than the 2035 Baseline Scenario. This is largely due to the construction of the Ellipse.

A number of factors contribute to improved traffic operations under the 2035 development scenario. These include:

- There is a shift of some regional trips to roadways outside of the Plan area;
- The interconnected roadway network and mix of land uses result in a greater shift to other modes such as walking and using transit; and
- The transportation improvements, including the ellipse and transitway improve mobility and traffic operations.

The analysis showed that each of the analyzed intersections within the Plan area would operate at an overall Level of Service (LOS) E or better during the AM or PM peak hours in the 2035 Development Scenario with all of the roadway network enhancements in place. However, there are several intersections within the Plan area that have individual turning movements that would perform at LOS “F” during one or both peak hours. These intersections are as follows:

- Beauregard Street at Seminary Road;
- Beauregard Street at King Street; and
- North Van Dorn Street at Sanger Avenue.

C. TRANSPORTATION INFRASTRUCTURE PHASING:

An interim (2020) year analysis was conducted in order to develop a phasing plan for transportation improvements. The analysis showed that all of the recommended improvements were needed by 2020 based on 3 million sq. ft. of additional development, with the exception of the parallel road to Beauregard Street, and the relocated Sanger Avenue.

2020 Interim Year Development Scenario

- a. Assumes regional growth through 2020;
- b. Approved and unbuilt development in Alexandria;
- c. Proposed Beauregard development (land uses) planned through 2020;
- d. High Capacity Transitway;
- e. Roadway improvements associated with BRAC-133;
- f. Transit/HOV ramp to and from the south at I-395 and Seminary Road; and
- g. Road improvements needed to support 2020 development.

Construction of the Ellipse and other transportation infrastructure will be phased to ensure that adequate transportation infrastructure is in place to support each phase of development. The Ellipse must be constructed by 2.4 million sq. ft. of development. Phasing of transitway improvements and contributions are outlined in the Implementation Chapter.

D. STREETS AND CONNECTIVITY:

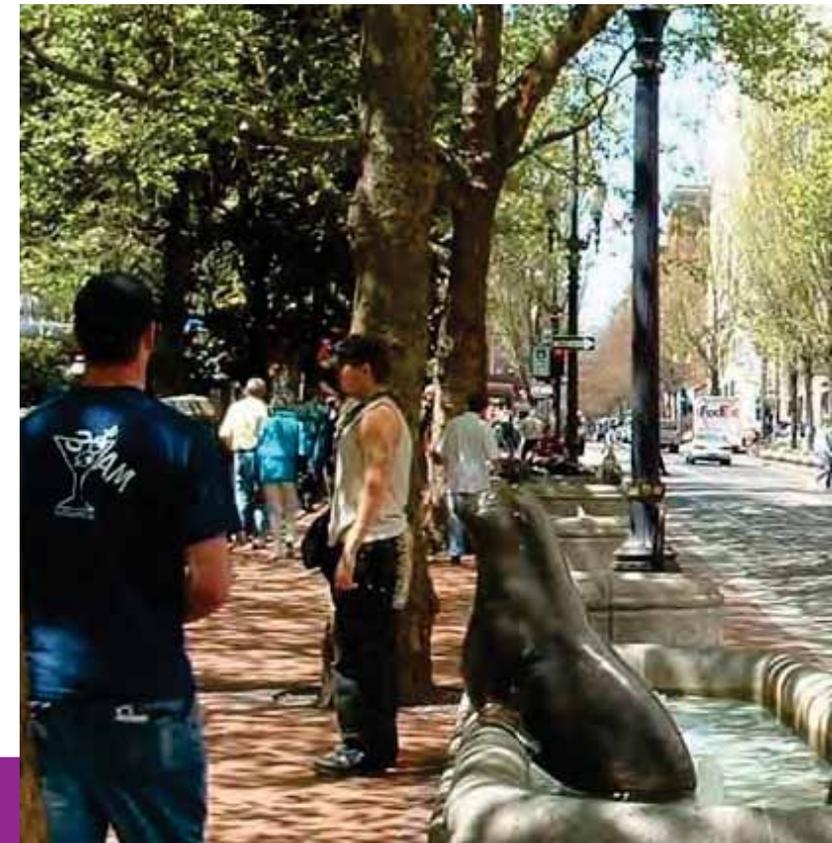
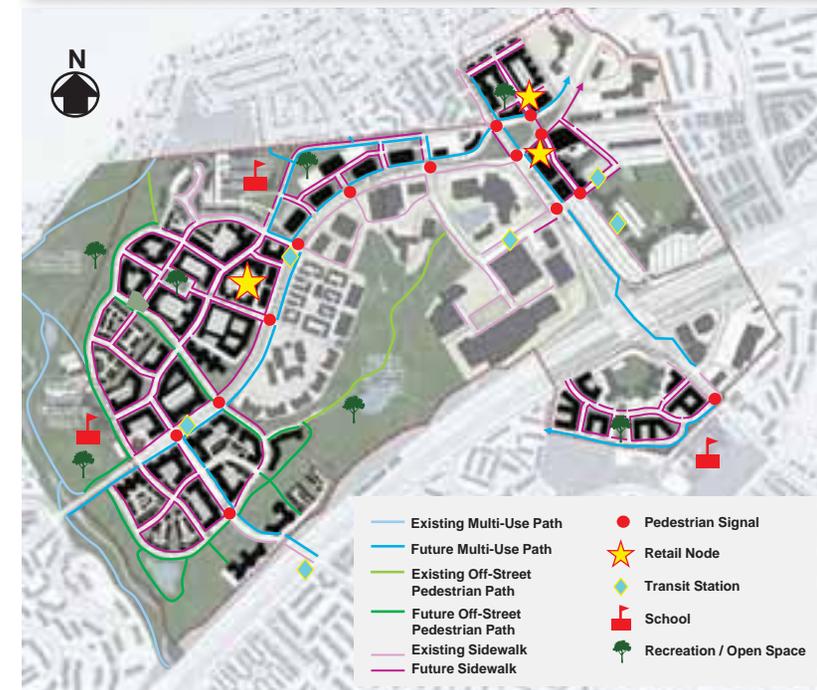
Within the Plan area, there are opportunities to build on the existing street network to improve connectivity. New streets will be built in a grid pattern to improve vehicular and non-motorized connections to activity centers, transit and land uses. In addition, there are opportunities to provide non-motorized connections to adjacent neighborhoods. This will enable connectivity from surrounding areas to schools, parks and recreation facilities, commercial and mixed-use land uses, and transit facilities.

E. PEDESTRIAN CIRCULATION:

Smaller blocks, limited curb cuts, frequent intersections and a variety of pedestrian routes, form a neighborhood pattern of streets and blocks that encourage walking. Narrower curb-to-curb dimensions, bulb-outs, and other methods of reducing crossing distances will increase pedestrian safety and in turn increase the likelihood that people will choose walking as a primary mode of mobility. A robust network of sidewalks and multi-use trails will allow people to walk and bike through the neighborhoods in an environment designed to facilitate pedestrian and bicycle circulation.

As Beauregard is redeveloped, there are opportunities to provide safe, convenient, attractive and accessible pedestrian facilities that connect destinations both within Beauregard, and to adjacent areas and activity centers. The City's Complete Streets policy encourages new streets to safely accommodate all users including pedestrians, bicyclists, transit riders, persons with disabilities and motor vehicles. The Plan provides pedestrian facilities that are designed to enhance pedestrian safety, through measures such as adequate width, crosswalks and pedestrian signals, and accessible to the disabled community.

The Plan includes a network of sidewalks, multi-use trails and pedestrian paths that provide connectivity to adjacent neighborhoods, schools, transit, and parks and recreation facilities. This includes providing paths that better connect schools within the plan area to adjacent neighborhoods. Furthermore, opportunities should be explored that will allow for pedestrian connectivity to adjacent neighborhoods where connections are limited today. Pedestrian improvements are also recommended along Seminary Road, especially between Mark Center Drive and Library Lane, with an improved sidewalk along the north side of Seminary Road





over I-395. Improved pedestrian crossings across Seminary Road are also recommended. These improvements will help to ensure multi-modal connectivity within the Beaugard area, the surrounding areas, and thereby help to reduce reliance on the automobile.

F. BICYCLE CIRCULATION:

The Plan creates a network to encourage bicycling as a viable alternative mode to driving. (Figure 52B). When approaching the Plan area from the south, the primary bicycle route is the Holmes Run Trail. Trail improvements are currently programmed for the Holmes Run Trail, including the installation of a trail crossing at North Chambliss Street, improvement to the trail tunnels at I-395 and Van Dorn Street, and the crossing at North Ripley Street. A trail underpass was recently completed where the Holmes Run Trail/Eisenhower Trail crosses Eisenhower Avenue. Currently this trail lacks accessible connections to the Plan area. An off-street multi-use trail system will provide for primary north-south and east-west bicycle connectivity both within the Plan area, and to adjacent neighborhoods. A north-south trail will be built along Beaugard Street, with a connection to the Holmes Run trail at the south end of the Plan area. To the north, the trail would eventually connect to an existing trail within Arlington that provides a connection to Four Mile Run. East-west trails will be built along Seminary Road, and Sanger Avenue. The trail along Sanger Avenue would connect to future bike lanes planned along Van Dorn Street. Additional multi-use trails will provide connections to the adjoining schools, such as John Adams Elementary School, Francis Hammond Middle School, William Ramsey Elementary School and surrounding neighborhoods.

The slower design speed and urban context of the streets will encourage cyclists to “take the lane” on all streets where appropriate. However, on-street bicycle facilities on certain streets will include bicycle lanes to improve bicycle safety and provide a sense of security. This includes an on-street facility that will be built through the Town Center neighborhood of the Plan area. Roadway crossings are critical to the connectivity of the bicycle network and intersections will be designed to

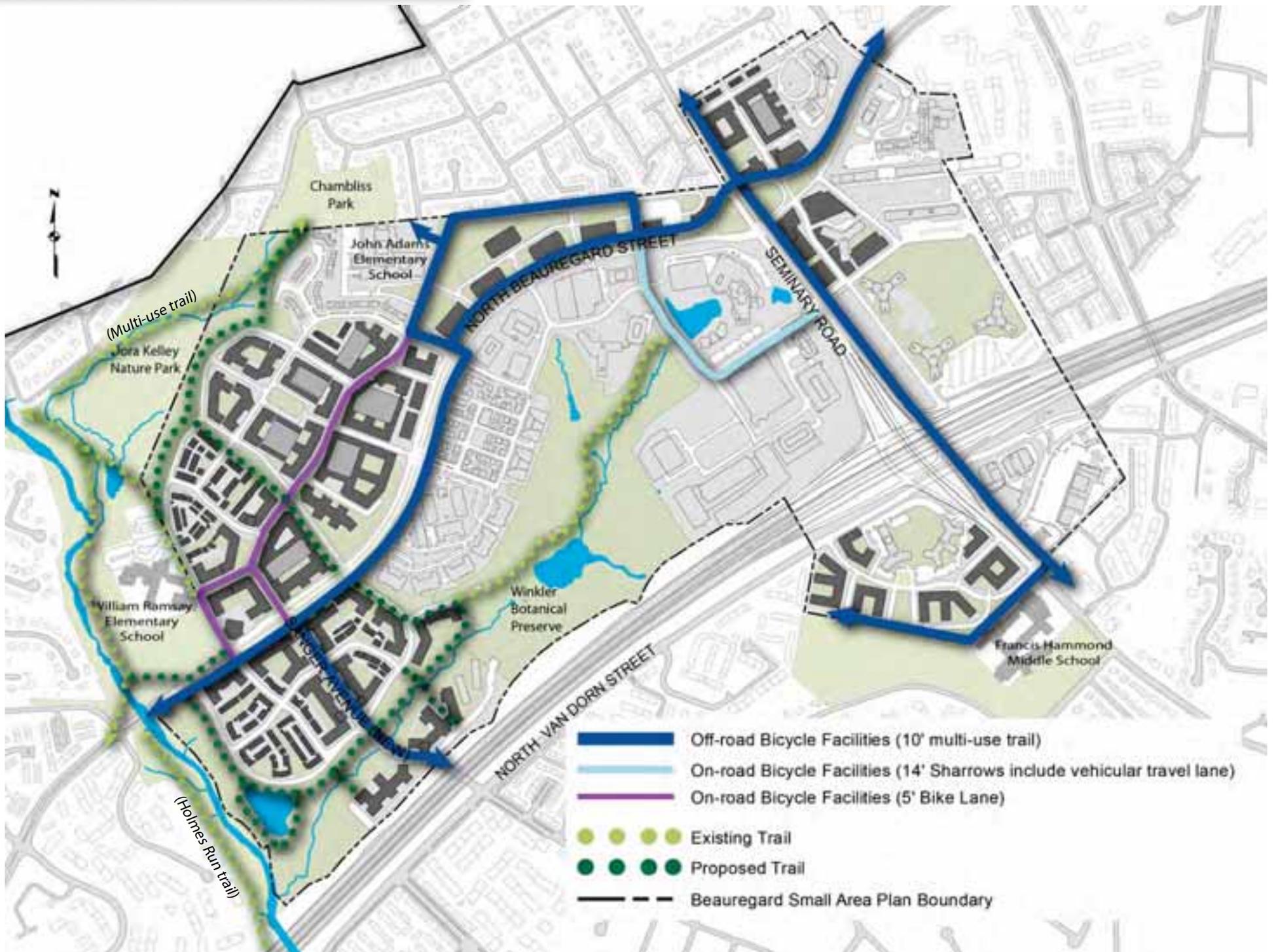
street the convenience, safety and comfort of cycling. Providing adequate end-of-trip facilities is a critical component of any bicycle network and especially in transit-oriented developments. The Plan considers bicycle parking in a number of contexts:

- Bicycle parking in connection with public transportation and at major stops along the Transitway;
- At homes and at workplaces;
- At shops and retail centers; and
- On public streets.

To encourage the use of the bicycle as means of transportation, off-street bike parking will be incorporated in the redevelopment. Bicycle parking areas are recommended to be located on the ground floors of buildings, close to activity to provide convenience and increase security. A combination of Class I and Class II spaces should be provided to meet this bicycle parking supply requirements. Class I bicycle parking facilities provide secure long-bicycle storage by protecting the entire bicycle, including its components and accessories against theft and inclement weather. Examples include lockers, check-in facilities, monitored bicycle parking, restricted access bicycle parking and personal storage. Class II bicycle parking facilities provide short-term bicycle parking and include bicycle racks that permit the lacking of a bicycle frame and one wheel and support the bicycle in a stable position without damage to wheels, frame or components. Class I bicycle parking is required to be provided at residential buildings, and a combination of Class I and Class II parking is required to be provided at retail and professional services uses at the school and at the fitness/ community center.



Figure 52B: Bicycle and Trail Networks



G. BIKESHARE:

Bikesharing is a program that allows users to rent a bicycle for short periods of time. Bicycles are “checked out” at one station and returned to any station within the system. Members pay based on the length of time they use the bicycle, thus reducing the costs associated with the personal bicycle ownership. With stations dispersed throughout the Plan area, these bicycles are meant to be used for short time periods only and checked in and checked out at the start and end of each trip.

The City will be launching a pilot Bikeshare program in 2012 as part of the regional bikeshare network. The Plan encourages exploring future expansion to the Plan area.

H. CARSHARE:

Car sharing provides an effective incentive for participants to forego car ownership and rely on transit as primary mode of travel because they know that a car is readily available when they need one. The growth and success of these programs in the City and other urban areas throughout the country has shown their effectiveness in reducing auto dependency. Members pay based on how much they drive, thus reducing the fixed costs associated with private automobile ownership. Typically, carshare members are able to reserve a vehicle at each established carshare hub. The Plan encourages as part of the redevelopment, that the new developments establish carsharing in each building and/or neighborhood.

I. HIGH CAPACITY RAPID TRANSITWAY:

A Rapid Transitway will be built to provide high capacity transit service between the Pentagon and the Van Dorn Metrorail Station, consistent with the City’s 2008 Transportation Master Plan (Figure 53 & 54). This Transitway will include dedicated transit guideways along most of its running way within Alexandria. The service will operate as a Rapid Transit (RT) system, but the facility will be designed so as to not preclude future consideration of service as a streetcar. Rapid Transit is a term applied to a variety of public transportation systems using special rapid transit vehicles to provide faster, frequent, and more efficient





service than an ordinary bus line. Often this is achieved by making improvements to existing infrastructure, vehicles and scheduling. The goal of these systems is to approach the service quality of rail transit while still enjoying the cost savings and flexibility of bus transit. The City's DASH transit service, WMATA service and potential new circulators will be integrated with the Rapid Transitway system, providing access to all residents who are not located in direct proximity of the newly designated transit corridors.

Within the Plan area, high quality high capacity Rapid Transit stations will be located in both directions of the Transitway at approximately the following locations (Figure 54):

- Van Dorn Street near Sanger Avenue*
- Beauregard Street near Sanger Avenue
- Beauregard Street near Rayburn Avenue
- Mark Center Transit Center
- Southern Towers

*Note: This is outside the Plan area

The Rapid Transit service is anticipated to operate with frequent service, especially during weekday peak periods. The City has allocated funding in its 10-Year Transportation Improvement Program toward the design and construction of the Transitway. In addition, the future development is required to contribute toward the cost of constructing the Transitway and associated elements.

J. LOCAL AND CIRCULATOR TRANSIT SERVICE:

While the Rapid Transitway service is a critical element, other modes of transit will also be provided. These are local buses operated by DASH and Metrobus that provide valuable connections between neighborhoods in the City. It is anticipated that the current transit routes, such as Routes AT1 and AT2 and the Metrobus Route 7 series will continue to provide service within the Plan area. Local buses will most likely continue to operate in the curb lane on Beauregard to serve local stops that are spaced

Figure 53: City of Alexandria Planned Transitways

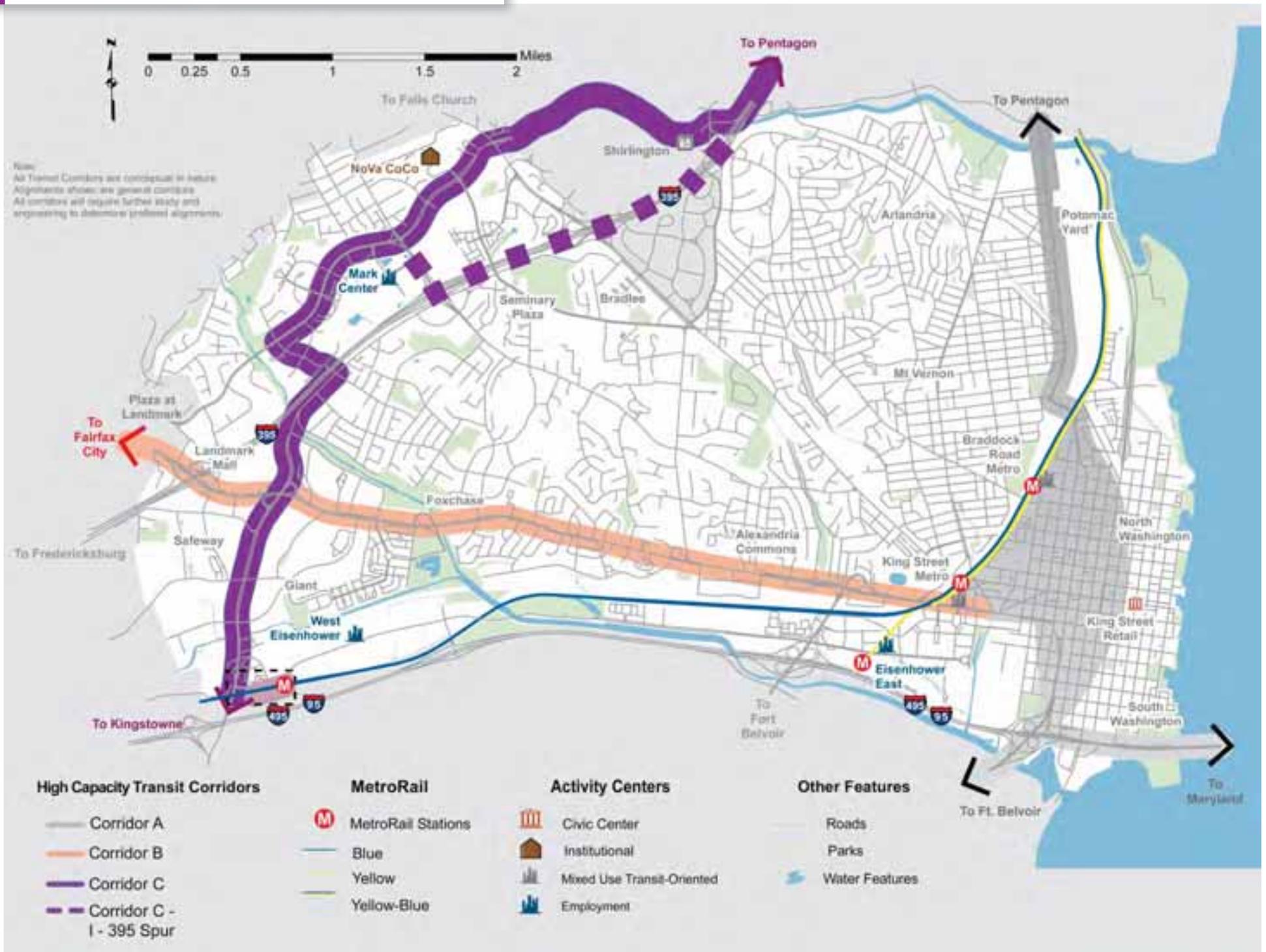
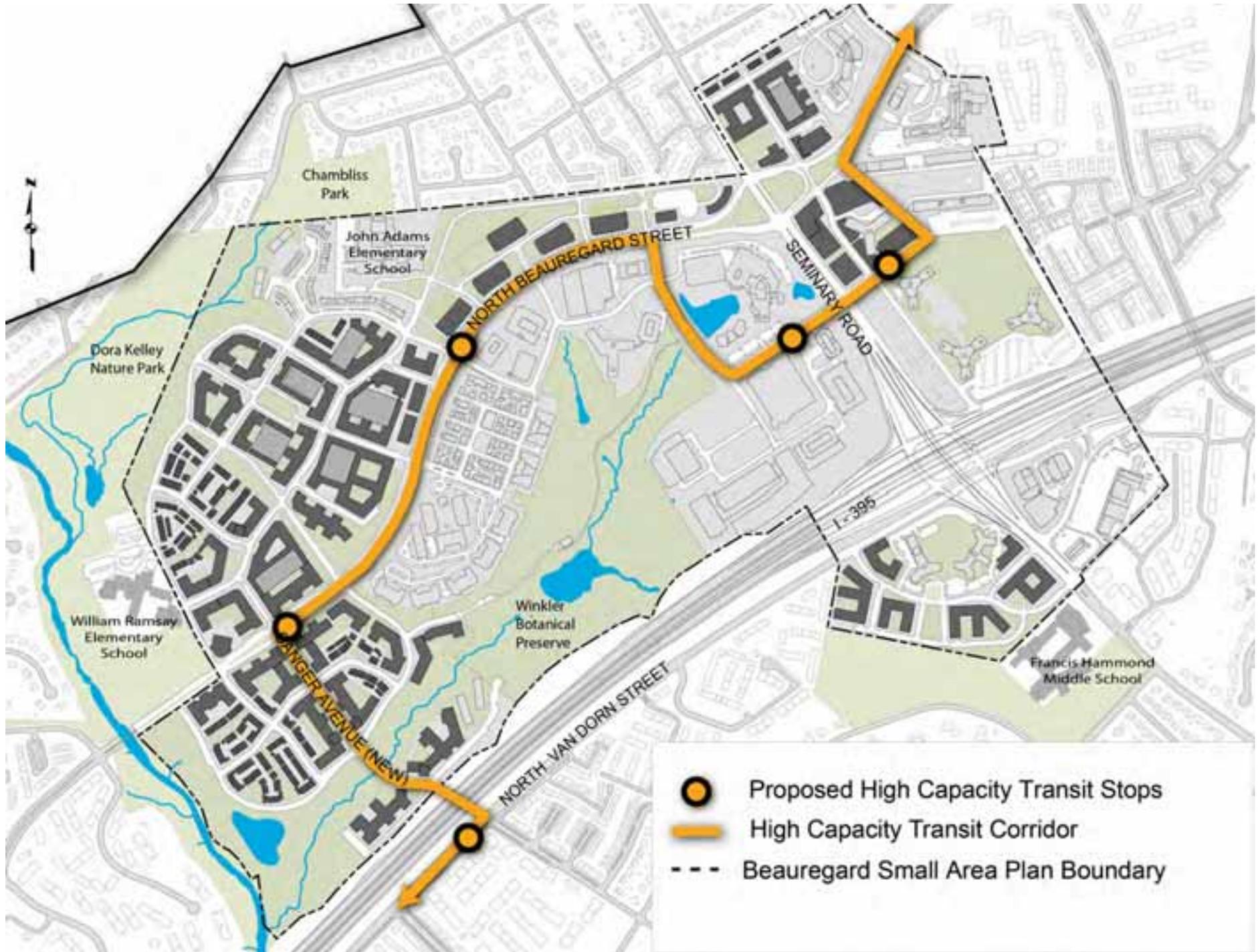


Figure 54: High Capacity Transitway and Proposed Stops



every two blocks. However, these services or new circulator routes could be designed to better feed the future Transitway. This is especially important for connecting riders that are further than a half mile from the High Capacity Transitway stations.

K. TRUCK LOADING:

The growth in office, retail and other development will increase truck loading and deliveries. To maintain efficient traffic circulation, minimize impacts an existing and propose residential uses, the Plan recommends a comprehensive policy regarding truck loading and deliveries during the development review process. Additional requirements regarding access and loading will be specified in future Urban Design Standards and Guidelines.





L. PARKING MANAGEMENT:

Management of on-street and on-site parking is a critical feature of any transportation system and should be carefully coordinated with the other transportation components of the Plan. On-street parking spaces will be required to be efficiently managed to maximize turnover of spaces and encourage garage parking for longer stays. On-street parking spaces may be required to be metered and be part of a performance parking program to efficiently manage the on-street parking resources.

Parking garages should employ smart parking technologies including variable pricing and available parking space technologies. In order to increase parking efficiency and support other parking and mobility management programs, parking should be unbundled in residential and mixed use garages. Wayfinding signage should be employed to efficiently direct drivers to parking garages and clearly indicated price and availability of parking. Parking garage entrance widths should be minimized. Market rate parking for all uses will be required including the unbundling of parking in residential development. Parking technologies should be integrated into all new parking structures.

M. ELECTRIC VEHICLES / CHARGING STATIONS:

Electric vehicle (EV) charging stations will become ever more important as drivers consider the switch to vehicles that reduce fuel use and emissions contributing to global warming. Charging stations should be installed at key locations to serve drivers using plug-in hybrid vehicles so they can “top off” their batteries and ensure a round trip. These key locations may include residential, commercial and office parking areas, or within a parking structure.

N. TRANSPORTATION MANAGEMENT PLANS:

Transportation Management Plans (TMPs) are a set of specific strategies that influence travel behavior by mode, frequency, time, route or trip length to reduce single occupancy vehicle trips. TMPs help achieve an efficient and sustainable use of transportation facilities, and help attain larger City goals such as promoting access for all transportation system users, improving mobility, and minimizing the negative impacts of vehicular traffic.

In order to ensure that the systems and programs are in place as needed to support the density of the Plan, future development may be required to participate in a TMP District. Development within this District would be subject to future TMP requirements and employ aggressive TMP measures. Each development will have a specific program and goals that can be attained in collaboration with the District TMP. The District TMP will be coordinated to maximize resources and programming and minimize duplicative marketing and reporting.

Some strategies for reducing single occupancy vehicles through TMP programs include offering transit incentives, providing dedicated spaces or reduced rates for vanpool and carpool parking, establishing parking maximums, eliminating parking subsidies, using shared parking, providing transit pass subsidies, implementing shuttles to transit stations, “unbundling” parking cost (parking facilities available at additional cost rather than included in unit cost), and monitoring, surveying and reporting TMP progress annually.

TRANSPORTATION REQUIREMENTS

A. Transportation Network

- 8.1 The transportation network should be designed to mitigate traffic impacts associated with the Plan and to encourage non-single occupant vehicle (SOV) modes of transportation.
- 8.2 To the extent possible, within the BSAP, a grid system of streets should be designed to distribute vehicular traffic, improve traffic flow, and increase pedestrian and bicycle accessibility to residences, businesses, and recreation and open spaces, and transit facilities.
- 8.3 The street network should be designed in a manner to encourage walking, bicycling and transit usage to mitigate traffic issues.
- 8.4 Consistent with the City's Complete Streets policy, consider all users in the future design of streets and streetscapes (i.e. vehicles, transit, pedestrians, bicyclists).
- 8.5 Interior traffic circulation patterns should be designed so as to maximize vehicular, pedestrian and bicycle safety and movement.
- 8.6 To the extent possible, the street pattern or grid should follow the natural terrain, minimizing alterations to the natural landscape.
- 8.7 During the application for Development Special Use Permit (DSUP) staff shall evaluate additional options for the Beauregard-Seminary Road intersection to ensure that other options might be considered in terms of efficiency and level of service (LOS). While the ellipse configuration shows promise, this option should be evaluated along with other planned transportation improvements associated with BRAC and other alternatives identified in the DSUP process.

B. Transportation Phasing

Prior to the approval of any rezoning for the Plan area, a transportation infrastructure phasing plan will be approved by the City and will include all of the transportation improvements outlined in the Plan (Table 6). All transportation infrastructure required in the each of the phases of the Plan will be constructed and operational prior to the certificate of occupancy for that phase of development. The transportation infrastructure phasing plan must reflect the following:

- Construction of the Ellipse must be completed prior to issuance of a certificate of occupancy for 2,400,000 square feet of development.
- Construction of the transitway and any cash contributions shall be constructed and/or contributed according to the phasing plan outlined in the implementation chapter.
- Transportation improvements on property frontages must be constructed prior to certificate of occupancy for those blocks.
- Prior to granting any final densities (DSUP) considered in this plan, the transportation infrastructure projects described as well as any refinements to them should be found to address the goals laid out in this plan and should have a clear and reliable implementation plan.

C. Streets & Connectivity

8.8 Streets

- (a) Consistent with City of Alexandria policy, streets should be designed as complete streets to accommodate vehicles, pedestrians on both sides of the street, existing and future transit

and bicyclists. Sidewalks and pathways should be developed as an integral, aesthetic part of the community, that are much more than simply functional, but that feel like a part of the design plan.

(b) All streets, including North Beauregard Street and Seminary Road should be walkable (i.e. adequate sidewalks, landscape buffers, lighting).

(c) To the extent possible, all collector and local streets should have on-street parking and provide pedestrian refuges, as well as landscaping, be designed to reduce vehicular speed and promote pedestrian safety. Pedestrian bulb-outs, crosswalks and countdown signals should be provided where appropriate to improve pedestrian safety, visibility and minimize street crossing lengths.

(d) Streets should be dedicated to the City, with the goal that all streets be public.

(e) Adequate transportation infrastructure should take into consideration features within the planning area, including provision of a transportation hub, as well as connected infrastructure outside the planning area, such as the implementation plans for all of the Corridor C transit system.

8.9 Connectivity & Accessibility

(a) All new neighborhoods in the Plan area need to be connected to the street network within the Plan area; no neighborhood should be totally self-contained or functionally isolated.

(b) Pedestrian facilities should be designed at an appropriate width for the context in which they are located (i.e. wider in commercial and transit station areas) and be compliant with the Americans with Disabilities Act (ADA).

(c) Appropriately sized landscaped strips or tree wells with trees and/or plantings should be incorporated to provide an adequate buffer between the sidewalk and adjacent streets and parking spaces.

(d) Integrated systems of walking streets or trails should be established that connect the built environment and natural areas and open spaces within the Plan area.

8.10 Street Furnishings & Lighting

(a) Streetscape appearances within the Plan area should be improved to include new sidewalks, street trees, landscaping, decorative streetlights, benches, trash receptacles, signage, bike racks etc.

(b) Lighting should be attractive, be pedestrian scale and promote pedestrian, bicycle and vehicular safety.

D. Transit and Transportation Improvements

8.11 Require dedication of right-of-way to accommodate the high-capacity transitway as approved by City Council and other needed transportation improvements as part of a rezoning and Coordinated Development District Concept Plan.

8.12 The transitway alignment should be consistent with the concept approved by the City Council on September 17, 2011.

8.13 Explore options to incorporate green technologies into the design of the dedicated transitway and associated stations.

- 8.14 Transit stations should be attractive, compatible with neighborhood design, protect riders from the elements and be designed to include real-time transit information, innovative display technologies and rider information including route maps, schedules, and local and regional information.
- 8.15 Locate high-capacity transit stations to maximize accessibility and ridership, be operationally efficient and connect to other modes, including pedestrian and bicycle facilities, local and regional transit. DSUP applications shall not be approved unless the approval authorities have reviewed and made a finding that in their judgment Corridor C is proceeding as planned.
- 8.16 Rezoning of the properties is contingent upon the City and the landowners agreeing to a financial plan funding the transitway and other needed and identified transportation improvements.
- 8.17 Examine the need to reconfigure existing transit service to better serve the neighborhood and connect to stops along the future transitway, and consider a potential transit circulator service within the Plan area.

E. Bicycles and Pedestrians

- 8.18 Provide adequate pedestrian and bicycle facilities to provide viable alternatives to motorized travel within the community.
- 8.19 Incorporate a comprehensive and connected on and off-street bicycle network and signage within the Plan area, consistent with the proposed bicycle system (Figure 52).
- 8.20 Provide improved pedestrian connectivity along the north side of Seminary Road across I-395 (between Mark Center Drive and Library Lane, as part of the VDOT ramp improvements.
- 8.21 Intersections by schools will be designed to minimize crossing distances for pedestrians. Non-motorized connectivity, with sidewalks and shared-use paths, will be provided between schools and adjacent neighborhoods.
- 8.22 Ensure that adequate bicycle parking (Class I and Class II), in compliance with Alexandria's Bicycle Parking Standards, is provided within public and private uses, including residential, commercial, recreational, office and transit areas, to serve all bicyclists' needs. Provide centralized, long and short term bicycle storage facilities, in visible locations near public recreation and open space, retail, office and other commercial uses, and transit facilities.
- 8.23 Provide pedestrian improvements along Seminary Road over I-395.
- 8.24 The shared use paths should be designed to enhance pedestrian and bicycle safety, especially at driveways, street intersections and across the proposed ellipse. Shared use paths will be a minimum of 10 feet wide.
- 8.25 Locations for future bike share facilities should be designated at key strategic locations within the Plan area, such as near the Mark Center Transit Center, the future transitway stations, and at major commercial or mixed use nodes.
- 8.26 Commuter and recreational bicycle information should be available to residents, workers and visitors.
- 8.27 Crosswalks should be designed so that slow moving pedestrians (such as the elderly, disabled and parents with young children) are not deterred from walking by fear of crossing streets.

8.28 Amenities in the form of rest areas, benches, points of interest, public art and the like should enhance the walking experience and encourage people to stop/pause and interact with one another.

8.29 Consider bike sharing program in new developments.

F. Transportation Demand Management

8.30 Require participation in an area wide Transportation Management Plan (TMP) as part of any Development Special Use Permit (DSUP) application, consistent with the City's revised TMP ordinance.

8.31 Explore additional local-serving transit routes or circulators to connect locations within the BSAP to nearby communities and destinations.

G. Truck Loading

8.32 Each development will be required to submit a comprehensive approach and policy regarding truck loading and deliveries as part of the development review process.

- (a) Dumpsters/trash areas must be well screened from public view to the extent possible and practicable;
- (b) There should be defined hours during which dumpsters can be emptied;
- (c) Ensure adequately sized loading docks based upon use; and
- (d) Incorporate measures to mitigate potential noise impacts associated with truck loading.

H. Parking Strategy

8.33 Evaluate, and if staff finds appropriate, require the installation of real-time parking occupancy technologies in new shared parking facilities in the Plan area to monitor and manage parking demand and to reduce traffic congestion.

8.34 Evaluate, and if staff finds appropriate, require the unbundling of parking.

8.35 Provide infrastructure for accommodating the use of electrical vehicles.

Reference Chapter 4 - Land Use recommendations for additional Parking Strategy recommendations.

