

Longhill Road Improvements - Route 199 to Olde Towne Road

Scored

HB 2 Application

Project Application ID: 478



General

Project Information

Project Title

Longhill Road Improvements - Route 199 to Olde Towne Road

Principal Improvement

Highway

Organization Name

County of James City

Does this project include any improvements to non-VDOT maintained roadways?

False

Project Description

As documented in the 2014 Longhill Road Corridor Study and in a 2013 VDOT Traffic Operations Study, existing daily traffic volumes on the segment of Longhill Rd between Route 199 and Olde Towne Rd are beginning to reach or exceed the ideal operational capacity of the roadway. Intersections and segments of the corridor are characterized by deteriorating traffic operations under peak hour conditions. In addition, approved or planned development within the corridor and expected growth in the general vicinity will result in increased traffic volumes and additional demand on the roadway network.

This improvement is designed to address existing and projected future congestion and safety issues by widening Longhill Road from a 2-lane to a 4-lane, median divided typical section tying in to the existing 4-lane section in the vicinity of the Route 199 eastbound off-on ramp intersection to the east and continuing to a location immediately west of the Olde Towne Road/Devon Road intersection, with a 10-foot multi-use path along the north side of the roadway. The roadway design will maintain and/or implement desirable access management strategies, with improved full-movement intersections at seven intersections, while constructing partial access intersections at several locations consisting of right-in/right-out/channelized left-turn lanes, right-in/right-out only site driveways, or channelized U-turns in the median. The improvements would also include a roundabout at one location (Longhill Road and Williamsburg Plantation Drive) signal system wireless interconnect, construction of bus pull-off areas, and pedestrian improvements (the multi-use path, and crosswalks and pedestrian push buttons).

HB2 Need Categories

Application Program

Regional Network

Statewide High Priority

Urban Development Area

District Grant

How does this project address VTrans 2040 need?

URBAN DEVELOPMENT AREAS

Longhill Road is a significant east-west connection corridor that serves traffic traveling to/from the New Town Urban Development Area (UDA). The 2014 Longhill Road Corridor Study documented that 49% of the existing traffic in the p.m. peak hour arrives at the segment proposed for improvement from the direction of New Town (via Ironbound Road and Depue Road). Improvements to Longhill Road will help meet transportation needs for the New Town UDA; specifically, VTRANS lists High Priority "External UDA Needs" for the New Town UDA as roadway capacity/infrastructure, roadway operations, and safety features. More information about each of these needs is as follows:

***Roadway capacity/infrastructure and roadway operations*:** The significant thru-traffic from the direction of New Town interacts with the heavy left turn movement from the Route 199 exit ramp onto westbound Longhill Road. The Longhill Road Corridor Study and other VDOT operational analysis (see attached) indicates that queues at this location cause significant back-ups, including back-ups onto westbound Route 199 which create a safety issue. Congestion on Longhill Road and Route 199 affect access to/from the New Town UDA.

***Safety features*:** Deficiencies in the roadway function as just noted contribute to safety issues at the Longhill Road/Olde Town intersection, which would be addressed by the proposed improvements. The 2013/2014 Hampton Roads Regional Safety Study identified this intersection as having a high EPDO crash rate (over 2) and a potential for safety improvement of 0.88, which was one of the highest in the County. Once the signal is retimed to allocate more green time to Longhill thru-movements, reduced congestion (stop-and-go traffic) should help reduce the potential for collisions at the intersection and on this segment of roadway generally.

REGIONAL NETWORKS

Longhill Road is classified as a minor arterial, and is a component of the Hampton Roads regional network. Longhill Road is also a significant east-west connection corridor that serves traffic traveling to/from the New Town activity center. Improvements to Longhill Road will help meet Hampton Roads region need "K", which states "Key regional activity centers featuring government centers in the area have either little or no transit accessibility. These activity centers are in need of transit access for both employees and customers." This project will improve access, including transit access, to a key government facility, the Human Services Center, which houses James City County's Social Services Division. Improving Longhill Road will increase capacity, provide congestion relief, and improve bus and multimodal facilities which should all help those who need those services the most.



Location

PDCs Served

Hampton Roads

MPOs Served

Hampton Roads MPO

Jurisdictions Served

James City County

Districts Served

Hampton Roads

 Features**Project Improvements****Right of Way
Improvement****Comments**

Right of Way/Easements acquisition required

Right-of-way will need to be required along the approximately 0.5 mile extent of the project to accommodate the widening. It is also anticipated that utility easements will need to be acquired along the extent of the project to accommodate relocation of the existing electrical utilities.

**Bus Transit
Improvement****Comments**

Improve Bus Stop/ Shelter

Provides bus pull-off areas to service the bus shelters while maintaining traffic progression and operations through two intersections (Longhill/Williamsburg West Drive, Longhill/Olde Towne Road).

**Bike/Pedestrian
Improvement****Comments**

Construct Shared-Use Path

Provides a multi-use path on north side of roadway (approximately 0.5 miles).

Improve Bike/Pedestrian Crossing (At Grade)

Provides a multi-use path on north side of roadway, and provides pedestrian crosswalks and pedestrian push buttons at 3 intersections (Longhill Road/Williamsburg West Drive, Longhill/Williamsburg Plantation Drive, Longhill/Olde Towne Road).

Bike/Pedestrian Other

Provides one 13 foot travel lane in each direction with marked bicycle shared lane markings ("sharrows").

Highway Improvement	Comments
Add New Through Lanes(s)	Construct/re-construct two westbound and two eastbound thru-lanes on Longhill Road from the vicinity of Route 199 to the Olde Towne Road intersection, a distance of approximately 2,360 feet. Currently, the second thru-lanes in each direction end in the vicinity of the Williamsburg West/Lane Place intersection. It is expected that the project will involve building the lanes in a new alignment, to accommodate the desired overall cross-section (four-lane median divided facility). The improvement will cover a distance of approximately 0.5 miles.
Roadway Reconstruction/Realignment	Construct/re-construct two westbound and two eastbound thru-lanes on Longhill Road from the vicinity of Route 199 to the Olde Towne Road intersection, a distance of approximately 2,360 feet. Currently, the second thru-lanes in each direction end in the vicinity of the Williamsburg West/Lane Place intersection. It is expected that the project will involve building the lanes in a new alignment, to accommodate the desired overall cross-section (four-lane median divided facility). The improvement will cover an area of approximately 0.5 miles.
Access Management	The roadway design will maintain and/or implement desirable access management strategies, with improved full-movement intersections at seven intersections, while constructing partial access intersections at several locations consisting of right-in/right-out/channelized left-turn lanes, right-in/right-out only site driveways, or channelized U-turns in the median. These are illustrated in the attached document "Longhill Phase 1 corridor study pages."
Intersection Improvement(s)	See pages 75 through 80 of the attached document "longhill phase 1 corridor study pages" and the attached document "conceptual corridor renderings" for all details.
Turn Lane Improvement(s)	See pages 75 through 80 of the attached document "longhill phase 1 corridor study pages" and the attached document "conceptual corridor renderings" for all

	details.
New Traffic Signal/Signal Optimization	The improvement proposes to install wireless interconnect (underground fiber or overhead) and coordinate both the Route 199 ramp intersections, as well as the Williamsburg West Drive/Lane Place Drive and Olde Towne Road/Devon Road signals along Longhill Road to operate as a coordinated signal system. Implement coordinated signal timing plans to accommodate vehicle demands during the AM, Midday, PM, Off, and Weekend peak hours as needed.

Factors

Accessibility		
Measure	Response	Additional Notes
Project includes transit system improvements or reduces delay on a roadway with scheduled peak service of one transit vehicle per hour.	Yes	Provides bus pull-off areas to service the bus shelters while maintaining traffic progression and operations through two intersections (Longhill/Williamsburg West Drive, Longhill/Olde Towne Road).
Project includes improvements to an existing or proposed park and ride lot (e.g., new lot, more spaces, entrance/exit, technology (payment, traveler information)).	No	
Project includes construction or replacement of bike facilities. For bicycle projects, off-road or on-road buffered or clearly delineated facilities are required.	Yes	Provides a multi-use path on north side of roadway. Also, provides one 13 foot travel lane with marked bicycle shared lane markings ("sharrows").
Project includes construction or replacement of pedestrian facilities. For pedestrian projects, sidewalks, pedestrian signals, marked crosswalks, refuge islands, and other treatments are required (as appropriate).	Yes	Provides a multi-use path on north side of roadway. Provides pedestrian crosswalks and pedestrian push buttons at 3 intersections (Longhill Road/Williamsburg West Drive, Longhill/Williamsburg Plantation Drive, Longhill/Olde Towne Road).

Project includes improvements to existing or new HOV/HOT lanes or ramps to HOV/HOT.	No	
Project provides real-time traveler information or wayfinding specifically for intermodal connections (access to transit station or park and ride lot).	No	
Provides traveler information or is directly linked to an existing TMC network/ITS architecture.	No	
Land Use and Transportation Coordination		
Measure	Response	Additional Notes
Does the project promote walkable/bicycle friendly, mixed-use development?	Yes	Provides a multi-use path on north side of roadway. Also, provides one 13 foot travel lane with marked bicycle shared lane markings ("sharrows"). Provides pedestrian crosswalks and pedestrian push buttons at 3 intersections (Longhill Road/Williamsburg West Drive, Longhill/Williamsburg Plantation Drive, Longhill/Olde Towne Road).
Does the project promote in-fill development?	Yes	This project is inside the County's Primary Service Area, which steers new development to the existing developed area where infrastructure already exists (thereby promoting infill), and discourages new development in the County's greenfield/rural areas. The project will also facilitate access to vacant parcels of land near the western terminus of Longhill Road, as well as access to future expansions/additions to the Warhill Sports Complex (a regional sports facility).
Is there a locally/regionally adopted corridor/access management plan for the project area that addresses interparcel connectivity and exceeds VDOT's minimum spacing standards?	Yes	See attached Longhill Road Corridor Study (pages 75-79) and Corridor Concept Drawings.

Environment		
Measure	Response	Additional Notes
Project includes construction or replacement of bike facilities. For bicycle projects, off-road or on-road buffered or clearly delineated facilities are required.	Yes	Provides a multi-use path on north side of roadway. Also, provides one 13 foot travel lane with marked bicycle shared lane markings ("sharrows").
Project includes construction or replacement of pedestrian facilities. For pedestrian projects, sidewalks, pedestrian signals, marked crosswalks, refuge islands, and other treatments are required (as appropriate).	Yes	Provides a multi-use path on north side of roadway. Provides pedestrian crosswalks and pedestrian push buttons at 3 intersections (Longhill Road/Williamsburg West Drive, Longhill/Williamsburg Plantation Drive, Longhill/Olde Towne Road).
Project includes improvements to rail transit or passenger rail facilities.	No	
Project includes improvements to an existing or proposed park-and-ride lot (e.g., new lot, more spaces, entrance/exit, technology (payment, traveler information)).	No	
Project includes bus facility improvements or reduces delay on a roadway with scheduled peak service of one transit vehicle per hour.*	Yes	Provides bus pull-off areas to service the bus shelters while maintaining traffic progression and operations through two intersections (Longhill/Williamsburg West Drive, Longhill/Olde Towne Road).
Project includes improvements to freight rail network or intermodal (truck to rail) facilities/ports/terminals.	No	
Project include special accommodations for hybrid or electric vehicles, or space or infrastructure for electric vehicle parking/charging).	No	
Project includes energy efficient infrastructure or fleets, including: hybrid or electric buses, LED lights and signals, electronic/open road tolling, alternative energy infrastructure (e.g., roadside solar panels).	Yes	The project would include LED signal lights.
Economic Development Factors		

Transportation project (consistency with Local Comprehensive Plan or Local Economic Development Strategy) Referenced In		Transportation project (consistency with Regional Economic Development Strategy) Referenced In	
Site Name	Development project (consistent with locality Comprehensive Plan/Zoning) N/A	Development project (site plan status) N/A	
Development project (site utilities status) N/A	Development project (proposed (or projected) building square footage) Not Provided	Driving distance to development project from transportation project Not Provided	Does Transportation Project Provide Direct Access or Indirect Access to the Development Site? Not Provided

Delivery/Funding

Project Delivery Information

Project Planning Status

Constrained Long Range Plan (MPO)

Transportation Element of Local Comprehensive Plan

Planning/Safety Study

Project Administered By

VDOT

Existing Project UPCs or Project Numbers

100921

Project Delivery Method

State Forces

Please indicate who will be/was responsible for the design of this project

VDOT:

100%

Locality:

N/A

Consultant:

N/A

Phase Estimate and Schedule

PE (Survey, Environmental, Design)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$1,577,000

Start Date

08/02/2016

End Date

05/03/2017

RW (Right of Way and Easement Acquisition, Utility Relocation)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$3,437,000

Start Date

05/03/2017

End Date

05/03/2018

CN (Construction, Oversight, Inspection, Contingencies)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$14,786,000

Start Date

05/03/2018

End Date

01/02/2021

Other

Status

Not Provided

Percent Complete

Not Provided

Cost Estimate

Not Provided

Start Date**End Date**

Other

Status

Not Provided

Percent Complete

Not Provided

Cost Estimate

Not Provided

Start Date**End Date**

Other

Status

Not Provided

Percent Complete

Not Provided

Cost Estimate Not Provided		Start Date		End Date
				Total Cost Estimate \$19,800,000.00
Project Funding Sources				
SYIP Allocations	Other Committed Funding Amount	Other Requested Funding Amount	HB2 Amount Requested	Total Proposed Project Funding
\$1,770,864	Not Provided	Not Provided	\$18,029,136	\$19,800,000.00
	Other Committed Funding Amount Description	Other Requested Funding Amount Description		



Scoring

Project Located in Typology						
Category A	Congestion Mitigation	Safety	Accessibility	Environment	Economic Development	Land Use

[illegible]

Cost	
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Supporting Documents

Current Attachments

Description

Conceptual Corridor Rendering

File Name

longhill phase 1 drawings.pdf

Description

longhill phase 1 corridor study pages

File Name

longhillroadcorridorstudyfinaldocument_phase 1 pages.pdf

Description

Adopted Comprehensive Plan_Longhill Road Excerpt

File Name

transportation section_longhill excerpt.pdf

Description

VDOT Operations Study

File Name

sealed traffic operations study jcc route 612 longhill road.pdf

Description

Board of Supervisors Resolution of Support

File Name

hb2transfundappres09082015.pdf

Description

TPO Resolutio of Support

File Name

hb2 resolution of support-jcc.pdf

Description

Regional Economic Development Strategy

File Name

hampton roads regional economic development strategy 2015.pdf

Description

Longhill Corridor Study Existing and Future Conditions Analysis

File Name

longhill_road_corridor_study_extractedchapters.pdf

Description

Project Sketch

File Name

corridorconceptualrenderings.pdf

Description

478.LonghillRoad_Route199_To_OldeTowneRoad.21OCT2015.RN.B4

File Name

478.longhillroad_route199_to_oldetowneroad.21oct2015.m.b4.pdf

