TOWN OF VIENNA
Public Works

Maple Avenue Multimodal Study

Staff Recommendations

January 13, 2020 – Town Council Work Session

Top Priority Recommendations

Improvement	Timing	FY	Conceptual Cost	Potential Funding Source
Church Street and Mill Street	Near-term	2020-2022	$150,000	CIP
W&OD Trail Crossing Redesign	Near-term	2021	$50,000 per crossing	CIP
Leading Pedestrian Intervals	Near-term	2021	$15,000 (5 Intersections)	General Fund
Local Circulator (Micro-Transit)	Mid-term	2021	$400,000 Will be confirmed by study	NVTC (application being submitted end of January 2020)
Fill Vital Sidewalk Gaps	Near-term	On Going	TBD	Local Funds
Transportation Studies and Strategies: • Traffic Impact Analysis Guidelines • Streetscape Master Plan and Design Guidelines • Long Range Transportation Master Plan • Parking Supply and Demand Study	Near-term	2021 2022 2022 2023	$15,000 $100,000 $80,000 $50,000	Multiple Potential Funding Sources: • CIP • General Grants • General Funds
Capital Bikeshare	Near-term	2021	$300,000	NVTA

Other Recommendations

Near-Term (5 Years)	Mid-Term (5-10 Years)	Long-Term (10+ Years)
Locust St: Trail Improvements	Maple Ave: Bus Stop Improvements	Maple Ave, Branch Road, and Beulah Road Intersection Reconfiguration
Roadway Operation/Safety Improvements	Church Street and Lawyers Road Intersections Reconfiguration	Raised Medians along Maple Ave
Bicycle Network	Access Management Strategy	
	Pleasant Street and Courthouse Road	

TOWN OF VIENNA
Public Works

Maple Avenue Multimodal Study

Staff Recommendations

December 16, 2019 – Town Council Work Session

Descriptions of the Top Priority Improvements

Church Street and Mill Street (See PowerPoint Image):

This improvement proposes a redesign of the intersection at Church Street and Mill Street to remove the existing slip lane at the southwest corner of the intersection. The potential redesign normalizes intersection geometry, realigns crosswalks for shorter and more direct pedestrian crossings, and expands public space at the northeast corner of the Town Green. The slip lane removal will also create conditions that encourage safer and slower turning movements for vehicles, therefore greatly elevating pedestrian access and safety. Potential challenges with this improvement may include the curb work required and the potential need for utility relocation. Based on the Synchro analysis for this concept, overall delays at the intersection are shown to improve. While the removal of the slip lane slightly increases delays for the eastbound right-turning movement, the westbound left movement is able to clear the intersection more quickly and enables the intersection to operate better as a whole.

W&OD Trail Crossing Redesign (See PowerPoint Image):

This concept proposes a redesign of the three crossings of the W&OD Trail at Maple Avenue, Church Street, and Park Street to reflect design guidance. The trail crossing redesigns would provide the following enhancements: Raised trail crossings (at Church Street and Park Street), High-visibility markings, Consistent signage, relocated signal push buttons (at Maple Avenue). The trail crossing improvements would increase the visual prominence of the trail crossings, clearly indicating pedestrian and cyclist priority. Raised crossings – also known as raised intersections or speed tables – are an effective strategy for reducing conflicts between motorists and pedestrians and bicyclists because. They work to slow travel and turning speeds of motor vehicles, increase the visibility of people crossing on foot and bike, and increase and compliance of motorists when they are required to yield to pedestrian right-of-way. Raised crossings are only proposed for the unsignalized Church Street and Park Street trail crossings, due to the trail crossing at Maple Avenue being signal-controlled with a dedicated crossing signal phase for trail users. This concept may encounter right-of-way constraints and utility conflicts, as well as affect emergency vehicle response times due to the speed-lowering effects of the raised crossing.

Leading Pedestrian Intervals (See PowerPoint Image):

This concept introduces leading pedestrian intervals (LPIs) to signal timing settings at intersections that see significant pedestrian activity. LPIs typically give pedestrians a three- to seven-second head start when entering an intersection with a corresponding green signal in the same direction of travel for motorists. The provision of a head-start for pedestrians will provide enhanced pedestrian visibility, reinforced pedestrian right-of-way, and a reduction of pedestrian-vehicle collisions, as much as 60 percent (according to the National Association of City Transportation Officials (NACTO)). However, LPIs create potential conflicts with leading left-turn signals and right-on-red regulations, in addition to impacting overall signal timing settings. A minor study will be required to confirm that adjusting signal timings will not significantly impact the traffic flow of Maple Ave and/or side streets.

Local Circulator (Micro-Transit) (See PowerPoint Image):

A potential local circulator route or routes could provide frequent, all day service to and between Maple Avenue and Church Street destinations, filling a critical existing deficiency in locally-oriented bus transit service. Potential Route Options include: 1. Maple Avenue to Metro Express 2. Maple Avenue – Church Street Loop. The circulator concept would fill the existing local transit gap and serve local trips for existing and future residents. However, relative cost, attainment of ridership, integration with the Fairfax Connector service, desired headways, and geometry constraints on Church Street are all challenges the concept would face if pursued. DPW will be applying for NVTC funding at the end of January to study a Micro-Transit option for the Town.

Fill Vital Sidewalk Gaps:

This concept proposes the installation of concrete sidewalks along segments of Church Street, Glyndon Street, and Courthouse Road. This includes areas with no sidewalks as well as areas with existing asphalt paths. It creates opportunities for increased pedestrian connectivity, access, and comfort and completes the sidewalk network in the study area. Furthermore, it satisfies Americans with Disabilities Act infrastructure compliance for access for persons with disabilities. Conflicts may arise related to right-of-way constraints and utility conflicts.

Maple Avenue Multimodal Study

TOWN OF VIENNA
Public Works

Transportation Studies and Strategies:

Bicycle Master Plan:

Establishing and detailing a Bicycle Master Plan is the first step in developing a Bicycle Network for the Town.

Traffic Impact Analysis Guidelines:

Town to establish detailed guidelines for traffic impact analysis.

Streetscape Master Plan and Design Guidelines:

DPW and DPZ will coordinate on developing a master plan and design guidelines.

Parking Supply and Demand Study:

An official study will determine current/future parking supply and demand requirements and potential recommendations.

Capital Bikeshare:

Four potential Capital Bikeshare locations within Town. DPW is coordinating with capital Bikeshare on the final number of locations and placement.

Maple Avenue Multimodal Study

Current Project Summary

PROJECT	Expected Implementation
Maple Ave Signal Upgrades – Infrastructure	Begin 3rd Qtr 2020
Maple Ave Signal Upgrades – Technology	1st Qtr 2021
Park Street & Maple Signal replacement	2nd Qtr 2020
Park Street NE Sidewalk	4th Qtr 2020
Freeman Store Ped Bridge	2nd Qtr 2020
Old Courthouse Road Sidewalk	3rd Qtr 2020
Maple/Courthouse/Nutley neighborhood study	1st Qtr 2020 (traffic counts)
Nutley Street NW Sidewalk (Safe Routes to School)	1st Qtr 2020
Nutley Street SW Shared Use Path	1st Qtr 2022
RECENTLY COMPLETED	**DATE**
James Madison HAWK	November 2019
Church Street Sidewalk (300 block)	August 2019