

Memorandum

Department of Public Works



TO: Michael O. Geisel, P.E.
City Administrator

FROM: James A. Eckrich, P.E. *JAE*
Public Works Dir. / City Engineer

DATE: October 1, 2020

RE: Wilson Avenue

Please forward to PPW for
review and direction.
2020-10-1

MO Geisel

Similar to the streets in most cities throughout the United States, the transportation network in the City of Chesterfield developed over a long period of time. Due to the manner in which the City of Chesterfield was developed, most streets in the City of Chesterfield were created as part of a subdivision and meet the majority of today's standards. However, there are a number of streets that were created many years ago, sometimes connecting area farms, serving agricultural or other purposes, which do not meet today's standards. Examples of streets in the City of Chesterfield that were constructed that way are: Hog Hollow Road, West Drive, Old Clarkson Road, River Valley Drive, Church Road, and Wilson Avenue.

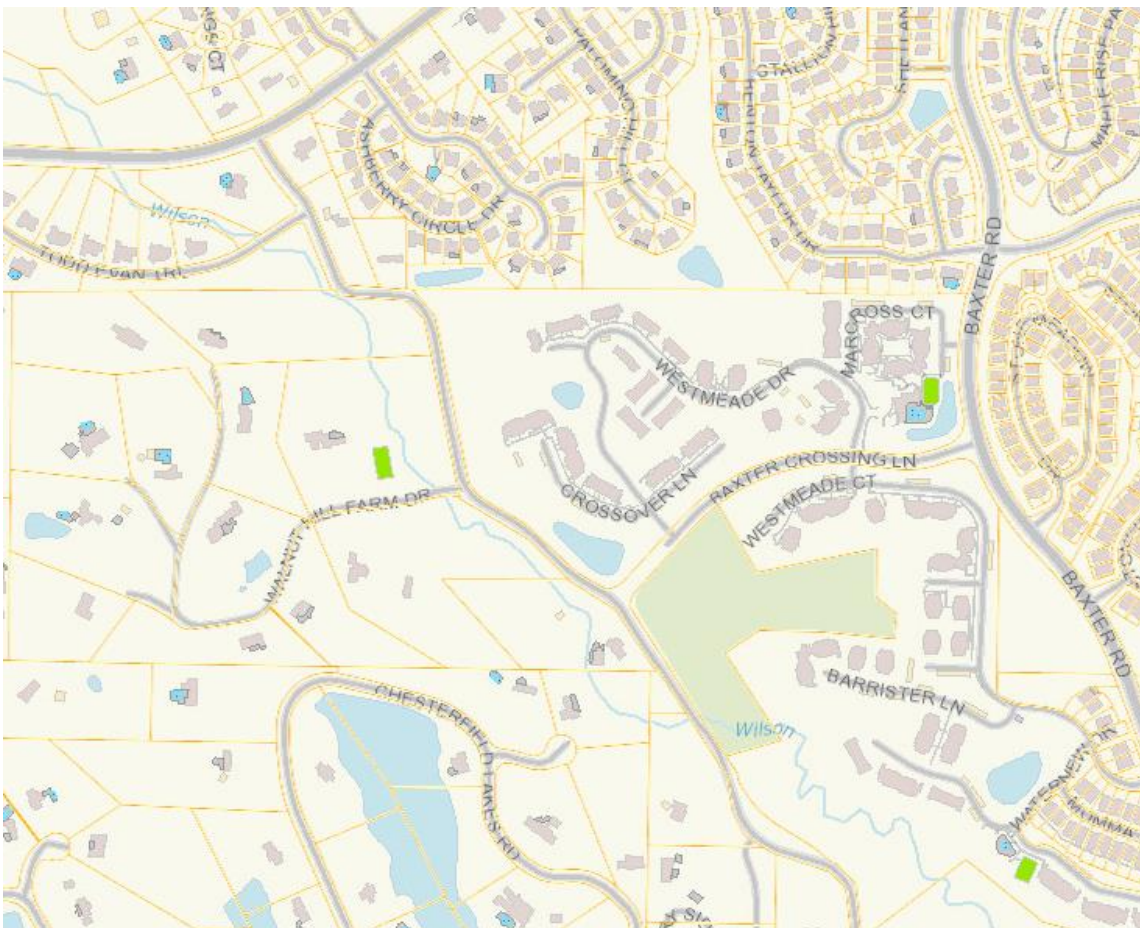
Wilson Avenue is particularly challenging because it serves as a collector road for a large number of subdivisions and residents desiring to access either Clarkson Road (south) or Wild Horse Creek Road (north). Over time the City has made incremental improvements to Wilson Avenue, including reconstruction of the intersection at Clarkson Road in the early 1990s and reconstruction of the culvert (previously one lane) just north of the steep hill in 2018. However, portions of the road, specifically the northern section near Wild Horse Creek Road, do not meet today's design standards and include multiple safety and maintenance concerns.

The problems with Wilson Avenue are certainly not new, and improvements to Wilson Avenue have been contemplated for years. In fact, when the Wilson Creek subdivision was platted additional right of way was dedicated for an anticipated new roadway alignment in that area. A quick bullet point list of the deficiencies on the northern portion of Wilson Avenue is as follows:

- Insufficient turning radii and sight distance at the intersection of Wilson Avenue and Wild Horse Creek Road.
- Narrow Wilson Avenue roadway with no shoulders and utility poles immediately adjacent to the road.

- Lack of adequate drainage ditches along Wilson Avenue in areas with persistent groundwater causing water and ice alongside and onto the roadway throughout the year.
- A severe “S Curve” in the roadway with adjacent utility poles and a nearby creek. In this area the Street Maintenance Division has actually had to “creatively engineer” a roadway base using sections of guardrail.
- Walnut Hill Farm intersects Wilson Avenue at a steep grade with insufficient sight distance. The creek along the west side of Wilson Avenue frequently rises above the bridge leading to the Walnut Hill subdivision, causing damage and limiting access to / from the subdivision.
- There are no pedestrian or bicycle accommodations in this section of Wilson Avenue.

While the Wilson Avenue safety concerns are predominantly located between Wild Horse Creek Road and the recently constructed culvert, I would be remiss in not mentioning the steep hill located just south of the culvert. That hill contains a 17 percent slope along a curve and is regularly impassible during inclement weather.



As you know, the City proposed a complete reconstruction of Wilson Avenue in the 1990s. That project, which would have been partially funded through a federal grant, would have addressed all of the safety deficiencies of Wilson Avenue. The road proposed at that time consisted of a full forty feet wide cross section, including two twelve feet wide lanes with an eight feet shoulder on each side. However, the project was not favored by a majority of area residents because the proposed design would have changed the character of Wilson Avenue. That project was ultimately abandoned and the grant funding was forfeited. Since that time the portion of Wilson Avenue south of the Forest subdivision (south of the steep hill) has been completely reconstructed. The remaining portion of Wilson Avenue, including the concerns referenced above, are maintained by City Staff to the best of our abilities.

While Wilson Avenue has been a concern of the Public Works Department for some time, I am bringing this matter to your attention now because the City has received the attached letter from the Walnut Hill subdivision. As you can see, Walnut Hill is requesting that the section of Wilson Avenue from Wild Horse Creek Road to the newly constructed culvert (shown above) be improved to address safety concerns. Specifically, Walnut Hill is requesting the following:

- An improved intersection at Wilson Avenue and Wild Horse Creek Road.
- Straightening of the “S curve” south of Wild Horse Creek Road.
- Reconstructing the Walnut Hill Farm Drive bridge to address the flooding problems and facilitate an improved connection to Wilson Avenue.
- Improved line of sight for drivers.
- The addition of shoulder on both sides of the road.
- The addition of a sidewalk on one side of the road.

I find the letter from Walnut Hill to be well written and I share their concerns regarding the safety of this section of Wilson Avenue. I believe the letter demonstrates that there is resident support for the City improving this section of Wilson Avenue. That said, there are likely residents who will once again oppose large scale improvement to Wilson Avenue. Accordingly, I believe this matter should be submitted to the Planning and Public Works Committee of City Council for it to determine whether City Staff should pursue financial assistance to construct improvements to Wilson Avenue. Please note that the request from Walnut Hill subdivision does NOT request any improvements to the steep hill south of the newly constructed culvert.

Wilson Avenue is classified as a Major Collector by East West Gateway, and is therefore eligible for grant funding through the Transportation Improvement Program (TIP). The City could potentially recoup up to eighty percent of the costs to reconstruct this roadway. However, this grant program has become extremely competitive in recent years, and the cost to reconstruct Wilson Avenue will be high. The high reconstruction cost makes it difficult to qualify for grant funding, as the grants are based upon a cost / benefit analysis. The good news, as it relates to the grant, is that there are myriad deficiencies in this section of Wilson Avenue.

Accordingly, the “benefit” points associated with the project will also be high, giving us a better chance of obtaining a TIP grant.

In the last ten to fifteen years, the City has had great success in obtaining TIP grants. These grants have funded projects such as Ladue Road, Edison Avenue, Stablestone Drive, Appalachian Trail, South Greentrails Drive, the Timberlake Manor Bridge, and the Schoettler Road Bridge. However, in more recent years TIP grants have become more difficult to acquire, and our most recent applications to fund improvements on Old Chesterfield Road, Schoettler Road, and Wilson Avenue have been unsuccessful. The unsuccessful 2020 grant application requested funding to construct an asphalt overlay on Schoettler Road and Wilson Avenue.

A grant request to reconstruct Wilson Avenue will be substantially different than the previous grant request for an asphalt overlay. An asphalt overlay is simply “pavement preservation” and ensures the road continues to function in its current state. A reconstruction project will change the roadway, eliminate or minimize safety concerns, and add enhancements for pedestrians. As stated earlier, a grant of this nature would generate a substantial number of favorable benefit points.

The cost to overlay the section of Wilson Avenue from Wild Horse Creek Road to the new culvert is approximately \$500,000. The cost to reconstruct the roadway will be substantially more expensive. A true estimate cannot be determined until a firm scope is defined. That said, I believe the cost to reconstruct Wilson Avenue from Wild Horse Creek Road to the new culvert, including realigning the roadway and addressing the safety deficiencies delineated above, will be approximately \$4.5 million dollars. This could be offset by as much as \$3.6 million (80 percent) in grant funding. Please note that this project does NOT include addressing the steep hill south of the new culvert. It is simply too substantive of a project and expensive to incorporate it into this project.

In the paragraph above I reference the scope of the project. This is an important decision prior to moving forward with the project. Specific decisions which need to be made include the following:

- Should the project contain no sidewalk/path/trail, a sidewalk/path/trail on one side, or a sidewalk/path/trail on both sides of the road?
- Should the project contain a bike lane or other bike accommodations?
- Should a shoulder be added to both sides of the road?
- Should open ditches be maintained, or should an enclosed stormwater system be contemplated?

In addition to the bullet points above, and not related to the safety or maintenance concerns of the roadway, is the originally planned connection from Wilson Avenue to Baxter Crossing Lane. This connection was determined to be undesirable by a significant majority of the residential communities located off of Wilson Avenue in the early 1990s, prior to the expansion and completion of Baxter Road. At that time there was concern that such a connection would encourage “cut-through” traffic to

Clarkson Road. However, the subsequent improvements and extension of Baxter Road make such “cut-through” traffic much less likely today. *Therefore, another consideration is whether City Council desires to complete the connection of Wilson Avenue to Baxter Crossing Lane, and whether such a connection should be incorporated into this project. Secondly, if a roadway connection is not constructed, should a connection be made for pedestrians and cyclists?*

These are important questions that need to be addressed prior to submitting the grant application, as the City will be held to the scope contained in the grant application. You will note that some of these questions / actions may be quite controversial. Accordingly, it is my recommendation that we solicit public input from area residents. Of course, Staff does not want to initiate this type of action without support from the City Council through the Planning and Public Works Committee. Note that the Walnut Hill subdivision has offered to assist in obtaining public support for the project.

One additional point I would like to bring up is that due to COVID-19 2021 will likely be a unique opportunity for the City of Chesterfield. Many cities and counties will likely be reducing upcoming projects due to unknown financial projections. While closely monitoring finances is prudent for all agencies, including the City of Chesterfield, it is important to note that the City of Chesterfield has a Capital Projects Fund exclusively dedicated to street and capital improvements. These funds cannot be used for general fund purposes. The TIP is an opportunity to leverage our funds to potentially acquire much larger funding to make a substantial improvement in our community. Due to the potential of fewer grant applications, a successful grant application in 2021 may be more likely than in other years. It should also be noted that if City Council directs that a grant application be initiated, and if that application is ultimately approved, it will be several years before construction begins. Once a TIP grant is approved, there is a multi-year cycle of engineering design, right of way acquisition, and then construction. Typically this process takes three to five years from the award of the grant.

If you have questions or would like to discuss this matter, please let me know. Otherwise, **I am requesting approval from the Planning and Public Works Committee for the City Staff to pursue grant funding for the reconstruction of Wilson Avenue from Wild Horse Creek Road to the newly constructed culvert.** If approved, Staff will immediately begin gathering data and public input in anticipation of submitting a grant application in February of 2021.

Action Recommended

This matter should be forwarded to the Planning and Public Works Committee for consideration. In conjunction with this memorandum, I will provide a presentation at the PPW meeting, with photos, detailing the deficiencies of Wilson Avenue. Should PPW concur with Staff’s recommendation and the request from Walnut Hill, it should

authorize Public Works Staff to pursue a TIP grant for the reconstruction of Wilson Avenue from Wild Horse Creek Road to the newly constructed culvert.

Should PPW determine that Wilson Avenue shall remain in its current configuration, the City Staff will continue to maintain it as-is and I will respond to Walnut Hill accordingly.

September 28, 2020

James A. Eckrich, P.E.
Director of Public Works / City Engineer
City of Chesterfield
690 Chesterfield Parkway West
Chesterfield, MO 63017

Dear Mr. Eckrich:

This letter is submitted to you by the Chesterfield Walnut Hill HOA trustees, elected to serve the Walnut Hill Farm Drive (WHF) residents. Many WHF residents have lived in our subdivision for over 20 years, a number of us resided in WHF prior to the incorporation of Chesterfield. Since then, much has changed.

Chesterfield Valley has emerged as an entertainment and shopping destination. We have seen robust residential development throughout our community. Our urban core is in the planning and development stages and as we look to the future, we anticipate the continued evolution and growth of this great destination city.

The safety and welfare of Chesterfield’s residents is paramount during our evolution and into the future. Our letter to you is written from our serious concern about **the critically unsafe passage along Wilson Avenue which impacts the significant number of residents (and visitors) who use Wilson Avenue, including those of us living in Walnut Hill Farm Drive.** This includes drivers and their passengers, walkers and bikers.

We ask you to consider our concerns and to support our recommendations in an effort to make the Wilson Avenue corridor a safe and welcome area for all the Chesterfield residents who use this avenue.

(While Wilson Avenue has other treacherous areas, the segment of Wilson our letter addresses, focuses on the northern portion of the road – specifically, beginning at the newly constructed culvert close to the Dalton residence (1401 Wilson Avenue) and extending to the corner of Wilson Avenue and Wild Horse Creek Road.)

Overarching Wilson Avenue Concerns

- Lack of Visibility
- Severe Road Curves
- Debris-filled Flooding Water
- Surging Creek Water
- Continual Spring Fed Water over Wilson Avenue and Adjacent Residential Property
- Steep Drop at Drainage Gully along Wilson Avenue and Wildhorse Creek Road

Details

1. Lack of Visibility and Severe Curves along Wilson Avenue

Wilson Avenue has severe, blind curves and hills making it impossible for drivers, walkers and bikers to safely navigate.

- There have been numerous accidents at the "S" curve in front of the Albrecht's house located at 1224 Wilson adjacent to the Blase land (1204 Walnut Hill Farm Drive) due to the sharp turns where drivers lose control of their vehicles. Nearby, a guard rail was installed on the roadside over the bridge just past the "S" curve to keep vehicles from sliding off the road into the creek. (Note: The railing may keep cars from falling into the creek, but it does not promote safe passage due to the severe curve and poor visibility.)
- Drivers also lose control on the steep curve located at the entry to the Walnut Hill Farm Drive (WHF) subdivision. Frequently, northbound drivers are unable to navigate this deceptively severe curve and they swerve off the road, speeding into the WHF low river crossing rails and onto the Pauli's (16121 Walnut Hill Farm Drive) field.
- The Wilson Avenue curve at Walnut Hill Farm's (WHF) entry holds other dangers, too. Northbound drivers, attempting to turn left into WHF are at a high risk of being rear-ended by any car traveling toward their vehicle - it is a blind curve where there is no visual warning for the oncoming car. Further, the northbound drivers "creep" out onto Wilson Avenue outside their own lane to get a better view. They are in danger of a collision with oncoming cars which aren't visible.
- Several other curves on Wilson are so severe that they prohibit a safe line of sight. Farther south on Wilson, there is another steep curve closer to the Dalton's (1401 Wilson Avenue). At that point, cars swerve over the center line, forcing oncoming vehicles to drive off the road, onto the narrow sometimes nonexistent road shoulders, over the lawns and fields of residents to avoid collisions.
- Back at the intersection of Wildhorse Creek and Wilson, drivers turning onto Wilson Avenue from Wildhorse Creek "shortcut" the curve, driving over the center line at the base of the short hill which has an obstructed line of sight. Oncoming traffic is forced to abruptly stop to avoid a collision.
- Walkers, joggers and bikers suffer from swerving cars, too. Because there are no sidewalks or separate bike paths on either side of Wilson, individuals are at great risk. We have to warn pedestrians to stay off Wilson Avenue when we see them walking there.

2. Debris-filled Flooding Water Surges over Walnut Hill Farm's Low Water Crossing, up to Wilson Avenue

- When originally constructed (in the 90's), on rare occasions, rainfall would cause water to flow over Walnut Hill Farm's Low Water Crossing and then it would subside. The past couple years, however, downpours have had a damaging and dangerous impact. The Wilson Creek surges today are much faster, and they are always filled with debris that is deposited on Walnut Hill Farm's (WHF) low water crossing. The largest debris presses hard against the

WHF railing and bridge infrastructure. WHF railings and surface pavement have been torn off repeatedly and the infrastructure is damaged from wear, augmented by the surging water and debris. After each occurrence, residents must clear off trees and tree limbs, mud, and trash (plastic, metal, etc.) to allow safe passing. It is an unfair burden to these residents and passersby.

Note: WHF has experienced a significantly greater water flow since the upstream bridge was expanded to accommodate 2 lanes. During that project, workers did a great job clearing out the upstream creek bed and now water (plus the aforementioned debris) surges past the new culvert toward the next obstacle which is Walnut Hill Farm Drive. Clearly, the old, one-lane bridge on Wilson had provided a restriction, blocking water and debris from quickly flowing through it. Today, the water surges up with remarkable force over the Walnut Hill Farm structure to Wilson Avenue. It is a horrific sight and inexperienced drivers make the terrible mistake of driving through these surges, attempting to overcome the water flow.

WHF residents have deep concerns about the need for emergency care during one of these water surges, doubting that passage by any emergency vehicle would be possible.

3. Underground Springs Constantly Output Water Along and Over Wilson

- Underground springs continually emit water along the perimeter of Wilson by the bridge adjacent to the Albrecht's (1224 Wilson) and Blase (1204 Walnut Hill Farm Drive) properties. Then the water flows onto the Pauli's and Strutman (16121 and 16120 Walnut Hill Farm Drive) properties. The pooled water provides another danger to drivers and pedestrians attempting to navigate Wilson when they are forced onto the shoulders which are softened from the spring water.
- The pooled water causes other problems for the residents, but it is particularly dangerous during winter months as it freezes along Wilson, adjacent to the Albrecht (1224 Wilson)/Blase (1204 WHF) "S" curve, and into Walnut Hill Farm Drive.

4. The Entry to Wilson Avenue from Wildhorse Creek Road – a necessary but dangerous 'snow route'

- At the entry of Wilson Avenue there is a steep drop into a drainage gully causing damage to vehicles - it is unsafe to turn from Wilson onto Wildhorse Creek. That busy and necessary intersection needs better infrastructure. Accidents occur here frequently. The line of sight to the east is poor at best.
- During inclement weather, the short hill on Wilson at the Wildhorse Creek intersection provides a perfect platform for cars to slide onto busy Wildhorse Creek Road.

5. Loss of Utilities

- Over the years, residents along this portion of Wilson suffer the loss of electricity because of vehicular accidents resulting in damaged equipment. We are not aware of any other neighborhood which loses its power as often as WHF. Residents, particularly those requiring home health care, suffer greatly.

6. Property Damage

- Because of the access from Wilson, there is often off-roading on the two (2) parcels of land (1204 Walnut Hill Farm Dr. and 16121 Walnut Hill Farm Dr.), causing significant rutting and damage to the grounds.

7. Well-traveled Wilson Avenue has Unnecessary Deficiencies

- Many sections of Wilson have no shoulder, creating dangerous conditions for drivers including significant numbers of delivery vehicles, construction trucks, lawn maintenance companies with equipment on trailers, etc. most-all of which cross over the middle of the narrow roadway. The oncoming traffic is forced to hug the edge of a road which has no shoulder. This situation leads to vehicles losing control, even colliding with oncoming vehicles, deer and pedestrians.

8. Missed Opportunity

- Given the emphasis on walkability, bike-ability and greenspace in Chesterfield, it is a lost opportunity for residents if Wilson Avenue is not fixed. The city has ensured that the southern end of Wilson is designed with sidewalks on either side of the road, that work should be finished.

If this road were constructed safely, drivers and pedestrians alike could actually enjoy the greenspace along Wilson Avenue.

It could offer connectivity to the nearby City amenities which is a clear goal of Chesterfield's updated Comprehensive Plan.

Consider a community feature in the 10 acres of land owned by Chesterfield on the east side of Wilson, close to the new culvert. Even though the land has a challenging topography, it could be used as a place to rest along Wilson, or perhaps a wide walk-way that ultimately connects to the City Park, in support of Chesterfield's Comprehensive Plan which notes, "Downtown should be well-connected to surrounding neighborhoods by bikeway and sidewalk so people can access the area without having to drive to get there." (Source: Envision Chesterfield, 2020). Further, the updated Comprehensive Plan states to consider, "Topography as A Feature, not a Foe: Use grade changes, as an advantage: add interest to the experience...".

Wilson Avenue offers a great opportunity for residents.

Recommendation/Request

We request that Wilson Avenue and its connection with Walnut Hill Farm Drive (WHF) including the WHF low water crossing be reconstructed to enable safer passage and a positive experience for all users. As such we support the rerouting of Wilson Avenue which also includes the elimination of the “S” curves, the blind curves and hills and areas with poor line of sight.

We request the improvement of the Wilson Avenue bridge by the Albrecht/Blase property (1224 Wilson Avenue and 1204 Walnut Hill Farm Drive) to prevent roadway water. We ask that a side walk (which enables/promotes safe walking and biking) be constructed on at least one side of Wilson Avenue.

Regarding the WHF entry and low water crossing, we ask that Chesterfield provide a safer water crossing/bridge on WHF where it joins Wilson Avenue which will prevent water surges from flooding and damaging Walnut Hill Farm Drive, Wilson Avenue and surrounding area.

The WH HOA Trustees offer to reach out to surrounding neighborhoods for neighborhood input and support.

We thank you for your attention and interest in serving our community.

We invite your questions and will be available at your convenience.

Respectfully submitted by,



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