Reston Parkway Station Area Discussion

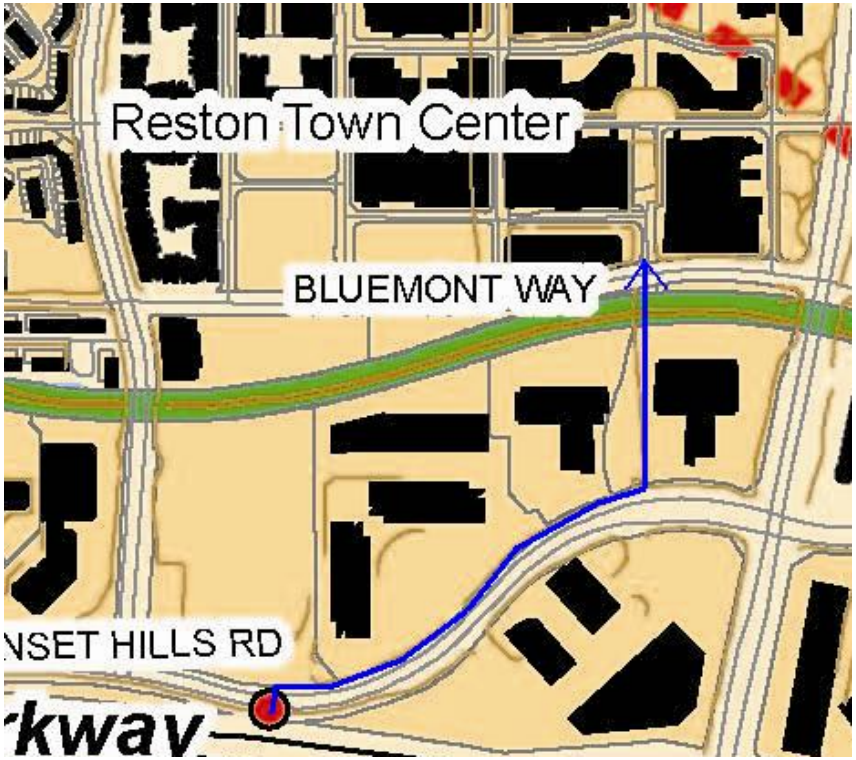
Information Excerpted from

Wiehle Avenue/ Reston Parkway Station Access Management Plan
(April 15, 2008)

Reston Master Plan Task Force Meeting

April 27, 2010

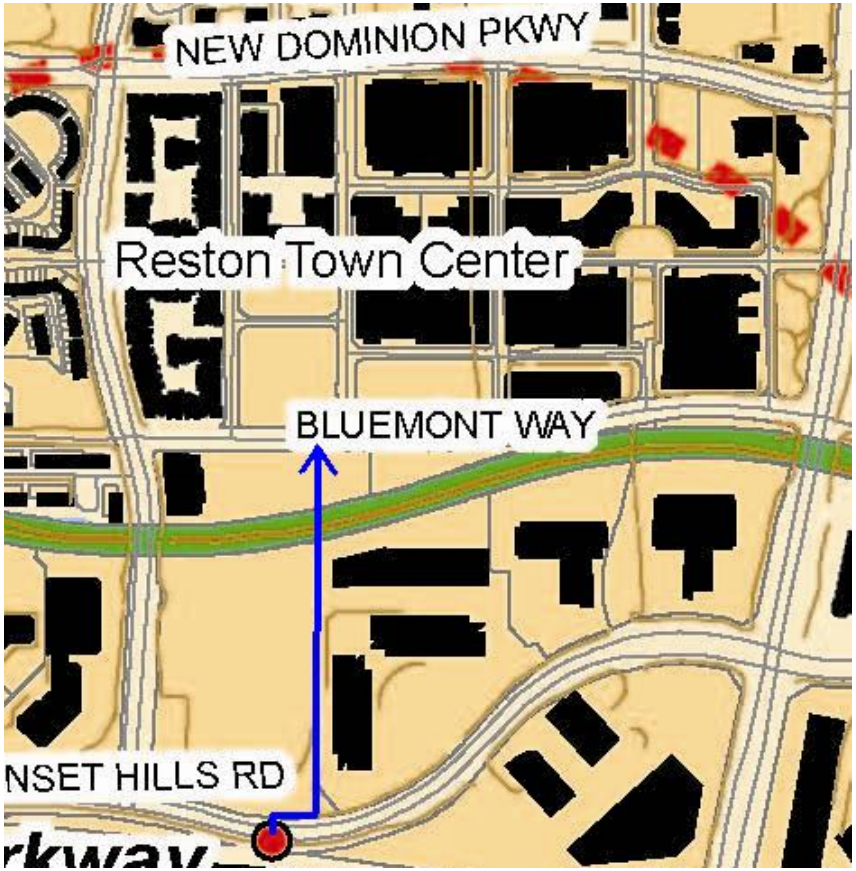
Reston Parkway Station Area RMAG Eastern Pedestrian Route



Excerpt from p. 71 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

- Recommended Improvements
  - High visibility crosswalks
  - Countdown Pedestrian signals
  - ADA compliant curb ramps
  - Median refuge islands

Reston Parkway Station Area RMAG Central Pedestrian Route



Excerpt from pp. 72-73 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

- Issues
  - Grade: how to cross W&OD Trail
  - Integrate as part of proposed “Gateway” development

Reston Parkway Station Area RMAG Western Pedestrian Route

Excerpt from p. 72 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

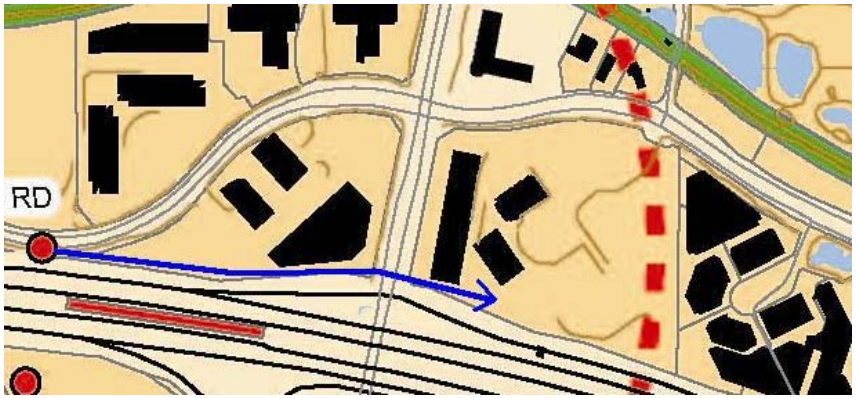
- Recommended Improvements
  - High visibility crosswalks
  - Countdown Pedestrian signals
  - ADA compliant curb ramps
  - Median refuge islands
  - Appropriate sidewalk and buffer

Reston Parkway Station Area RMAG Northern Pedestrian Route

Excerpt from p. 73 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

- Recommended Improvements
  - High visibility crosswalks
  - Countdown Pedestrian signals
  - ADA compliant curb ramps
  - Median refuge islands
  - Make direct connections with appropriate sidewalks and buffers
  - Alter turn lane radii

Reston Parkway Station Area RMAG Southern Pedestrian Route



Excerpt from p. 74 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

- Recommended Improvements
  - Shared use pathway along Toll Road
  - High Visibility Crosswalk
  - Countdown Pedestrian signals
  - ADA compliant curb ramps
  - Median refuge islands

Reston Parkway Station Area RMAG W&OD Bicycle Route

Excerpt from p. 77 of *Wiehle Avenue/ Reston Parkway Station Access Management Plan*, April 15, 2008

- Recommended Improvements
  - Formalized ramp connections to Town Center Parkway
  - Dedicated bike lanes with good connections to ramps to W&OD
  - Direct bike lane access into station area

Figure ES - 1: Recommended Station Access Management Actions

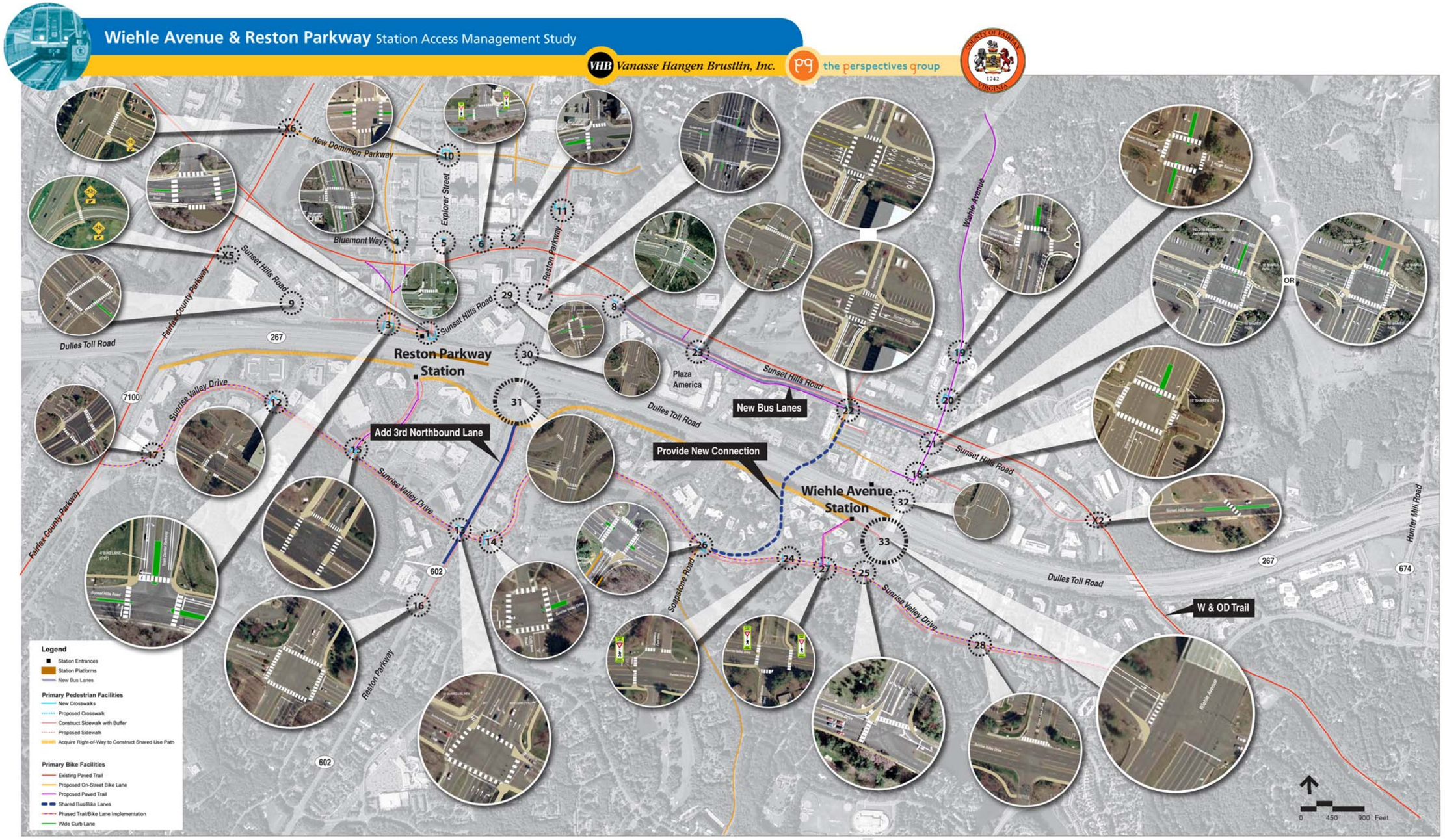
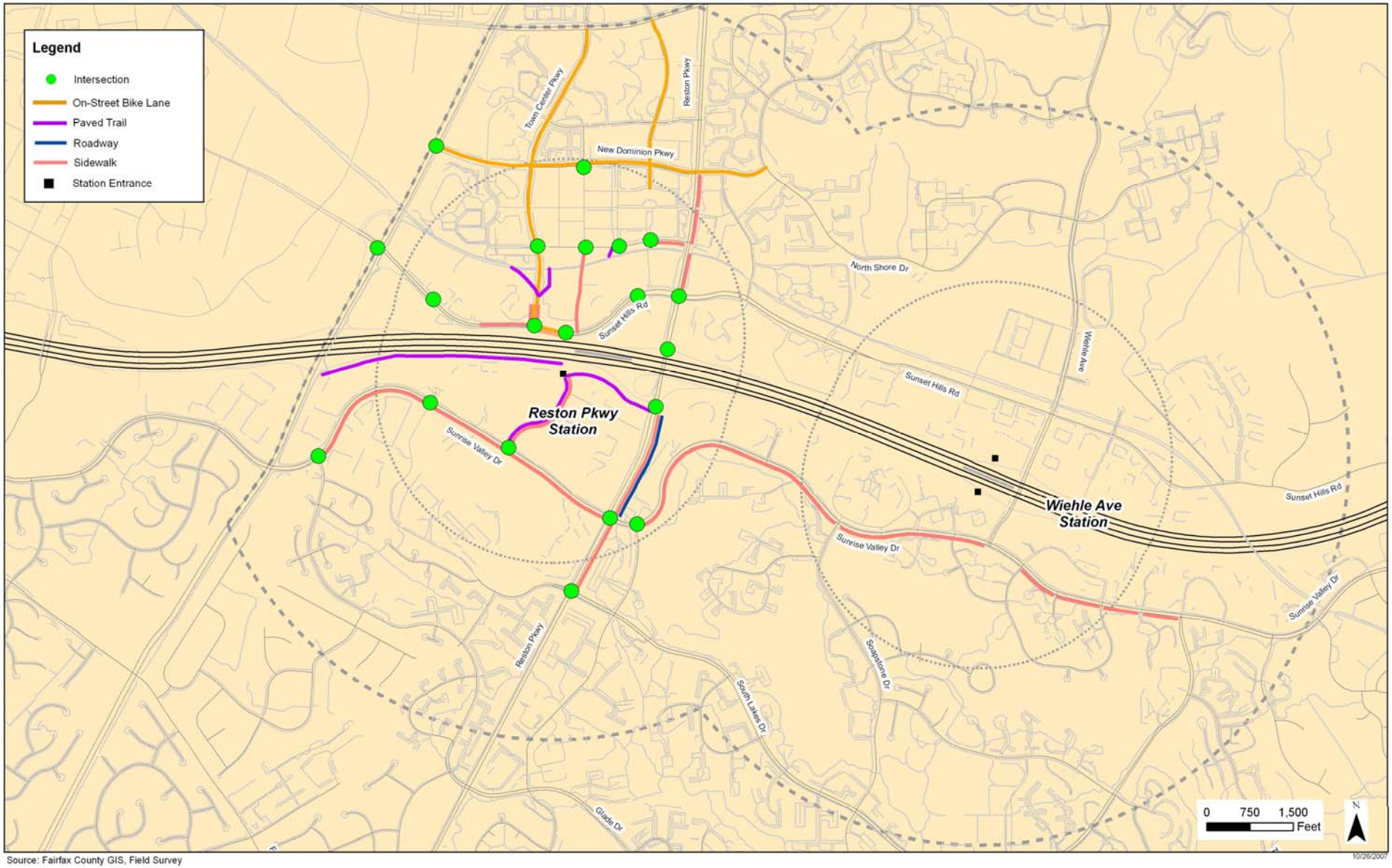


Figure ES - 5: Reston Parkway Station Projects



Source: Fairfax County GIS, Field Survey

10/26/2007

costs would be associated with this project, however a detailed study would be necessary in order to determine the exact quantitative benefits of the bus lanes.

d. Internal Street Network

The transportation network around the Wiehle Avenue station is comprised primarily of major thoroughfares (i.e. Wiehle Avenue, Sunset Hills Road and Sunrise Valley Drive) and much smaller streets and driveways that provide access to individual buildings and developments. Because of this, most vehicles traveling in the area must use one of the major congested routes or intersections. The potential exists to develop additional roadway connections as a way for local travel to avoid the more congested major roadways.

Much of the infrastructure that would be necessary to develop this internal grid of streets already exists in the form of small access road and driveways. Some of these existing facilities could be expanded along with intersection improvements at the access points to ease traffic congestion and vehicle delays. These connector streets would have the added benefit of providing more direct connection to pedestrians and bicyclists, a subject that will be discussed further in Chapter 4.

The previously discussed Soapstone Connector would provide additional connections through the "back door" to the Wiehle Avenue station. Extending this roadway across Sunset Hills Road onto Isaac Newton Square W provides further connections. Likewise, Isaac Newton Square S/Roger Bacon Dr can provide an east-west connection north of Sunset Hills Rd. Other private driveways in the station area could also be upgraded to carry local through traffic.

E. Findings and Discussion of Needs

The analyses of the Baseline and "Robust" Alternatives provided insight into the roadway actions needed to handle the projected demand. The actions identified for the Baseline roadway should all be implemented, and a select few from the "Robust" Alternative should also be included. The listing of recommended projects, illustrated on Figure 2-20, is as follows:

A. New signal and turn lanes on Sunset Hills Road for access into the proposed Reston Parkway Metrorail station
B. New left turn lane for westbound left turning movement at the intersection of Sunset Hills Road/Isaac Newton Square W, this would replace the shared left-through lane by providing a dedicated turn lane.
C. Add a second left turn lane for northbound traffic at the intersection of Wiehle Avenue and Metro Access (between Sunset Hills Road and the DIAAH) and provide a second inbound lane
D. Add an additional left turn lane on the eastbound DIAAH off-ramp at Wiehle Avenue
E. Improve the existing right turn lane for the eastbound Sunset Hill Road leg at Wiehle Avenue
F. Improve the existing right turn lane for the westbound Sunrise Valley Drive approach at Wiehle Avenue leg
G. Add northbound through lane for the Reston Parkway at Sunrise Valley Drive, continuing the lane to the ramp for eastbound DIAAH
H. Improve the right turn lane for the southbound Reston Parkway leg at Sunrise Valley Drive
I. Provide a new connection over the DIAAH to connect the major east-west roadways: Sunset Hills Road and Sunrise Valley Drive. The connection would be between Soapstone Drive and Isaac Newton Square W and would include one shared bus/bike lane in each direction.

J. Expand Sunset Hills Road between Wiehle Avenue and Old Reston Avenue to six lanes. Additional lanes will be operated as dedicated bus lanes in peak periods.

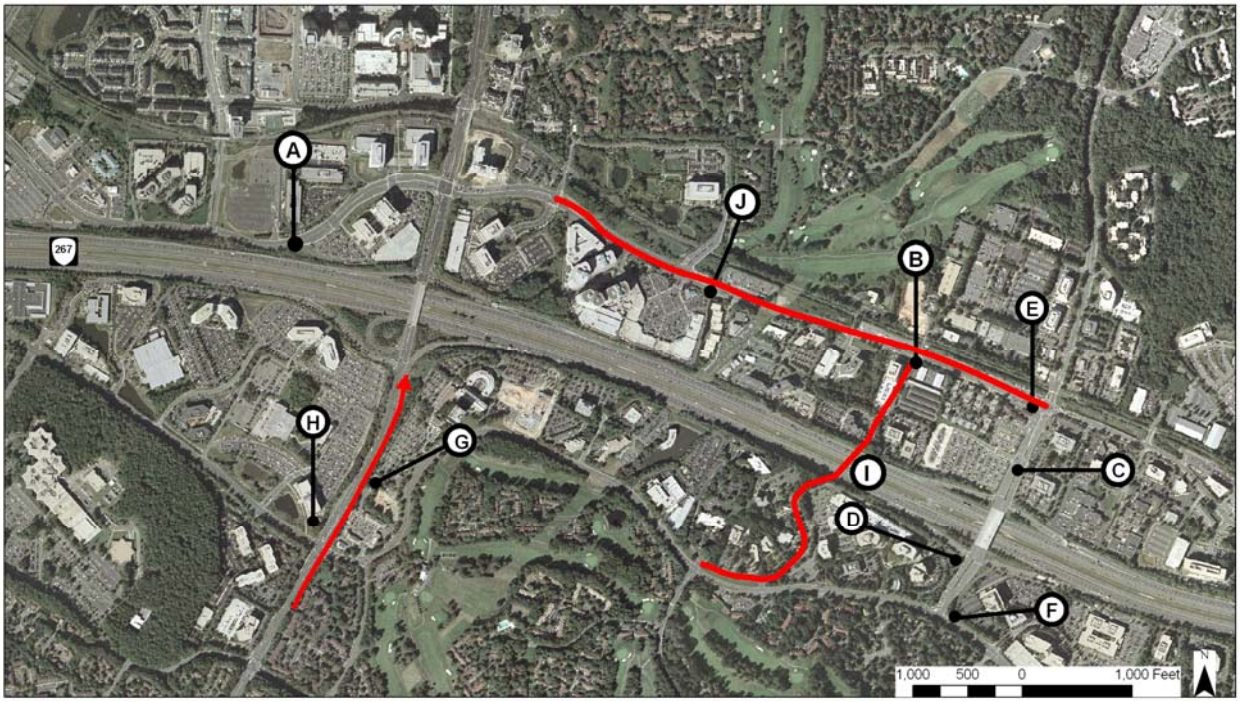


Figure 2-20: Locations of Recommended Roadway Actions

Actions 9, 10, 11 and 12 (i), previously identified for the "Robust" Alternative, are not recommended. These projects were as follows:

9. Adding a second right turn lane for the northbound Wiehle Avenue at Sunset Hills Road.
10. Adding a second right turn lane for the southbound Wiehle Avenue leg at Sunrise Valley Drive.
11. Add an additional left turn lane for the eastbound Sunrise Valley Drive leg at Wiehle Avenue.
12. (i) Providing a connection between Sunset Hills Road and Sunrise Valley Drive via Town Center Parkway and Edmund Halley Drive.

It should be noted that even with implementation of all the roadway actions, the peak period demand for both the AM and PM periods cannot be served within the three hour peak period. Lengthening of the peak period should be expected.

The north-south thoroughfares are heavily travelled, but the east-west routes are as important to overall mobility in the area. Currently, both Sunrise Valley Drive and Sunset Hills Road are considered minor arterials according to the Fairfax County Comprehensive Transportation Plan. The numbers of lanes on both facilities vary depending on location. For the most part, Sunrise Valley Drive is a 4-lane facility, except near Hunter Mill Road, where it is a 2-lane roadway. Sunset Hills Road varies between 2 to 6 lanes depending on the section. The major factor of impedance to east-west mobility is the conflict for green time with north-south arterials like Fairfax County Parkway, Reston Parkway and Wiehle Avenue. These north-south arterials carry more traffic than the former. If green time were increased for the east-west arterials where they cross the major north-south arterials, then it would come at the expense of north-south mobility.

- Signal priority for transit vehicles; and
- Real time traffic information.

An additional study would be necessary to determine the best applications and locations for these and other forthcoming technologies.

G. Implementation

This chapter has detailed many projects and policies that are recommended for the areas surrounding the Wiehle Avenue and Reston Parkway Metrorail stations. These actions will help ease traffic congestion in the area, improve circulation for all modes of travel and provide easier access and egress to the stations themselves. Each of these projects must compete with each other and with the other improvements recommended in later chapters of this report for scarce resources, including time and funding. Detailed engineering analysis has not been performed on any of the recommended projects, however planning level cost estimates have been developed based on similar projects that have been completed in the area.

Timing will be a key issue in implementation of these recommended actions, as there is a lot of work to be done in a limited timeframe. Based on the phased opening of the two stations in this study, some of the improvements will be necessary for access to the Wiehle Avenue station (scheduled to open first) and others will be required for the opening of the Reston Parkway station. Still other projects will be necessary in the long run to ease expected congestion in the area. The sections below provide cost estimates for each of the proposed actions and a list of priorities for the roadway projects. Integrated priorities between all of the different modes can be found in Chapter 5.

a. Cost

Fourteen roadway improvement projects have been identified in this chapter that will improve accessibility around the proposed Wiehle Avenue and Reston Parkway Metrorail stations. Cost will play an important role in the implementation of these projects, as funding must be assured before any design or construction can begin. Potential funding sources for projects recommended throughout this report can be found in Chapter 5. Rough cost estimates have been developed for each of the recommended projects in this chapter. These estimates are in 2007 dollars and prices are expected to increase annually.

Table 2-9 shows the estimated cost for each type of roadway improvement, the quantity of each recommended in the study area and the total estimated construction cost. These costs include the construction costs for each item and a substantial contingency for right-of-way costs, engineering work and other potential expenses, however actual costs may be more or less depending on the circumstances encountered at each location. Major utility relocation is not included, as information on existing utilities is not known. Utility relocation can be expensive. Annual costs for maintenance and operation have not been included in these estimates.

If all of the recommended projects were constructed in 2007, the total cost would be approximately $70 million dollars. Almost half of that total (49%) is associated with the various contingencies and right-of-way costs that cannot be ascertained at this time. By far the most expensive item in the recommended roadway program is the construction of the Soapstone Connector over the DIAAH, with a total estimated cost of $32 million for the bridge itself and an additional $10 million for other roadway construction, which is more than half of the total program cost. The roadway widening associated with

the internal street grid is estimated to cost an additional $11 million, while the bus lanes on Sunset Hills Rd are expected to cost approximately $8.1 million.

Table 2-9: Estimated Roadway Improvement Costs

Road Actions	Units	Quantity	Unit Cost	Contingency Per Unit	TOTAL
New Signal Installation	EA.	4	$319,500	$431,300	$3,003,200
Install new, or improve existing turn bay	EA.	8	$213,000	$287,600	$4,004,800
New travel lane on Reston Parkway	mile	0.38	$1,863,800	$2,516,100	$1,659,100
Add internal roadway links	mile	1.28	$3,727,500	$5,032,100	$11,212,300
Improve/Widen roadway from 2 to 4 lanes	mile	0.66	$8,413,500	$6,478,400	$9,871,500
New bridge over DIAAH	sq ft	56,000	$320	$250	$31,920,000
Bus Lanes on Sunset Hills Rd	mile	1.86	$1,863,800	$2,516,100	$8,146,600
TOTAL					**$69,817,500**

Appendix A includes the total estimated cost for each of the fourteen improvements (A-N) recommended in this chapter.

b. Prioritization

Each of the roadway projects that are recommended in this chapter is important in order to provide the best possible access to the Wiehle Avenue and Reston Parkway Metrorail stations. Some improvements provide a greater increase in accessibility than others, and are therefore prioritized more heavily. Additionally, as the rail line is scheduled to be opened in Reston in two phases, the first priority must be placed on providing access to the Wiehle Avenue station, which will be opening in the first phase. Table 2-10 below shows the fourteen recommended roadway projects according to the priority for providing improved accessibility in the immediate station vicinities. This prioritization table recognizes that importance does not always match with ease of implementation and that some of the very important, high priority projects (such as the Soapstone Connector) are large scale projects that will take significantly longer than smaller projects to plan, engineer and construct. Still others may be lower priority small projects, or projects that can be completed in association with redevelopment projects in the area. When opportunities arise to implement these actions they should not be passed by simply because they are lower on the priority listing.

Table 2-10: Roadway Improvement Priorities

	Project	Priority	Included in Record Of Decision	Comments
B	New left turn lane for westbound left turning movement at Sunset Hills Rd & Isaac Newton Sq. This would replace the shared left-through lane by providing a dedicated turn lane.	1st Priority	Yes	
C	Add a second left turn lane for northbound traffic at Wiehle Ave & Metro Access (between Sunset Hills Rd & DIAAH) and provide a second inbound lane.	1st Priority	Yes	
D	Add an additional left turn lane on the eastbound DIAAH ramp at Wiehle Ave	1st Priority	Yes	
E	Improve the existing right turn lane on eastbound Sunset Hills Rd at Wiehle Ave	1st Priority	Yes	

	Project	Priority	Included in Record Of Decision	Comments
F	Improve the existing right turn lane for westbound Sunrise Valley Dr at Wiehle Ave	1st Priority	Yes	
I	Provide a new connection over the DIAAH between Soapstone Rd and Isaac Newton Sq W, to connect the major east-west roadways: Sunset Hills Rd & Sunrise Valley Dr.	1st Priority	No	Long-term improvement
K	Isaac Newton Square West from Isaac Newton Square South to the station as an extension of the proposed Soapstone Connector.	1st Priority	No	
A	New signal and turn lanes on Sunset Hills Rd for access into the proposed Reston Parkway Metrorail station	2nd Priority	Yes	
G	Add northbound though lane on Reston Parkway at Sunrise Valley Dr, continuing the lane to the ramp for eastbound DIAAH	2nd Priority	Yes	
H	Improve the right turn lane for southbound Reston Parkway at Sunrise Valley Dr	2nd Priority	Yes	
J	Provide bus lanes on Sunset Hills Rd from Wiehle Ave to Old Reston Ave	3rd Priority	No	Long-term improvement
L	The Station Entrance (already planned for improvements as part of station construction) should be extended across Wiehle Avenue to the Private Driveway as far east as Samuel Morse Dr.	3rd Priority	No	To be constructed (if possible) in association with redevelopment
M	Michael Faraday Court extension from the new roadway described in (L) north to the extended Roger Bacon Dr described in (N)	3rd Priority	No	To be constructed (if possible) in association with redevelopment
N	Extension/improvements to Isaac Newton Square South from Isaac Newton Square West to Wildlife Center Drive.	3rd Priority	No	To be constructed (if possible) in association with redevelopment

All of the recommended projects that were included in the Record of Decision (ROD) are mitigation efforts required as part of the construction of the rail project. These projects will not be paid for by Fairfax County and should all be constructed in conjunction with Phase I of the rail project. Based on this study, those ROD projects that are directly adjacent to the Wiehle Avenue station are designated as first priority because this station will open first. In addition, the Soapstone Connector and its extension across Sunset Hills Rd to Isaac Newton Square are also ranked as 1st priority project for the same reasons. Second priority projects are those which improve access primarily to the Reston Parkway station. The third priority grouping is reserved for projects that will help relieve some of the congestion that is expected on a long-term basis in the station areas.

A multi-modal priority listing that incorporates the above priorities and also includes all of the modes studied in this plan is the main subject of Chapter 5.

Figure 3-3: Pedestrian Network Recommendations

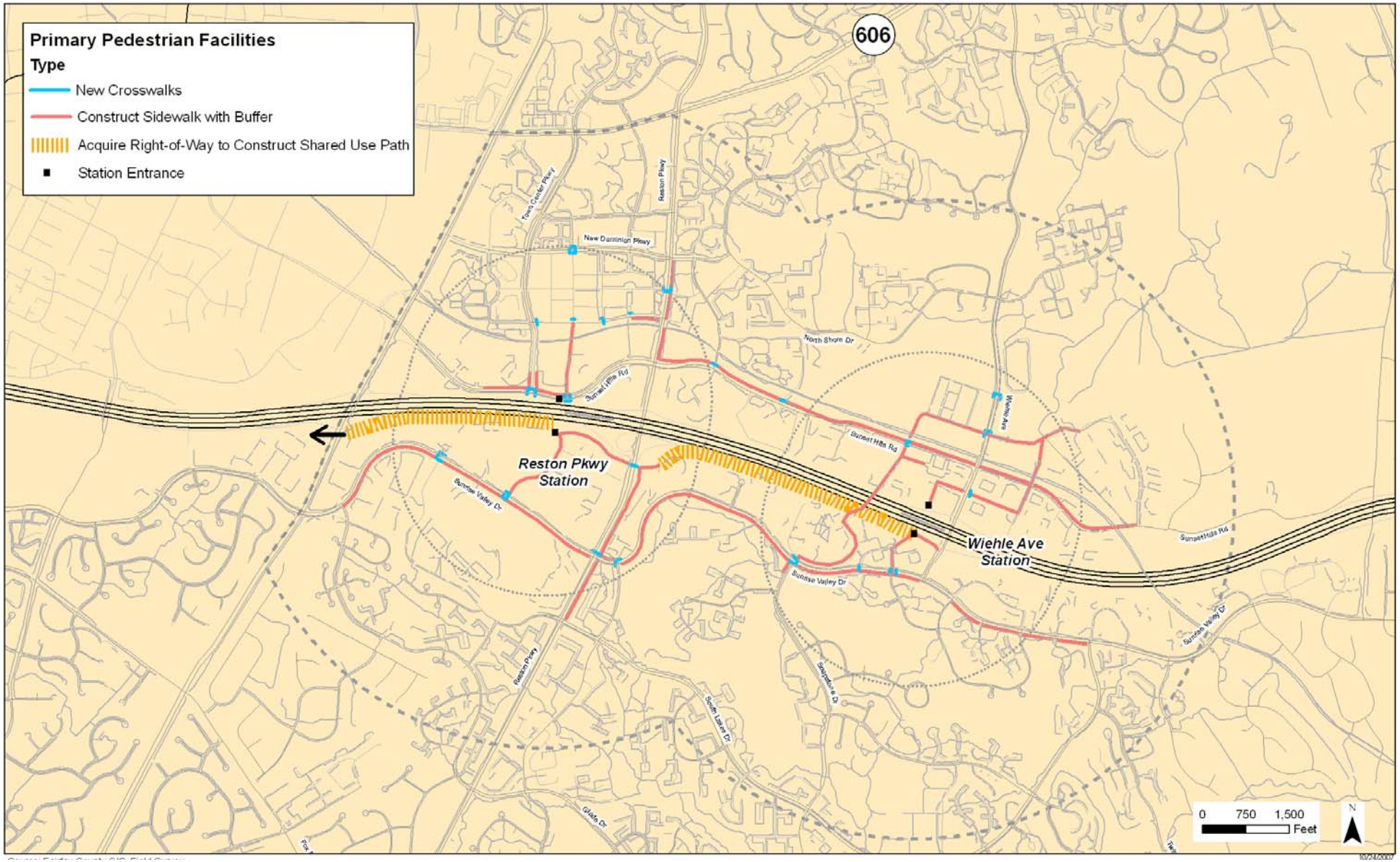
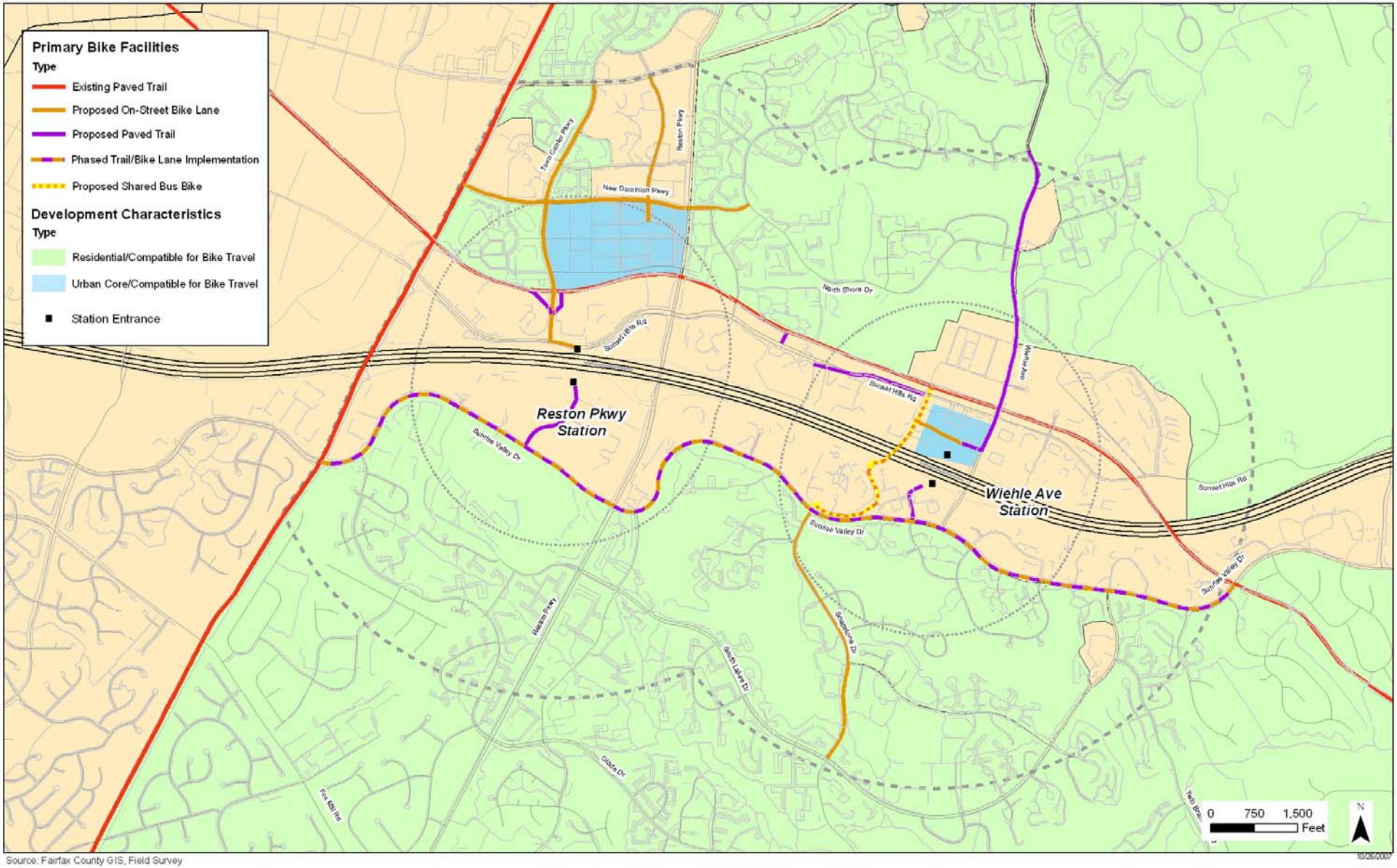


Figure 3-4: Bicycle Network Recommendations



Source: Fairfax County GIS, Field Survey

Appendix G: Other Community Projects

Several projects were recommended by community members and the RMAG that were investigated by the study team. While they were not recommended for this report, some of them may be analyzed again and constructed in the future.

Reston Parkway Grade Separated Crossing (skyway)

Interest has been expressed in a grade separated crossing of Reston Parkway at the eastbound DIAAH ramps (I31 just south of the DIAAH). The owner of the parcel directly to the east of Reston Parkway is currently planning for redevelopment and is interested in the potential of a direct, grade-separated crossing to the Reston Parkway station. Often referred to as a skyway, a pedestrian tunnel might also be possible in this area. Generally, grade separated crossings are not popular with pedestrians and bicyclists because they often require steep grade changes; they require users to go out of their way; or there may be safety concerns. All of these issues must be resolved to get pedestrians and bicyclists to use a grade separated crossing instead of an at-grade one. Additionally, if a grade-separated crossing were designed for this location there must be some type of destination located on the same level as the crossing; shopping or entertainment venues without a grade change help to encourage the use of grade separated crossings. Finally, a grade-separated crossing at this location should be accessible to all users of the proposed trail; bicyclists will be encouraged to use this trail and should not be required to dismount inside a building in order to use the crossing. Based on other similar projects completed elsewhere, a grade-separated crossing of Reston is estimated to cost approximately $2 million.

Bicycle/Pedestrian crossing of DIAAH

There is some support in the Reston community for a pedestrian and bicycle bridge across the DIAAH between Reston Parkway and Wiehle Avenue to provide additional north-south connectivity in the area. One suggested routing would connect the back side of Plaza America area with the International Center area (which is currently slated for redevelopment by JBG Properties.) While this bridge was not explicitly recommended at the current time in this report, such a connection might be valuable and possible in the future in association with major redevelopment of some of the parcels in the area. The cost of such an improvement is likely to be rather high due to its length and the need to construct it over a busy highway. As an example, the Millennium Trail pedestrian/bike bridge that crosses I-270 in Rockville was contracted for construction at $4.2 million in 2006[28]. Depending on the specific requirements of a similar bridge in Reston, the cost would be projected to be at least $6 million.

Trail to the North side of the DIAAH

This report recommends the construction of a shared-use trail paralleling the DIAAH to the south; it has not recommended a similar trail to the north of DIAAH. While the time savings provided to pedestrians and bicyclists provided by this northern path are less substantial than the southern path, the community may have additional uses for this path which is included in the most recent Fairfax County Trails Plan. Because the buildings in the area near this proposed trail are distinctly oriented towards Sunset Hills Rd, especially at Plaza America, redevelopment may be necessary before this path can be completed. The presence of secure facilities and buildings in the area may add further complications to the design of this path.

[28] "City Approves Bid for Scaled-Back Hiking Trail" The Gazette. Warren Parrish. April 12, 2006. < http://www.gazette.net/stories/041206/aspenew223733_31973.shtml>