

Appendix B:

City of Fredericksburg Comprehensive Plan Transportation Analysis

July 2007

prepared for
City of Fredericksburg



by

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C L A R I O N

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City of Fredericksburg Comprehensive Plan

Transportation Analysis

July 2007

1 Transportation Overview

The City of Fredericksburg has been a transportation hub from the day it was founded. The Rappahannock River, plank roads, railways, and state and federal highways have successfully linked the City with the broader economy. The Fredericksburg area, however, also has its own transportation network to provide balanced circulation patterns that enhance local commercial and residential development.

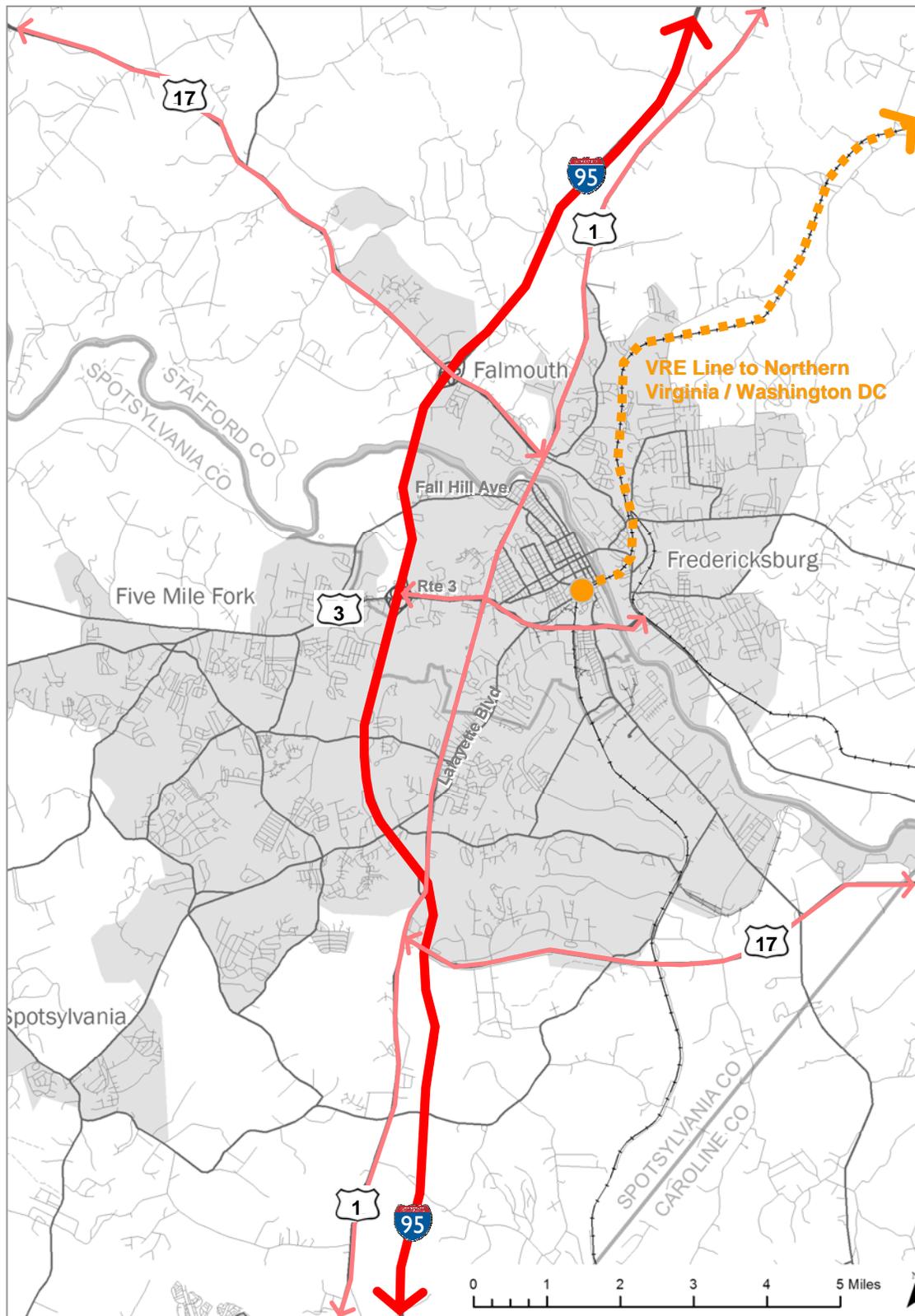
Transportation challenges in Fredericksburg fall into two main categories: 1) through traffic, primarily along the I-95 and Route 1 corridors, and 2) local transportation issues that encompass various modes of transportation. Fredericksburg's transportation system includes a coordinated hierarchy of roadways comprised of interstate highways, regional roadways, connector roads, and local streets that serve the City's neighborhoods (see Figure 1). Of equal importance are the secondary systems that provide walking, bicycling and transit opportunities and generally enhance mobility throughout the City. Attention to mobility issues reinforces other plan goals, including facilitating mixed-use development patterns, promoting economic development opportunities, and implementing environmental protection initiatives. This report analyzes existing and future conditions of various modes of travel, discusses "best practices" used in other communities, and presents recommended transportation and mobility goals, policies and initiatives.

2 A Multi-Modal System

The most sustainable transportation systems are those that are multi-modal. Multi-modal systems are integrated and balanced, promoting safety and efficiency without an undue reliance on a single mode of transportation. Streets that are multi-modal are often referred to as "complete streets." Key factors of Fredericksburg's future transportation system are full implementation of the roadways plan, the development and promotion of a first-rate transit system, and improving facilities for pedestrians and bicyclists. Encouraging and facilitating travel modes other than the single-occupant vehicle will pay multiple dividends to the community. For example, efforts to decrease traffic congestion, through alternative modes of travel, result in health benefits, both in terms of maintaining cleaner air as well as promoting healthy lifestyles. In addition, minimizing impervious surfaces devoted to surface parking lots reduces negative impacts on water quality. Increased accessibility resulting from sidewalks and paths also expands mobility and recreational opportunities.

The City of Fredericksburg has been a member of the Fredericksburg Area Metropolitan Planning Organization (FAMPO) since its inception in 1992. FAMPO engages in regional

Figure 1: Existing Transportation Facilities



transportation planning and the FAMPO *2030 Constrained Long Range Plan (CLRP)* identifies and details the multi-modal transportation improvements for the FAMPO's entire study area. The CLRP also establishes timeframes and financial mechanisms for implementing each project. The projects highlighted in this report relate to the overall multi-modal system specifically within the City of Fredericksburg.

2.1 Pedestrian and Bicycle Ways

Making the City bicycle- and pedestrian-friendly is a high priority for Fredericksburg citizens and officials. The City recognizes the need to provide the facilities for these alternative modes of transportation. Enhancing the City's pedestrian environment not only increases safety for those who choose to walk, but also enhances the general quality of life for Fredericksburg citizens and adds to the economic vitality of the City and its downtown. Enhancing bicycle safety and making the City more bicycle-friendly goes hand-in-hand with pedestrian improvements. Cities the size of Fredericksburg are ideal environments for bicycling. The City's compact geography results in short trip distances and vehicular traffic volumes and travel speeds are generally low except on major arterials.

Existing Conditions

Like many cities, Fredericksburg's pedestrian and bicycle systems have evolved over time. In general, the older areas of the City, including the downtown, are very walkable, with complete and connected sidewalk systems and provisions for safe street crossings. Other sections of the City, however, especially the commercial areas along primary transportation corridors, are designed primarily with the automobile in mind. These areas typically lack sidewalks, are not inter-connected, have poor internal pedestrian circulation, and do not have adequate infrastructure in place for crossing multi-lane streets.

The City does not have striped on-street bicycle lanes. New roadways, such as Cowan Boulevard, have been developed to include separate bike trails. There are also a number of other shared-use trails that are appropriate for bicycle use and many of the City's streets are good streets for bicyclists to share the road with motorists.

The City recently completed *Fredericksburg Pathways: A Bicycle and Pedestrian Master Plan*, a comprehensive study of pedestrian and bicycling needs in the community. The *Pathways* plan is an excellent tool for planning for future pedestrian and bicycle improvements, with an emphasis on developing shared-use trails and pathway systems throughout the City, and further into the region. The plan notes that the City currently has over 13 miles of trails, noted below in Table 1, and shown in Figure 2:

Figure 2: Pathways Plan, Existing Trails and Proposed Pathways System

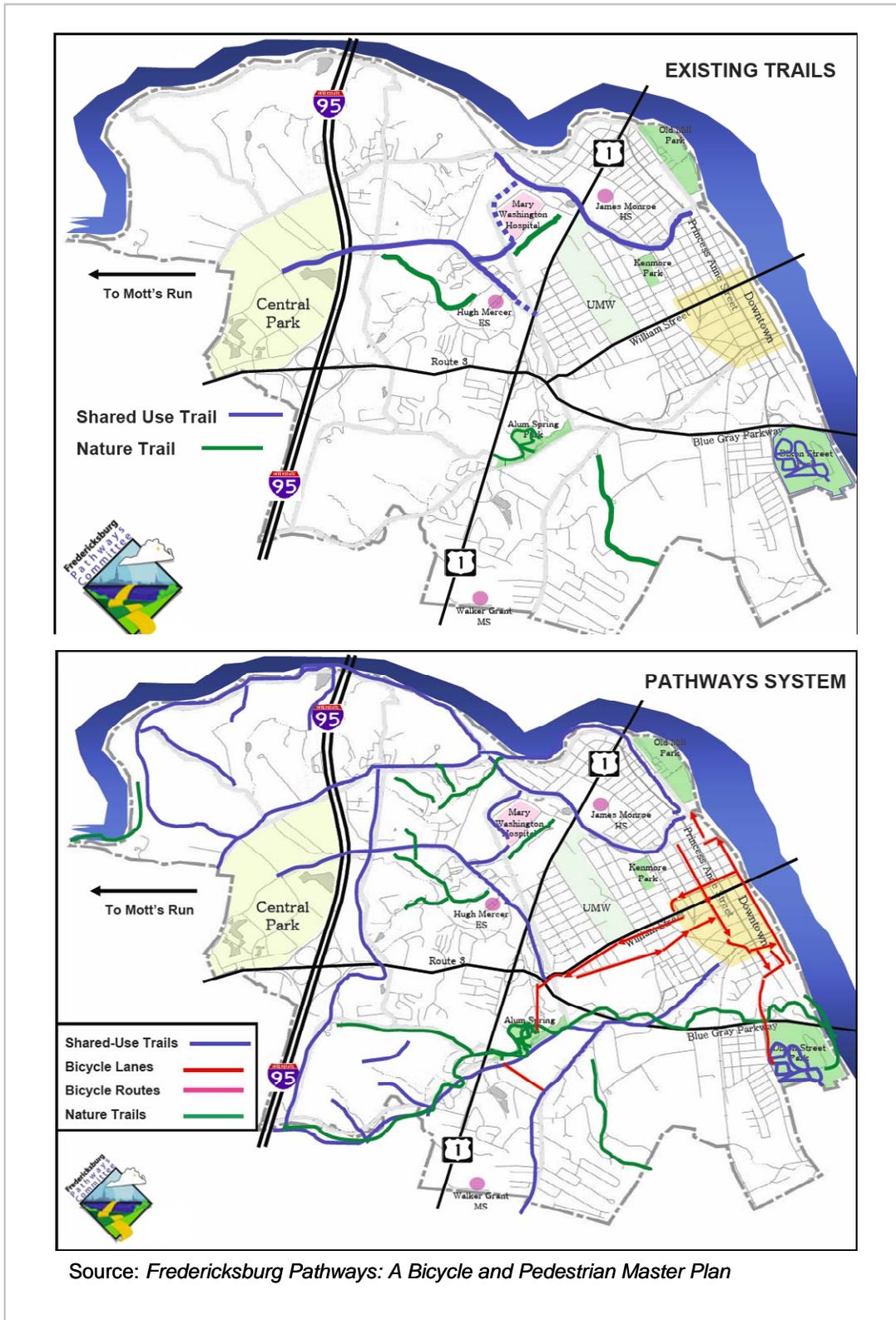


Table 1: Existing Trails

Trail Name	Type	Length
Canal Path	Separate shared-use trail	1.75 miles
Cowan Boulevard Trail	Separate shared-use trail	1.7 miles
Mary Washington Blvd and Sam Perry Blvd Trails	Shared-use trails	.75 miles
Alum Springs Trails	Natural walking trail	1 mile
Mott's Run Trails	Natural walking trails	5 miles
Smith Run Trail	Natural walking trail	.7 miles
Mary Washington Hospital Trail	Natural walking trail	.5 miles
Battlefield Trails	Natural walking trails	Various
Dixon Park Circuit	Surfaced recreational trail	1 mile
Univ. of Mary Washington Fitness Trail	Surfaced track	.75 miles

The *Pathways* plan also notes the importance of improving pedestrian safety at intersections. In some parts of the City, crosswalks and pedestrian safety signage and other countermeasures are lacking, creating precarious situations for pedestrians.

Future Conditions

Implementing the recommendations of the *Pathways* plan will help achieve walkability in the community and will also enhance the bicycling environment, making the bicycle a viable mode choice. The plan identifies four main goals for developing the Fredericksburg Pathway System:

- Goal 1: Develop a trail system for bicycle/foot traffic
- Goal 2: Maintain established trails
- Goal 3: Promote user safety
- Goal 4: Continue to improve trails and trail access

Projects in the proposed trail system are divided into four categories in the plan: separate shared-use trails, shared roadways, natural/historic sites trails, and regional connections. These facilities, totaling over 26 miles, are summarized in Table 2 below, and also shown in Figure 2:

Table 2: Proposed Trails and Connections

Facility	Length
Separate shared-use trails	
Embrey Dam/Rappahannock Canal Trail	1.5 to 2.5 miles
Fall Hill Avenue Trail	1.7 miles
Rappahannock River Heritage Trail	1.6 miles
Virginia Central Railway Trail	3.5 miles
North-South Trail	1.9 miles
Lafayette Boulevard Trail	1.5 miles
Cowan Boulevard/William Street Connector	0.6 miles
William Street/Plank Road Trail	0.6 miles
Shared roadways	
Springwood Drive Trail	0.4 miles
Downtown Loop	2.6 miles
Alum Springs Loop	3.5 miles
Downtown-Dixon Park Route	1.5 miles
Nature/historic sites trails	
Celebrate Virginia Trails	Various
Hazel Run Trail	4.6 miles
Fall Hill Greenway	1.0 miles
Idlewild Trails	Various
Smith Run Trail (extension)	0.3 miles
Dixon Park Trail	0.6 miles
Rappahannock River Trails	tbd
Regional connections	
Chatham Bridge Link	0.16 miles
Falmouth Bridge Link	0.16 miles
East Coast Greenway	Inter-regional

Bike paths are also planned as part of roadway improvement projects identified in the FAMPO 2030 *Constrained Long Range Plan* (see Section 2.2). The City also participates in the regional bicycle planning efforts, such as development of the *Regional Bicycle and Pedestrian Plan*.

Riverfront Park, City Dock, and Ferry Farm

Fredericksburg's Riverfront Park and City Dock are modern links between the town and the Rappahannock River that spawned its existence. These parks provide recreational facilities

and also include educational features related to the long relationship between the City and the River.

Continued development and use of the riverfront areas as a pedestrian linkage with other parts of the City will help to more fully realize the River's recreational potential. Walkways and trails will readily connect the downtown/riverfront area with surrounding residential communities. Further, the George Washington's Fredericksburg Foundation would like to restore ferry service with George Washington's boyhood home at Ferry Farm. This link would connect a nationally important historic site with historic downtown Fredericksburg.

2.2 Roadways

Existing Conditions

Automobile access to Fredericksburg is provided by a number of primary routes. I-95 bisects the City, running north-south, with Washington DC to the north and Richmond to the south. I-95 currently carries over 160,000 vehicles per day, a 17 percent increase over 2001 levels, and is expected to carry 180,000 vehicles per day by 2025. Other major routes through Fredericksburg include US 1, US 17, and VA 3. Daily traffic volumes on all primary routes have increased since 2001 (see Figure 3).

State Route 3 (William Street) serves as the City's primary east-west route. Additional east-west access is provided by US Route 17-Business (Dixon Street) and US Route 1-Business (Lafayette Boulevard and Princess Anne Street). The Route 3 Bypass (Blue and Gray Parkway) has become a major east-west arterial. Interchanges are located at Dixon Street, Lafayette Boulevard, and William Street. Interstate-95 is a large barrier to east-west travel, but three roads cross this highway in Fredericksburg – State Route 3, Cowan Boulevard, and Fall Hill Avenue.

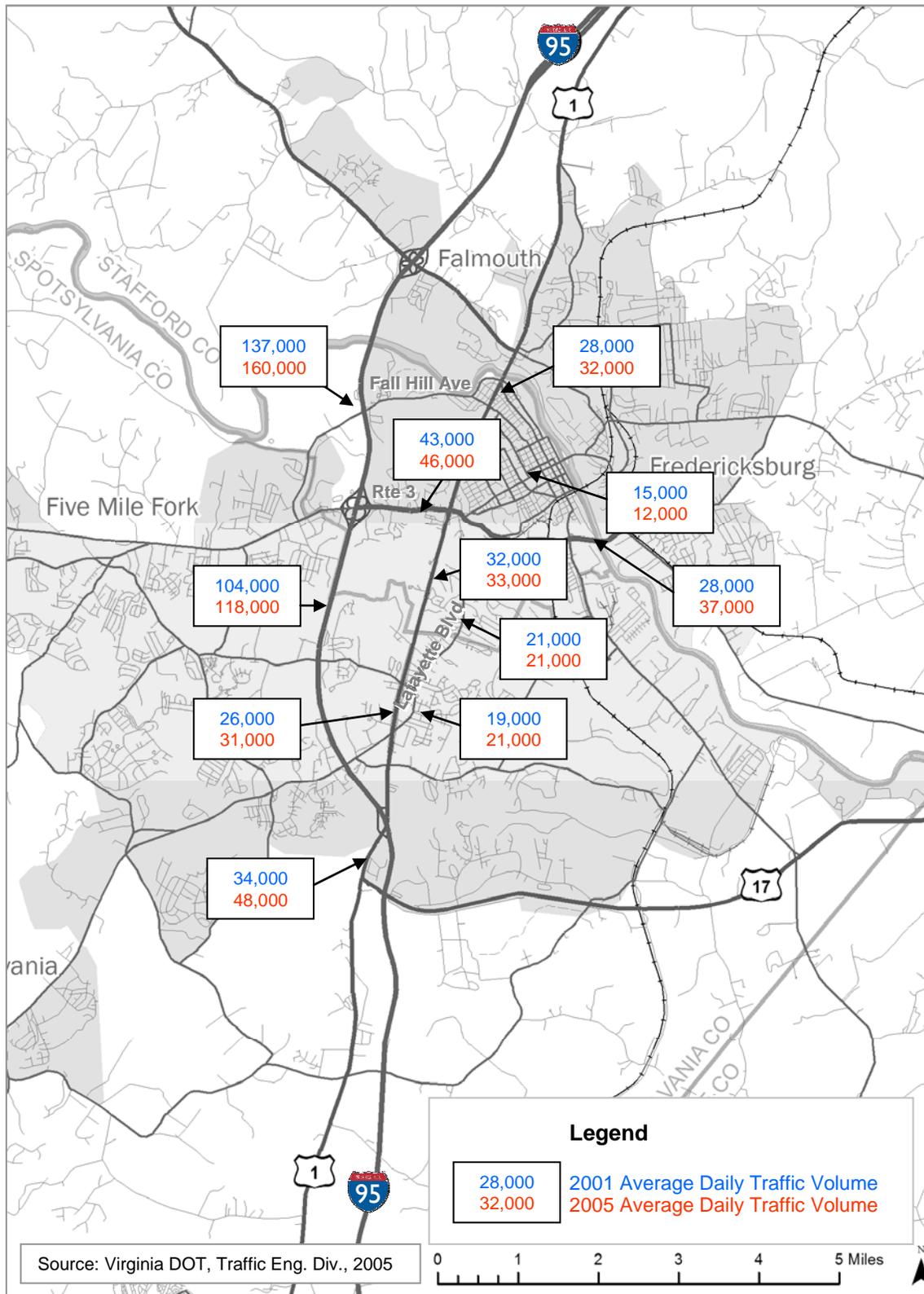
Two sets of one-way streets accommodate traffic within the Downtown Business District. The William Street-Amelia Street corridor serves east-west traffic while the Princess Anne Street-Caroline Street corridor handles north-south traffic.

The US Route 1 Bypass (Jefferson Davis Highway) is a major north-south arterial through the middle of the City. This facility served as the Fredericksburg bypass prior to construction of Interstate-95. Interstate-95 is the part of the National Highway System that cuts through the City on a north-south axis. The only interchange within the City is at State Route 3.

The Richmond, Fredericksburg, and Potomac Railroad tracks (now part of CSX Corporation) link the City with major railroad facilities through Washington, DC and Richmond. The Rappahannock River, which serves as the City's north and east border, is a natural barrier to transportation. The five crossings are as follows:

- Interstate-95 (I-95 bridge)
- US Route 1/Jefferson Davis Highway (Falmouth Bridge)
- State Route 3/William Street (Chatham Bridge)
- CSX railroad tracks (Rappahannock River Bridge)
- State Route 3 Bypass/Blue and Gray Parkway (Ferry Farm/Mayfield Bridge)

Figure 3: Annual Average Daily Traffic (AADT) (2001 and 2005)



As a result of the 1990 Census, the Fredericksburg area was recognized as an Urbanized Area. The urbanized designation applies to the City of Fredericksburg, southern Stafford County, and northern Spotsylvania County. As a consequence of having become urbanized, the Fredericksburg area jurisdictions were required to enter into an agreement with the Virginia Department of Transportation to create a Metropolitan Planning Organization (MPO) to serve regional planning needs. The resulting Fredericksburg Area Metropolitan Planning Organization (FAMPO) is responsible for this area's transportation planning activities, including preparation of both long range regional transportation plans as well as development of the six-year transportation improvement program (TIP). The TIP is a priority listing of transportation projects from the long range plan for which actual funding has been allocated and specific activities (such as engineering or construction) have been scheduled.

The FAMPO membership consists of both voting and non-voting members. Voting members include the City of Fredericksburg (3 votes), the Counties of Spotsylvania and Stafford (3 votes each), the Virginia Department of Transportation (1 vote), and the Potomac and Rappahannock Transportation Commission (1 vote). Non-voting members include representatives from the Federal Highway Administration, the Federal Transit Administration, the Federal Aviation Administration, the Virginia Department of Rail and Public Transit, and the Counties of Caroline and King George which are not part of the MPO, but which are part of Planning District 16. FAMPO is staffed by the George Washington Regional Commission.

The FAMPO and the Virginia Department of Transportation have undertaken a number of studies aimed at increasing mobility and reducing congestion. Some of these studies include:

- Spotsylvania Parkway
- Falmouth Intersection Study
- Route 1 Corridor Analysis
- Commuter Lot Location Analysis
- High Occupancy Vehicle Lanes Operating Hours Study
- VDOT On-Call Studies
- I-95 HOV Feasibility Study
- I-95 Collector-Distributor Access Feasibility Study

The City's comprehensive network of connector and local streets provide mobility within the City and access to the primary routes. A variety of street types and designs, like the pedestrian system, have evolved over time. Many of the primary streets are functioning over capacity, and most were designed with the automobile as the highest priority. New roadways, such as Cowan Boulevard, have been developed as multi-modal corridors, incorporating bicycle and pedestrian facilities. The City also has an extensive system of alleyways, especially in the downtown area, that provide alternate means of mobility and circulation for various functions. The City has expressed interest in maintaining and enhancing the alleyway system as a means of alleviating congestion and enhancing the streetscape environment by accommodating service functions on these more hidden routes.

Future Conditions

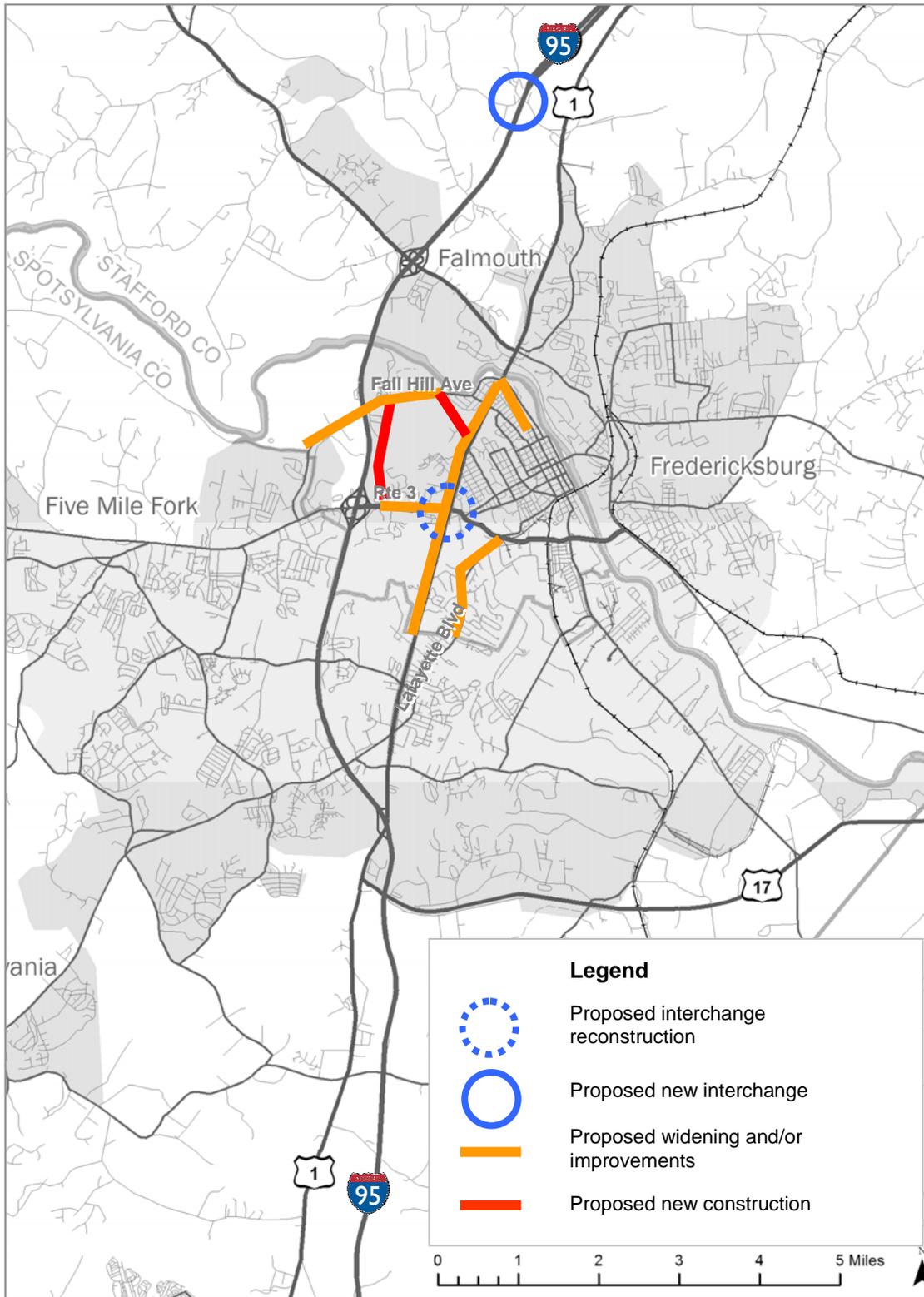
The City of Fredericksburg participates in the regional transportation planning process administered by FAMPO according to State and Federal requirements. The FAMPO *2030 Constrained Long Range Plan* has identified numerous needed roadway improvements and has established a plan for implementing them (see Figure 4). The improvements include widenings, capacity improvements, safety improvements, and bike paths. The interstate and urban system improvements for the City of Fredericksburg are listed below in Table 3, and are at various stages of development. The complete listing of proposed improvements can be found in the FAMPO *2030 Constrained Long Range Plan*.

Table 3: FAMPO 2030 CLRP, Interstate and Urban System Projects

Street Name	Location (From/To)	Description of Improvement	Cost
Interstate System			
Interstate 95	Interchange at Rte 627 in Stafford County	New construction – full clover-leaf loops	\$19,000,000
	Rte 627 interchange to Rte 630 interchange	Connecting collector-distributor lanes between interchanges	\$36,000,000
	Interchange at proposed Spotsylvania Pkwy/17 Bypass	New construction (Preliminary Engineering only)	\$2,000,000
Urban System – City of Fredericksburg			
Fall Hill Avenue/ Mary Washington Boulevard	West City Limits to Mary Washington Blvd Extension	Widen Fall Hill Avenue to four lanes, with bike path, and construct connecting four lane roadway	\$21,000,000
Jefferson Davis Hwy	South City Limits to Rte 3 interchange	Widen to 6 lanes	\$9,000,000
	Plank Road to Princess Anne Street	Widen to 6 lanes	\$18,000,000
Jefferson Davis Hwy/William Street	interchange	Reconstruct interchange	\$38,000,000
Lafayette Blvd	South City Limits to Blue-Gray Pkwy	Widen to 4 lanes with bike paths	\$14,000,000
Mahone Dr (extension)	Plank Rd to Fall Hill Ave	Construct new 4 lane divided facility with bike path	\$16,000,000
Princess Anne St	Jefferson Davis Hwy to Herndon St	Restripe and reconfigure for efficiency	\$300,000
William St/Plank Rd	Mahone Dr to Jefferson Davis Hwy	Widen to 6 lanes	\$12,000,000

All primary routes have also been identified for improvement on the *2025 State Highway Plan*, published by the Virginia Department of Transportation. Whereas the FAMPO *2030*

Figure 4: Planned Interstate and Urban System Projects - Fredericksburg (2030 FAMPO Constrained LRP)



Constrained Long Range Plan is financially constrained, the *2025 State Highway Plan* is financially unconstrained, serving as a vision plan for long term future improvements.

2.3 Bus Transit

Existing Conditions

Since 1996, the City of Fredericksburg has operated the FREDericksburg Regional Transit System (FRED). FRED routes serve the City and also extend into the surrounding counties, to provide transit access to points in Fredericksburg. FRED has continued to experience ridership increases over the last eight years, as well as increases in operating revenue and vehicles. What started out as a small, local service has developed over the last few years into a more regional service aimed at connecting people to jobs in the multi-county area. In the last few years, deviated fixed routes and shuttle routes have extended the FRED service area in Spotsylvania, Stafford, Caroline, and King George Counties. The following is a breakdown of the number of routes serving Fredericksburg and the surrounding counties:

City of Fredericksburg:	4 routes
Spotsylvania County:	2 routes
Stafford County (south):	2 routes
Stafford County (north):	6 routes
Caroline County:	2 routes
King George County:	2 routes

FRED also operates FRED Express, a special limited weekend service for students at the University of Mary Washington, which runs August through April. FRED buses also have external bike racks to accommodate bike riders.

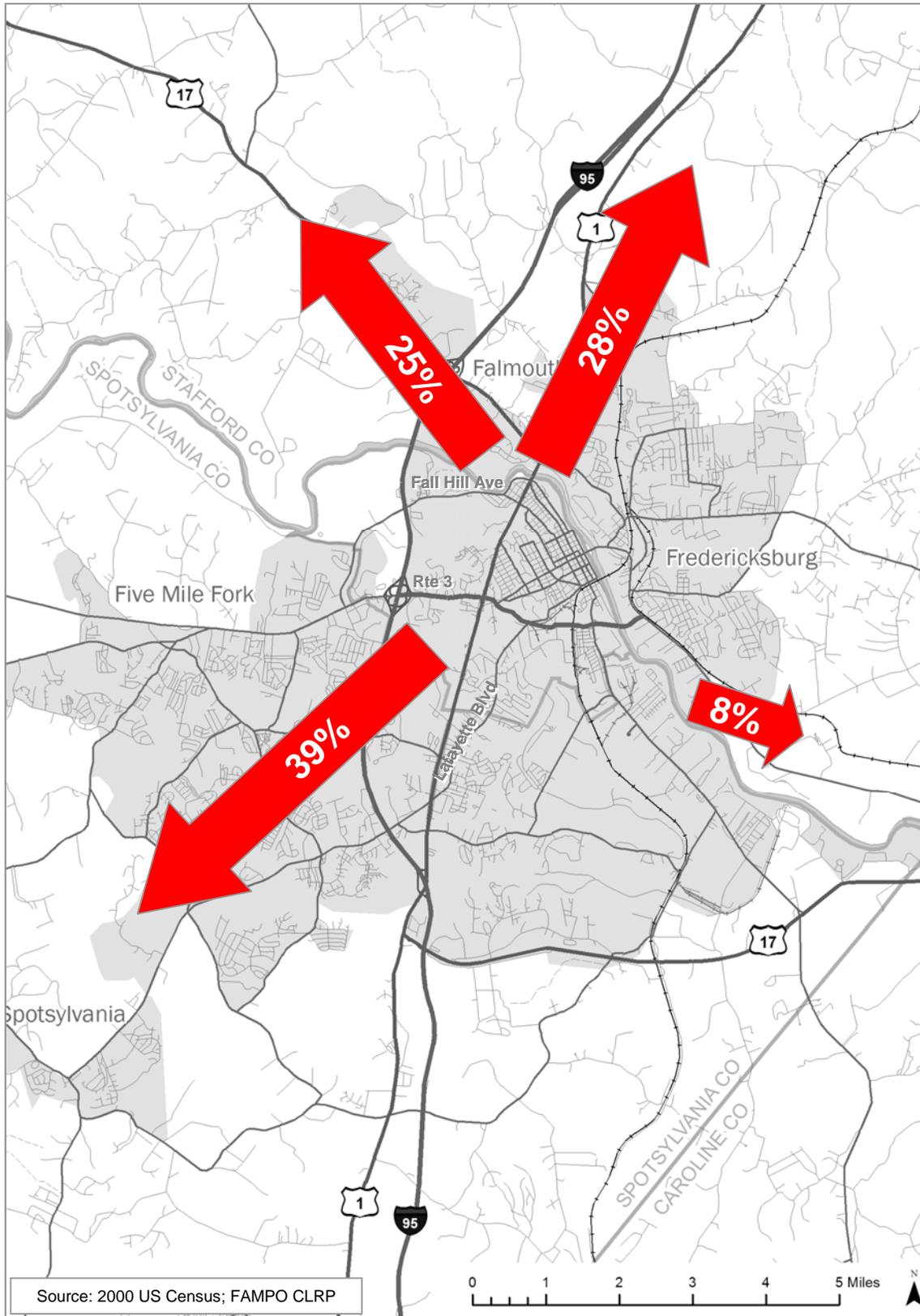
Future Conditions

Recognizing the growth and development of the FRED service, plans are underway to assess the existing system and plan for the future. One of the key questions is whether the system should continue to expand as a regional provider, or should FRED focus on expanding the urban routes and services within Fredericksburg? City officials have expressed interest in continuing dialogue with regional partners, to enhance the regional transit system, but continuing to focus limited resources on expanding FRED service locally within Fredericksburg. In order to provide a viable alternative for local commuters, bus service should connect commuters along primary commuting routes to major employment centers and commercial destinations, and should have minimum headways (time between buses). A regional system operating within the same resource structure could extend the service area geographically, but would also weaken the overall system as a viable alternative to driving to work.

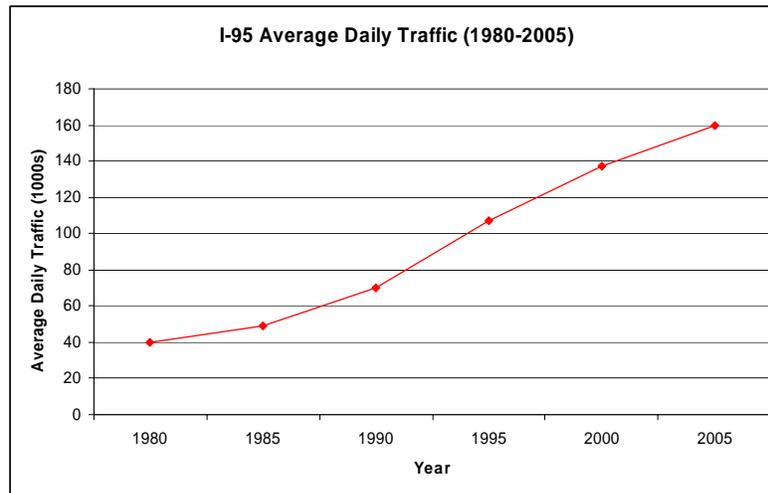
2.4 Commuting

While Fredericksburg is a strong attraction for regional employment, over half of the workers who live in Fredericksburg commute to jobs outside of the City, especially to points north (see Figure 5). I-95 carries a tremendous portion of the region's commuter load,

Figure 5: Commuting Patterns (from Fredericksburg)



currently carrying over 160,000 vehicles per day, a 50 percent increase in the last ten years, and a 300 percent increase since 1980 (see chart below).



As roadways have become less attractive, commuters have looked to other commuting options in addition to FRED bus transit. These other options include commuter rail, commuter bus service, and ridesharing.

Commuter Rail – Virginia Railway Express

In July 1992, the Virginia Railway Express (VRE) initiated commuter rail service between Fredericksburg and Washington DC. This system uses the existing tracks as well as an upgraded platform at the downtown railroad station on Lafayette Boulevard. Service is currently available Monday through Friday, with inbound service during morning rush hour and outbound service in the evening.

VRE is a transportation partnership of the Northern Virginia Transportation Commission (NVTC), created in 1964, and the Potomac and Rappahannock Transportation Commission (PRTC), created in 1986. Besides the Fredericksburg line, VRE also operates a commuter rail service between Manassas and Washington DC. System ridership removes a significant amount of traffic from crowded commuter corridors. The City's share of expenses for the commuter rail project comes from revenues generated by a two percent motor fuels tax.

The VRE provides commuter rail service to the Northern Virginia and Washington DC areas, and has seen continued ridership increases on the Fredericksburg Line over the last five years. The southern-most terminus is located in downtown Fredericksburg. The influx of drivers, mainly from points south, coming to park at the VRE station during peak hours adds to traffic congestion along the principal routes into the City.

The VRE owns and operates over 600 parking spaces around the downtown station. These spaces are free for VRE riders. The City also owns 108 spaces which are reserved for Fredericksburg residents. These downtown lots are significantly over capacity (e.g., in February 2006, parking was at 121% for the paved VRE lots). The VRE parking lots for the Fredericksburg Line are the most utilized lots of any line in the VRE system. To relieve

parking problems around the downtown station, FRED should strategically connect commuters from points around the City, and counties that agree to participate, with the VRE station downtown.

The *Virginia Railway Express Strategic Plan (2004-2025)* analyzed future commuter rail needs of the region. Options include increasing parking around key stations, including Fredericksburg, additional maintenance and storage capacity, and possible expansion of the network to points south. In this context, the VRE would like to construct a parking deck to increase parking capacity in Fredericksburg, construct an access road from the Blue and Gray Parkway to the VRE lots, and extend the rail platform to the parking lots so commuters can reach the trains without crossing busy streets.

Commuter Bus Service

According to the *FAMPO 2030 CLRP*, three bus operators provide commuter bus service from the FAMPO area to points north and to Dahlgren. The operators provide service from commuter lots in Spotsylvania and Stafford Counties to points north and to major regional employment centers. These commuter bus services have over 200,000 riders annually from the region.

Ridesharing

The *FAMPO 2030 CLRP* notes the important role of the regional rideshare program in providing valuable information to commuters about alternative modes of transportation. The rideshare program, called *GW RideConnect!*, acts as a clearinghouse and matching service for car, van and bus pools, but also provides commuting information promoting mass transit, the VRE, the Washington Metro system, telecommuting, as well as transportation options for people with disabilities. It also operates a number of park-and-ride facilities in the region with over 5,300 spaces. As a whole, *GW RideConnect!* provides travel demand management (TDM) services and programs for the region's commuters. The City of Fredericksburg has opportunities to build off the success of the regional programs by developing local TDM programs targeted at local commuters and local employers. Some of these ideas are discussed in Section 3, Best Practices, of this report.

2.5 Parking

Existing Conditions

The City commissioned a *Comprehensive Parking Study* (Desman Associates) in 2006 to analyze parking demand and supply, with a focus on Fredericksburg's downtown. The study found that there are currently over 2,100 City-controlled on-street (1,895) and off-street (241) parking spaces in downtown Fredericksburg. In addition, a new parking deck was recently opened on Wolfe Street with nearly 300 spaces, resulting in a total of over 2,400 public spaces in downtown Fredericksburg. The study found the peak hour to be 12 pm on a typical Thursday, when 69 percent of the downtown spaces were occupied. Study data showed a higher demand for downtown parking during the week than on the weekend. In general, parking supply is adequate to meet the needs of the downtown, but parking spaces

are not always in locations of highest demand, causing some spaces to have a much higher utilization rate than others.

Parking also continues to be an issue around the University of Mary Washington and residential neighborhoods near the university and downtown. Permit parking restrictions are in place in some areas to allow for resident parking. City-wide, outside of the downtown area, commercial centers have developed parking in a more traditional suburban fashion, with large surface parking lots serving the users of multiple tenants in the same center.

Future Conditions

As the City continues to grow and the downtown continues to develop, finding ways to effectively manage the City's parking supply will be critical. As development and redevelopment of the downtown continues, it is likely that many of the existing surface parking lots will be replaced with other uses. In order to make the best use of limited land resources, to promote the most efficient use of the downtown parking supply, and to reduce traffic congestion, especially downtown, a variety of parking policies should be adopted and implemented. These "best practice" policies are highlighted in Section 3 of this report.

2.6 Air, Rail and Bus Service

Air Service

National Airport and Dulles International Airport, both in Northern Virginia, and Richmond International Airport provide air connections to cities worldwide. Ground transportation service is available from Fredericksburg to and from these airports.

Municipal airports include Shannon Airport of Fredericksburg, Inc., with a 3,000 foot paved, lighted runway and refueling capability, as well as Hanover County Municipal and Hartwood Aviation, Inc.

The Stafford Regional Airport has a 5,000 foot instrument runway with full parallel taxiways. Facilities can accommodate up to 75,000 annual operations and 100 based aircraft. A new interchange on Interstate-95 near Potomac Creek provides direct access to this general aviation reliever facility.

Rail Service

The CSXT Corporation provides rail freight service. AMTRAK provides inter-city passenger service. The Virginia Railway Express (VRE) has established commuter rail service between Fredericksburg and Washington DC. All these entities use the two north-south tracks formerly owned by the Richmond, Fredericksburg and Potomac (R.F.& P.) Railroad. The Virginia Department of Rail and Public Transportation and U.S. Department of Transportation have recently analyzed projected rail needs in this corridor to determine how to improve its capacity as well as to accommodate a high speed inter-city rail service. In fact, the capacity is already enormous. On a single day during the R.F.&P.'s peak period of activity (22 April 1943), 66 passenger trains ran between Washington DC and Richmond as well as more than 40 freight trains. Such excellent dispatching can certainly be matched and

perhaps exceeded through radio control and computers. Other capacity improvements are likely to include high-speed crossovers, improved signaling, and strategically located sections of a third track.

Bus Service

Greyhound provides inter-city bus service through Fredericksburg every day. The FREDericksburg Regional Transit has established its central depot in the Greyhound terminal on Jefferson Davis Highway and provides for its ticket sales.

2.7 Movement of Goods and Services

Transportation planning has a heavy emphasis on passenger vehicles, but the provision of goods and services is equally important for a locality's economic well being. The movement of goods and services can be divided into the following broad categories:

- Inter-city and international movements.
- Local distribution.
- Local pick-up and delivery.
- Provision of local services.

Industrial logistics has traditionally included expensive in-place investments such as docks, piers, coal yards, rail sidings, and so on. Contemporary logistics are no less important, but are increasingly characterized by speed, flexibility, and just-in-time reliability that reduces on-site investments, such as warehouses. As a consequence, business enterprises do not invest as heavily in location as they used to and are able to move elsewhere more readily. The more exacting shipping and receiving requirements, however, place more (and perhaps undue) pressure on publicly funded transportation facilities such as highways.

The following public sector areas of responsibility should be addressed to support the movement of goods and services:

- Curbside Management – Streets in the Downtown Business District must provide for through traffic, parking, and truck loading/unloading. Motor carriers, however, must be allowed to park illegally in order to serve the downtown economy.
- Freight Access – The National Highway System is the nation's lifeline for freight access. Connections and access from Interstate-95 to job centers in the City are crucial and must be maintained and enhanced, as appropriate.
- Infrastructure – Multimodal connections for goods and services are as important as multimodal passenger connections.

3 Best Practices

Much can be learned from the experience of other communities. The purpose of this section is to highlight policies, programs, and practices that have been successful in other communities that can be readily applied to Fredericksburg. These policies may be phased in over time and adapted to local conditions and needs. They may also be used as springboards

for other new and innovative practices that may become the model for other communities as well. Some of these “best practices” have been included in the Transportation and Mobility Goals, Policies and Initiatives in Section 4 of this report, and Chapter 8 of the Comprehensive Plan.

3.1 Pedestrian Improvements

The City of Fredericksburg has placed a high priority on making the City pedestrian-friendly and walkable. There are a variety of policies and programs that other communities have implemented that may be applicable in Fredericksburg, including:

- Make sidewalks a central component of streetscape improvement projects, helping to define community character.
- Develop a priority system for making pedestrian improvements. Improvements may include constructing new sidewalks, filling in “missing links” in the pedestrian system, repairing existing sidewalks, and making connections to other modes (such as developing safe connections to all bus stops). Given limited financial resources, a ranking system should be developed that ranks projects based on a series of need factors. The pedestrian improvement project list and rankings should be reviewed annually and continually updated.
- Develop performance measures to track implementation of pedestrian improvements.

3.2 Bicycle Improvements

The City of Fredericksburg has made a substantial commitment to improving bicycling in the community, illustrated by the adoption of the *Pathways* plan. The *Pathways* plan outlines a comprehensive network of bicycle and multi-use paths that will improve the bicycling environment for commuters and recreational riders alike. Implementation of the plan, of course, will be the key to its success. Ideas that other communities have implemented include:

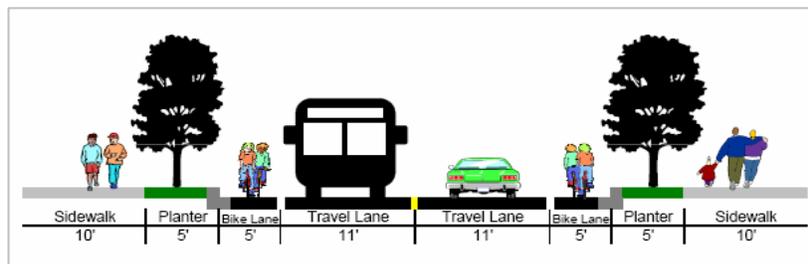
- Develop a priority system for making bicycle improvements (see comments above under Pedestrian Improvements).
- Develop performance measures to track implementation of bicycle improvements. A performance measure that can be tracked is bicycle level of service, which measures the rideability and relative safety of bicycle facilities.
- Work with major local employers to create incentives for local workers to bicycle to work. Incentives may include covered and secure bike parking, shower and locker facilities on-site, and financial incentives to not use facility automobile parking.

3.3 Complete Streets

Communities across the country are adopting “complete streets” policies. Complete streets are streets that provide safe movement for users of all modes (pedestrians, bicyclists, motorists, and transit riders) within the same right-of-way. Complete streets are the backbone of a comprehensive, integrated and connected multi-modal transportation

network. While the diagram below illustrates the principles, complete streets recognize the need for flexibility and context-sensitive solutions. Complete street policies can be applied to both new and retrofit roadway improvement projects.

Figure 6: Complete Streets Concept



3.4 Traffic Management

Communities faced with traffic congestion have implemented a variety of programs, to mitigate its negative effects. Some of these programs include:

- Utilize Intelligent Transportation Systems (ITS) to enhance roadway capacity and provide real-time information to motorists to help them make informed driving decisions.
- Upgrade the signal timing system on specific routes.
- Consider alternative methods of intersection controls, such as roundabouts.
- Develop neighborhood traffic calming programs.
- Accept low levels of service in some areas in order to preserve streetscape quality, historic resources, or environmental resources.

3.5 Policies for New Development

The City has opportunities to enhance the transportation system and infrastructure through new development. A variety of programs and practices have been successfully implemented across the country that mitigate the impacts of new development on the existing transportation system. Some of these programs and practices include the following:

- Require comprehensive traffic impact analyses for new development. Traffic impact analyses should study the impacts and recommend mitigation for all modes (car, transit, bikes, pedestrians).
- Require developers to pay for related transportation improvements and mitigations.
- Adopt a connectivity policy requiring new development to connect to existing developments to reduce the traffic load on arterial and collector streets.
- Implement aggressive access management standards.
- Require pedestrian improvements as part of all new developments.

3.6 Transit Improvements

The City of Fredericksburg and FRED are evaluating the future transit needs of citizens, workers, students, and visitors. General policy considerations that have been successful in other communities include:

- Make transit a viable alternative to driving alone.
- Modify transit routes to provide direct connections between primary employment centers, such as the downtown, the University, the hospital, and Central Park.
- Promote transit-oriented land use patterns.
- Develop a comprehensive marketing campaign to attract new riders and maintain existing ridership.
- Consider financial incentives to increase ridership, such as free bus passes or employer-subsidized passes.

3.7 Travel Demand Management (TDM)

As noted previously, the *GW RideConnect!* program promotes travel demand management (TDM) at the regional level. It is critical that the City continue to cooperate with regional partners to further develop TDM programs at the regional level. The City can take steps to promote TDM at the local level as well. Some programs and policies the City may consider to reduce single-occupant vehicle (SOV) trips and encourage the use of alternative modes include:

- Work with major local employers to establish Transportation Management Programs (TMP). These programs provide incentives to employees to rideshare, take transit, ride bicycles, and provide other options, such as telecommuting and working alternative hours, to reduce the demand for SOV trips.
- Require TMPs for new developments that generate significant traffic.
- Continue to work with regional partners on regional TDM programs.

3.8 Parking

Effective management of parking, especially in the downtown area, is a core issue for the City. As the City continues to grow and redevelop, it will have opportunities to enhance the existing system and make better use of limited resources. The following policies and practices may be appropriate for Fredericksburg:

- Develop parking policies that support the broader land use and economic development goals of the community. For example, parking may be removed as a barrier to infill development.
- Improve the operations and management systems of City-owned parking to efficiently use limited resources.
- Develop parking policies that meet the needs of all users, including: providing a range of locations, types, and prices; making parking easy to find (improved wayfinding); providing a pleasant walking experience to and from parking facilities; and enhancing safety in and around parking facilities.

- Manage the parking system to balance the locational needs of different users (residents, employees, visitors).
- Develop shared parking policies to efficiently use downtown parking. For example, shared parking arrangements could effectively utilize the same spaces during the day by downtown employees and at night by downtown residents.
- Investigate implementing parking maximum standards for new development, in addition to parking minimum standards.
- Pursue opportunities and incentives to locate additional structured parking downtown.

4 Transportation and Mobility Goals, Policies and Initiatives

4.1 Transportation and Mobility Goals

Transportation & Mobility Goal-1: Advance the development of a surface transportation system that is safe, functional, and attractive for users of all modes of transportation.

Transportation & Mobility Goal-2: Encourage the use of alternative forms of transportation City-wide, to enhance mobility, minimize traffic growth, and encourage healthy lifestyles.

Transportation & Mobility Goal-3: Make Fredericksburg a walkable city.

Transportation & Mobility Goal-4: Develop “complete streets” that are integrated, safe, and efficient for all modes of transportation.

4.2 Transportation and Mobility Policies

The following key policy statements provide guidance for achieving the transportation and mobility goals for Fredericksburg.

1. Encourage implementation of “complete street” designs for new development and retrofitting of key transportation corridors throughout the City. Complete streets balance and integrate all modes of transportation, including automobiles, buses, bicycles and pedestrians, in a safe and efficient manner within the same right-of-way.
2. Maintain the integrity of the City’s traditional street grid by keeping streets open, rather than closing or altering them.
3. Design and construct new streets and street improvements to minimize automobile traffic on residential streets. (See also Neighborhoods Policy #4.)
4. Provide a pedestrian-friendly environment, and include pedestrian accessibility as an integral component of all new development and redevelopment designs.
5. Provide safe pedestrian crossing at all pedestrian path street crossings. Designate and stripe crosswalks at appropriate locations, and implement other pedestrian safety

- measures, such as signage and pedestrian countdown signal heads, at high pedestrian volume locations.
6. Promote transit-oriented land use patterns.
 7. Explore opportunities to expand the transit system to become more of a regional service provider while improving the quality of the urban service in Fredericksburg.
 8. Enhance the transit system by adding more routes and service, reducing headways between buses on key routes, providing good transit service to and between key destinations (such as downtown, the University of Mary Washington, Mary Washington Hospital, and the train station), and focus more attention on the urban portion of the FRED transit system.
 9. Locate bus stops adjacent to commercial areas rather than at the fringe of parking lots. Design streets to ensure safe pedestrian crossings to bus stops.
 10. Provide bus service at peak commuting times from remote parking lots and neighborhoods to the commuter rail station.
 11. Provide a coordinated system of bicycle/foot trails throughout the community. Link pedestrian routes and bicycle trails to local destinations and building entrances, as well as to other transportation modes. Include this design component in Site Design Guidelines.
 12. Develop a comprehensive network of bicycle facilities to encourage bicycling as a viable mode of transportation. Plan bicycle facilities (on- and off-street) for all types of bicyclists.
 13. Encourage bicycle amenities (e.g., racks) at bus stops as well as commercial and recreational destinations.
 14. Develop parking policies that support broader land use and economic development goals and that address the needs of all users.
 15. Encourage shared parking arrangements and adjust development regulations accordingly. Work with employers to encourage employees to use non-prime parking spaces.
 16. Encourage and provide incentives for structured parking. (See also Downtown #6.)
 17. Further develop systems for managing parking in high-use areas, including the commuter rail station and downtown.
 18. Implement traffic management strategies that mitigate the impacts of traffic growth. Strategies may include use of Intelligent Transportation Systems (ITS), signal timing upgrades, alternative methods of intersection control, and developing neighborhood traffic calming programs.

19. New development should improve connectivity to reduce the traffic load on arterial and collector streets.
20. Develop, implement and promote Travel Demand Management (TDM) programs to reduce single-occupant vehicle trips.
21. Require comprehensive traffic impact studies for new development, including identifying impacts and mitigation strategies for all modes of transportation.
22. Maintain, expand and improve existing alleyway system to enhance community appearance.

4.3 Transportation and Mobility Initiatives

These initiatives outline the key steps for implementing the long-term goals and guiding policies for Fredericksburg's multi-modal transportation systems.

1. Develop and implement a system for providing and maintaining crosswalks at every pedestrian path and street crossing, as well as at other strategic and appropriate mid-block locations.
2. Work with FRED to significantly expand local bus service by extending the service area locally and enhancing the efficiency and quality of the service.
3. Continue a dialogue with Stafford, Spotsylvania, King George, and Caroline Counties and determine whether FRED will be expanded to become more of a regional transit provider.
4. Develop a plan and roadway design for the Fall Hill Avenue/Mary Washington Boulevard improvements. Identify funding sources and project strategy.
5. Assess parking needs for the William Street corridor and riverfront development, and adjust development regulations accordingly. (See also Downtown Initiative #4 & Rappahannock River Initiative #3.)
6. Continue to participate in ongoing FAMPO studies of the regional transportation system.
7. Implement the Fredericksburg Regional Transit 2006-2007 Action Plan.
8. Develop and implement a prioritized system for implementing pedestrian and bicycle improvement projects, including those recommended by the *Pathways* plan.
9. Develop and implement performance measures to track implementation of pedestrian and bicycle improvement projects.

10. Work with major employers and new developments to establish transportation management programs that encourage use of alternative modes.
11. Work with regional partners to develop region-wide Travel Demand Management (TDM) programs to reduce reliance on single-occupant vehicles.
12. Create incentives for structured parking, especially in the downtown area.
13. Continue to study a new potential interchange location north of the I-95/Route 3 interchange.
14. Continue to encourage full regional participation in the Virginia Railway Express.
15. Amend the regional long range transportation plan to show the Princess Anne Street project as restriping and reconfiguring for efficiency (consistent with the Princess Anne Street Corridor Overlay).